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As the cover suggests, there has been a very significant change in the profile of students entering the medical course. Much maligned in the past as irresponsible and privileged, and an unlikely source of competent and compassionate medical practitioners, the discipline imposed by entry quotas and years of demanding study, together with the changing nature of the student intake, has perhaps tempered some aspects of their public image without diminishing their high spirits and infinite diversity. Student figures quoted in the 1989 issue of Medicine (the Newsletter of the School of Medicine) are revealing: 'Currently, nearly half are women (compared with a figure of 20% in 1972), and approximately 60% of new medical students were either born overseas or have one or two migrant parents. For some 20% of students, a language other than English is spoken at home.'

The criticism that the 'wrong' people are selected into the course and that Faculty quotas and cut-off scores are to blame, is well answered in the University's submission to the Doherty Inquiry:

'There is no evidence that bright, clever people lack idealism, dedication, compassion, sensitivity, insight, problem-solving ability, a capacity for independent learning and whatever other qualities a doctor needs — or that less bright people have more of these qualities. Those who gain selection into the medical course on academic merit have proved that they are bright, physically and mentally healthy and motivated to succeed. To select into medicine those who have shown themselves to be less bright — those with a poorer chance of succeeding academically — is neither sensible nor kind. At least our present yardsticks to measure academic capacity are excellent, realistic predictors of success in the medical course. Since the introduction of the new medical curriculum at The University of Melbourne in 1980, the failure and withdrawal rates in the medical course have become exceedingly low. Over the past five years, the pass rate during the preclinical years has averaged 97.6%; in the clinical years, it has averaged 99.5%. During the same period, the withdrawal rate in the preclinical years has averaged 1.8% per year; in the clinical years, it has averaged 0.4%. These figures attest not only to the interest that the students have in the course but also support the validity and efficiency of the selection process.'

Graduates of yore tend to believe the curriculum is still much the same as they experienced, with whatever shortcomings they perceived in their own medical education. Nothing could be further from the truth, for the Faculty's continuous and continuing review of the curriculum, with student representation taking an active part, has produced great changes as a result of its ability to foresee and meet the community's evolving attitudes, perceptions and needs.

The perennial problem is to decide just what should be packed into the finite knapsack of the 'all purpose' graduate, to enable him or her to take off along any one of many divergent paths, with equal confidence. One possibility still being debated is a compulsory second intern year, but as from 90 to 95 per cent of graduates already voluntarily seek a second year of training, based on their needs and preferences, compulsion seems quite unnecessary.

Whichever path is chosen it should be a journey of self-discovery and great fulfilment; no other profession offers greater rewards in being useful to humanity. On the other hand, 'success' and 'happiness', however defined, almost inevitably depend on enjoying the tasks undertaken. Without that enjoyment, intelligence, stamina and self-knowledge may not be sufficient to practice medicine in the long-term, as anxieties, stresses, and even self-doubts, accumulate.

The high commendations of the Accreditation Committee of the Australian Medical Council (1989), and accreditation of the course for a period of ten years, indicates that Faculty has indeed created an environment from which excellence has emerged. The Faculty takes pride in the quality and achievements of its graduates and in their long-term contributions to teaching, research and competent, compassionate practice.

Peter G. Jones
MEMBERS will have been saddened by the sudden death in February this year of our Foundation President. Most will have memories of that very human, human being. As a teacher he was a legend, and 'Pansy' anecdotes delighted members of every Faculty in this University. As a builder and achiever, throughout his professional and community life he maintained his own rigorous, internationally competitive research activities.

There were those, of course, whom he did not delight, but no one can deny that his bold sallies down the corridors of power have achieved much. All his life he enjoyed knocking down idols, garnering funds and defending the seemingless defenceless. If not always right, he was constantly creative. What follows is the Minute of Appreciation adopted by the University Council in March 1990, to mark Professor Wright's retirement as Chancellor, an office which he held for a decade.

SIR DOUGLAS WRIGHT became the 16th Chancellor of the University of Melbourne in March 1980. After more than a decade in the position, he did not seek re-election in 1990. He continues as a member of the Council of the University, and it is premature to recount the full range of his contributions to the University since he graduated with characteristic brilliance from the medical course in 1929, having come from Tasmania to take up an open scholarship to Queens College five years earlier. It is fitting now to pay tribute to his particular contribution as Chancellor, even though that forms but one peak in the range of remarkable achievements which have made him so commanding a figure in Australian university life.

The first quality Sir Douglas brought to the position of Chancellor was an intimate knowledge of the Council itself, having first joined it in 1963, and become a Deputy Chancellor in 1972. During those years he had formed a clear view of the proper role of the Council in the University, and of what it should and should not attempt to do. Even before joining the Council he had been deeply involved in formulating the aspirations of the University, not least in the preparation of the submission to the Murray Committee in 1957 when the Commonwealth decided to make a major commitment to the shaping of university education in Australia. He had, over the years, entered many a controversy on the perennial issue of the proper relationship between universities and governments, controversies from which he characteristically derived wise conclusions rather than entrenched prejudices. Having been Dean of the Faculties of Medicine, Science and Veterinary Science, and professor of Physiology for more than three decades, and having originally entered Council elected by his fellow professors, he needed no reminding that the purposes and values of the University were fundamentally academic, and that to make it simply an instrument of government is to pervert its values and diminish its utility.

In continuing to profess the values of academia, Sir Douglas has never been merely a one-time academic, turned university politician. The intellectual brilliance and scientific inventiveness he showed as an undergraduate, as a young pathologist and surgeon, as an experimentalist in Florey's laboratory at Oxford, and which earned him appointment to the Chair of Physiology at the age of 32, continue today. His Syme Prize of 1937, his DSc from this University in 1940, and that from the ANU twenty-seven years later, attest the continuing excellence of his personal scientific work, and his office in the Florey Institute is a base for
continuing scientific activity and not just a convenient University address. When, as Chancellor, he spoke of the academic mission of the University, it was not merely with the remembrance of things long past.

As a scientist Sir Douglas was also a builder of institutions. His own Department had only one full-time position when he was appointed, and he built both it and its off-spring, the Howard Florey Institute of Experimental Physiology and Medicine. When he left the Chair of Physiology in 1971 he became Director of the Cancer Institute of Victoria, another institution he had been involved in setting up in 1948. On the national scene, in which the demands of war-time Australia had drawn him into association with a number of remarkably imaginative colleagues, he was one of those who persuaded the Chifley government to create the Australian National University, which he himself served for many years as a foundation member of its Council. The University over which he presided as Chancellor was a much more complex institution than that he had joined as a young man, but the processes by which academic institutions proliferate, gain strength and occasionally decline held no mysteries for him, and he remained a shrewd judge of the practicable as distinct from the merely hollow ambition.

Among the organisations Sir Douglas helped to found was FAUSA, and he gained much public attention from his involvement in some famous causes concerning academic freedom, and others equally important — though not necessarily as famous — concerning academic propriety. Those who saw him as a radical fire-brand under-estimated, as he himself would remind them, the core of traditional values which determined his judgements, bluntly though they might be stated, of what should and should not happen. Those judgements were pursued with energy and passion, the latter a quality he had to moderate when adopting the gown of the Chancellorship, although it remained discernible in the occasional measured remark of approbation or disapproval. It was no surprise to those who knew him best that Sir Douglas exercised his ceremonial and substantive duties as Chancellor with great dignity and appropriate restraint, even in occasions of some provocation. A mature wisdom is the proper habitual stance of a Chancellor, a style Sir Douglas adopted easily, and leavened with an earthy wit. The University of Melbourne has been fortunate indeed that it has gained so much of the attention and devotion of this formidable man, and the Council is grateful to record its gratitude for his decade of service as Chancellor.

* The inscription on the R. Douglas Wright Medal. The medal has been presented in recent years to the R. Douglas Wright Lecturer in the series of occasional lectures given in Professor Wright's name. The topics are chosen to reflect his broad contribution to the University of Melbourne, and present the opportunity to explore the linkages between science, philosophy and the arts. The medal was designed by Michael Meszaros and the Latin inscription developed by Dennis Pryor, who explained it thus:

"To attempt to compose a motto suitable for someone so versatile, resourceful, admired and loved as our Chancellor is to impose a serious strain even upon the expressive qualities of the Latin language ... We finally chose DEXTER DIMOVERAT UMBRAM ... It is an adaptation of a line Virgil liked so much that he used it twice. The original reads "dawn had removed the damp shadow of night": In place of "dawn" we substituted DEXTER, allowing ourselves the liberty of heraldry to pun on the name Wright. DEXTER means right. But it also, most appropriately, means propitious, favourable, well-omened. More, it means handy, skilful, adroit, dexterous, a felicitous sense in the light of Sir Douglas's renowned dexterity as a researcher. The second word, DIMOVERAT, is annotated by the learned Professor Austin of Liverpool as suggesting the flinging back of a great curtain. An apt expression for a man whose career has been one of pushing aside curtains of secrecy. The third word, UMBRAM, means a shadow, the darkness of night. It also means a ghost, a phantom, an empty appearance. And who has done more over his long career to push aside the shadows of superstition, the darkness of ignorance and the empty shadows of pomposity and pretension?"
RESOURCE CONSTRAINTS
AND THE PRACTICE OF MEDICINE:
EVERYTHING THAT MIGHT BE DONE
CAN’T BE DONE

Dean’s Lecture Series
Seminar
The University of Melbourne
21 July 1989

Convener
Professor Emeritus Richard Lovell
Professor of Medicine, The University of Melbourne 1955-83; former Chairman, NHMRC Medical Research Ethics Committee

Introduction
Professor Richard Lovell

Politics of constraints
Hon. Senator Peter Baume
MBBS (Syd.) 1959, MD (Syd.) 1969, FRACP, Liberal Senator, NSW, since 1974

Everything that might be done can’t be done
Mr Kenneth Davidson
Economics Editor, The Age

Who should decide and by what mechanisms?
Dr Diana Horvath
Area Director of Health Services, Eastern Sydney Health Service; Chairman, NHMRC Health Care Committee

Moral and ethical principles that arise in decision-making
The Rev. Canon Dr John Morgan
Warden, St John’s College, University of Queensland; member, NHMRC Medical Research Ethics Committee

Implications of constraints for patient care, medical education and clinical research
Professor Richard Larkins
James Stewart Professor of Medicine, The University of Melbourne, The Amalgamated Melbourne and Essendon Hospitals and the Maribyrnong Medical Centre

DISCUSSION
Audience and speakers
INTRODUCTION
Professor Richard Lovell

I

N THE PRACTICE of medicine it has probably always been the case that everything that might be done cannot be done. Today there is a heightened awareness of this, maybe reflecting, in part, a better educated community. Certainly, things that might be done often have more dramatic components than they had in the past, and, in the background, people's expectations of what medicine can offer are higher.

The reality of constraints was dramatically manifest in a western society in the state of Oregon, USA, in 1987. The question that arose was whether, for the next two years, funding should be extended for basic health cover to include 1500 persons not previously covered, or whether funding should be continued for a program of transplantation of bone marrow, heart, liver and pancreas, for a projected 34 patients. The decision was made to extend the basic health care funding and to stop the transplants.

It is arguable that a society faced with that sort of question has got its values wrong. The question should not arise because resources for every aspect of medical care should take priority over the cost of education, transport, defence and so on. But given society's present values, questions like this must be concern lest, when they do, ad hoc decisions will be made largely influenced by political expediency.

Maybe there is no better way. But this seminar reflected the idea that it was at least timely to consider whether some other basis for decision-making could be spelled out. The program was particularly aimed to promote discussion of the question whether ethical or moral principles can be identified which should be taken into account when constraints on medical services have to be determined.

The speakers at the seminar ensured that the problem was clearly stated and the discussion was vigorous and penetrating — as the precis of it shows (see page 13). From the tenor of the debate it was clear that many believed that people should go on thinking and talking about this subject.

I hope that readers of this issue of Chiron will be stimulated to do this.

POLITICS OF CONSTRAINTS
Senator Peter Baume

Ken Davidson and I are going to say many of the same things. We might even agree on some matters. This might bemuse you, but it will certainly worry him.

Consider our overall economic performance.

First, we are deeply in debt as a nation, and going farther into debt. For instance in 1988-89 our current account deficit was more than 17 thousand million dollars. Even if it was contributed to from private as well as from public sources, it does mean that we have large problems.

I am not discussing here, and will not discuss further, the other source of funding — self-generated funding independent of government. Significant as it may be, it does not, in the context of this seminar, require further comment. The Treasurer says that part of the solution has to be that we undertake activities which demand less imports of money and goods.

Second, consider our worsening performance against leading economies, and against nations in our region.

Third, consider our weakening capacity to sell what we produce, or to continue to produce what we used to. Senator Button says, not unreasonably, that we must sell more to prosper.

Fourth, accepted international credit rating agencies continue to downgrade Australia's credit rating. Even if we are not net borrowers at present this is an ill omen.

Fifth, we have punitive interest rates to achieve certain domestic economic goals and to attract money from overseas.

The sum of these fragments is that we have limited — quite severely limited — resources to distribute. Limited from the public sector, limited from anywhere. For a once wealthy and comfortable nation this is a bitter time of economic hardship, both present and in prospect. That is the first datum of any consideration of the politics of resource constraints. It sets some of the limits within which much of the discussion must proceed. Add to that the inequalities that exist within Australia, and the unequal flows that occur between certain people and within and between certain groups, and you have another element to consider.

May I now dispose of party politics as they are often presented. I speak as a liberal interested in the empowerment of individual people, in the extension of opportunity and liberty, and in the concept of 'fairness' as I think I understand that term. We have an unusual situation today in that those values are not endorsed adequately. The Labor Party offers us a corporatist government while some elements within the alternative government are more interested in a libertarian than a liberal scenario. But even within this climate, people seem to think it is business as usual, seem in fact to ignore the new circumstances within which we must operate. Many people seem not to understand that resources are finite, that everything that theoretically could be done is not done, and that choices have to be made between different worthwhile interventions.

We could go further and say that, partly because of resource restraints, everything that ought to be done is not done, has never been done, and will never be done. The Yom Kippur prayer asks 'who will live and who will die?' and indeed, in the areas of my greatest knowledge, this is the question too often before us, and too often dependent on resource allocation decisions.

A few examples: As young doctors we had very limited access to the then new technique of renal dialysis. Someone in authority then made a value judgement that anyone above the age of 60 would automatically be ineligible for the program. This is but one example of a whole class of like decisions which are still made wherever rationing is present. I must tell you that 60 now seems to be a very young age!

As Minister for Aboriginal Affairs I had to choose between providing clean water to a community on the edge of the Nullabor, or funding urgent medical, legal, or housing projects elsewhere. Either choice would adversely — severely — affect some Aboriginal people.

People seem to believe that making a good case is enough to guarantee the success of a proposal. To borrow a term from...
logic, such a demonstration — of value, even of impeccable justification — is necessary but not sufficient to achieve success. The more one has people come to one's office on political business, the more some simple aphorisms emerge.

First, most people come to politicians to ask for one or more of three things. These are: visas — for themselves or for someone else; honours — for themselves or for someone else; or for cash — for themselves or for their favourite project. It was George Orwell, wasn't it, who wrote: 'And now there remain three things, faith, hope and money. And of these the greatest is money.'

The way people present argument to politicians emphasises the poor understanding they have of the pervasiveness of rationing of public sector monies. They generally argue by taking the high ground — you know how it goes. If Australia would do such and such, then humankind would flourish, want would disappear, and there would be peace and prosperity in the land. When one is coarse enough to ask them 'how much?' they become quite disappointed and often angry.

People sometimes tell me that their favourite program — the one for which they are seeking support — is based on a matter of principle. Many people use that term. One group's submission to a Committee last week declared that several things were not just matters of principle, but matters of entrenched principle. Everyone should remember the old aphorisms: 'Matters of principle are matters of money' and 'Matters of high principle are matters of a lot of money.'

But let us today try to be positive, to assist would-be labourers in the public sector vineyard. Resource decisions do require sustainable arguments of merit, but all these do is allow the matter to get to the starting line, to get into the competitive arena. Much more is needed. The decisions over money are made by few people — some of them officers, some of them senior politicians.

These people are generally able, well-trained, intelligent, well-intentioned, and often quite sensitive. It does no good to one's pursuit of the gold at the end of the rainbow to assume otherwise. But they operate in a world in which power is the most valuable commodity, and they often march to instructions which you or I might consider perverse. Power in politics takes many forms — power over decisions, power over resources, power within groups, and over people, and so on. Without asking anyone to become a Marxist, it is often useful to analyse the power relationships present and to assess what changes in power might result if your favourite intervention was to be activated and funded. The answer to the questions might then point you in a direction to suggest how you might minimise threats to power, and to enhance power in the hands of those who control your decisions. Sometimes you might decide to make the price of refusing you so great that compliance with your request becomes the least worst option. If you take that course beware! Sir Humphrey lives; and his memory is faultless.

But given that choices do have to be made, how do we make them most appropriately? The process which I have followed has its own dynamic, its rules and its culture. Sadly many of those seeking access to available resources do not understand the game, the rules, the culture, or the process.

Let us consider the politics from another point of view. The issue is one of rationing, about trying to feed multitudes with five loaves and some fishes, about making decisions favourable to some and not to others, about creating winners and losers in the share of publicly available resources they receive. And all at a time when there are fewer loaves and fewer fishes.

Neither will removing fat from the system do the job. Efficiency is important and it is proper to seek and to demand efficiency improvements. 'Savings' so-called are often not real savings, and often small in amount, and making savings does not always come without a price elsewhere in the system. The only way to produce significant change is to remove or make major reductions in large programs. Even trying to increase taxation surreptitiously is not a valid long-term strategy.

Further, one should understand that money is often distributed to ministers in the budget context, on the basis of brokerage and negotiation, and within a context defined by a small group of senior ministers. Many of the negotiations take place within the context of the budget cabinet where brokerage between people and groups is a vital part of this process. Since Prime Ministers control much of the process, it is always worth examining the processes they develop. Not only are these generally not 'neutral' but they may predetermine to some extent the outcomes which are possible even with good advocacy and sympathetic colleagues.

And because inequality is so entrenched, it happens quite often that the process of distribution of resource is regressive, that is, favours the better-off disproportionately. This means that the interests of powerful groups play, and might continue to play, what I think is an inappropriate role in the making of decisions on resource allocations — on the one side from a desire to buy the support of voting groups, on the other from the consequences of a laissez-faire approach to resource sharing.

What would I do about it all? In welfare I would reduce savagely the benefits available to the well-off, including those who have been prudent, and would direct resources so freed to the truly needy, even including the improvident and manipulative. You see I am quite aware of the aphorism that any move to increase equity in one direction will reduce it in another. I am also aware that, in cost/benefit terms, nothing is without some cost or some benefit.

You can conclude, correctly, from all this that rationing, which is a continuing part of public life, comes down to values, to one's own values, to one's world view, to the values of the community and of the group, as well as to questions of power, at the end of the day.

I will end at this point but will ask you to think more about this matter of values, of the absence of value-neutral judgements in most activity, of the disinclination to address or analyse values, their justification, or their validity. Other speakers will work from this fragment of introduction and I will listen to them with interest.
EVERYTHING THAT MIGHT BE DONE CAN'T BE DONE
Kenneth Davidson

Good health is an essential prerequisite to enjoyment of almost any other aspect of life. But given that health is one of Australia’s largest industries consuming 7.5 per cent of GDP or about $1,200 per person per year, it is of ‘economic’ as well as ‘social’ concern. One of the central questions of health policy, namely, ‘what is the best method of achieving a given level of health care from limited resources?’ is a question about resource allocation and thus is about economics.

In most markets, competition is the rubric which replaces government regulation as the means through which resources are allocated. But there is a number of unique characteristics of the health market which means that we are unlikely to get a socially acceptable distribution of health resources resulting from competition between health providers for the custom of patients.

For a competitive market to operate efficiently there needs to be psychological independence between buyer and seller, which is impossible in the situation where the customer is sick and is looking to the health provider to provide relief from that condition, an equal distribution of knowledge between patient and doctor about the medical service on offer and time to make rational choices about the competing claims of alternative suppliers and services.

None of these necessary pre-conditions to an efficient market regulated by competition apply in the case of health. And further, the characteristic market ‘failure’ evident in health markets is compounded by the socially imposed notion of ‘equality of access’ to health services, which cuts across the norm of most markets where access is regulated by income.

Consumer ignorance, psychological dependence on medical providers, the tendency of those who can afford it to over-insure and community demand for reasonable access for those who cannot afford to privately insure, means that without government intervention to limit the supply of resources devoted to health, there is a tendency to over provision which shows up in higher health provider incomes rather than better health outputs in terms of lower infant mortality and general morbidity rates and longer healthy and productive lives.

Until the advent of universal health insurance in the form of Medibank in 1975 and Medicare in 1983 there was no agency operating on behalf of patients to limit over-servicing and the provision of unnecessary operations which means that it was the only form of white collar crime which was a danger to the victim’s health as well as their wallet. There is no evidence that universal health insurance financed by the levy and bulk billing has increased patient initiated health services, and the growth of doctor initiated diagnostic services will be best contained by a universal system which has a vested interest in keeping costs down and throws up the information necessary to monitor over-servicing by individual doctors and specialties.

The coalition health policy, involving the abolition of the medicare levy and encouraging private insurance by making contributions tax deductible, involves a shift back towards the US health delivery system which has worse health outputs in terms of infant mortality and life expectancy than Australia and yet costs twice as much. According to the Australian Institute of Health, the US spends 12 per cent of GDP on health compared to about 7.8 per cent in Australia. In 1986 Australia spent $1,161 per head on health compared to $2,300 per head in the US.

In recent years Australia has stabilised health expenditure as a proportion of GDP. If health expenditure was allowed to rise to US levels, there would be no prospect of Australia successfully restructuring the economy. An enforced shift to private insurance would boost health provider incomes and resolve the problem of over-investment in private hospitals which otherwise would be subject to the discipline of the market. The regression of the health delivery system back to the pre-Whitlam era is sold as a reform which will restore the traditional doctor-patient relationship, but it is in reality an attempt to conscript the savings of the less well-off for the benefit of medical providers and investors in the health industry.

On the assumption that we continue to build on the present foundations of the universal system, I can see the focus of the health debate broadening. The creation of highly expensive medical interventions and technologies in the context of scarce overall resources for health are now raising acute ethical, as well as economic, problems which are now much more likely to be settled as a result of total community, rather than medical provider, debate.

There is a growing understanding that greater investment in individual medical interventions which focus on specific illnesses are having a diminishing impact in terms of better health outcomes for the population.

It is now understood that the health standards of the community as a whole cannot be divorced from its social and economic context. In short, health outcomes are better for the rich than for the poor, and this inequality stems from different life styles which are more or less consistent with good health rather than inequality of access to medical interventions to cure specific illnesses.

‘what is the best method of achieving a given level of health care from limited resources?’

The problem of better health outcomes for the community and unequal health outcomes is no longer primarily a medical problem — if it ever was — and medicine as we understand it today will only have a minor role in the solution. While better antenatal care and preventative services can improve the health of the poor, the major factors which will lift their health outcomes to that of the rich will be measures which reduce poverty and improve working conditions, housing and the environment.

Health promotion, designed to change life styles can also improve community health standards, but there is a danger in this approach if it implies that individuals are in control of all the circumstances that influence their health choices, so that society blames the victim rather than the victim’s circumstances. People are at last beginning to understand that the greatest contributions to health standards in industrialised countries since the beginning of the nineteenth century have not come from improvements in hospitals and medical techniques but from improvements in public health in areas such as sanitation and improved water supplies at the local government level, and possibly improved diet associated with rising real incomes.

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Once more the focus should be on the creation of healthy cities which generate and celebrate life by fostering a sense of community rather than being a breeding ground for alienation and boredom. If our spirits are high, our bodies are capable of absorbing a bigger bashing than when our morale is low.

WHO SHOULD DECIDE AND BY WHAT MECHANISMS?
Dr Diana Horvath

In 1975, the prestigious New England Journal of Medicine published an article by Howard Hiatt, entitled "Protecting the Medical Commons: Who is Responsible?" The author drew a comparison with the use of village 'commons' as shared grazing land, with the consumption of health care resources by new techniques. As long as the demands on the 'commons' are less than the available resource, there is no problem. Once it becomes clear that more health care is available than can be afforded by the 'commons', the issues arise of how to allocate these resources.

There are essentially two sorts of decisions to be made about the production of a scarce good — how much shall be made available; and who shall get access to it. Let us examine the first of these. In doing so it must be acknowledged (particularly in relation to a service such as health), that scarcity is not usually a matter of absolute lack, but rather a decision by 'society' not to forego other benefits to make more health services available. The ethical tragedy of health services rationing is to be found in the fact that we incur both the scarcity and the consequent suffering by our own collective decision.

The earliest roots of rational systems of priority setting for access to treatment are found in military medicine, in the practice of triage established by Baron Larrey (Napoleon's Chief Medical Officer). Allocation of casualties to a structured system of categories is based on the utilitarian principle of 'doing the most good for the greatest number'. This system survives today, virtually unchallenged as a mechanism for deciding the priority order for treatment in situations where large numbers of injured persons present together to a limited facility.

When looked at more closely, this system has a specific additional agenda — to interpret 'most good' as being a need to return the greatest number of soldiers to the combat zone in the shortest time. This was clearly demonstrated in 1942 when penicillin first became available, in very limited quantities. It was recognised that it was equally efficacious for wound infections, and for gonorrhoea. A decision was taken to give priority to treatment of the latter, as these were otherwise fit troops who could rapidly return to duty. What is almost totally missing in the evolution of triage discussions in military medicine, is any mention of justice. It is this which has made the technique less useful in the rationing of high technology medicine.

It is instructive to look briefly at the history of rationing haemodialysis in the United States of America. Initially decisions were made arbitrarily on the basis of age. Then in Seattle, Washington a committee consisting of lay persons and doctors was set up to make choices between competing patient claims. They established a hierarchy, using firstly medical criteria for exclusion, then social. The latter was cause for heated argument: how can one define 'social worth'? The only point of agreement was that to default to random selection was to demonstrate an irresponsible unwillingness to carry out their appointed task.

The arguments were typical of a variety of mechanisms set up across the country. Then surveys began to demonstrate that the chosen beneficiaries strongly resembled the types of people who constituted the decision makers, that is, the personal biases carried by these people were strongly reflected in their choices of 'social worthiness'. The clamour and public outcry that attended the obvious failure of these micro-allocation techniques were influential in the decision of Congress in 1973 to establish a national program to subsidise the treatment of end stage renal failure. The effects of this macro-allocation decision to favour treatment of one disease above another are significant in the economies of the US health care system today.

However, the question remains unanswered: why do applications of utilitarian reasoning which are unchallenged in one context, bring forth such vigorous egalitarian objections in another? What are the morally relevant differences? One way of refining the utilitarian principles lies in measuring both length of life and quality — as measured by reductions in disability, and relief of pain and distress. Alan Williams, an economist at York University, has proposed use of Quality Adjusted Life Years.

In his system:

- scientists create the interventions;
- epidemiologists and clinical researchers test the cost effectiveness;
- managers structure the decision-making process;
- politicians (representing the people) supply the relative values of different benefits;
- clinicians select the particular patients who will benefit most from affordable technologies.

This hierarchy of services must be established from the patient's point of view. Such a set must be open to public debate if it is to be considered morally licit.

Professor Bryan Jennett (London) has proposed the use of the following questions when making decisions to reject use of high tech medicine:

- unsuccessful — when the disease is too advanced for the technique to work;
- unsafe — when the complications are expected to outweigh the potential for benefit;
- unkind — when the quality of life after the intervention will not be sufficiently good;
- unwise — when use of the technology diverts resources from activities with greater benefits;
- unnecessary — when the outcome can be achieved by simple means.

However, application of these tests no longer yields sufficient space on the commons.

Techniques such as queuing are a feature of many health care systems. Nowhere better known than in the British NHS. This arises where society rejects the notion that inability to pay can deter access to health care, and time becomes the resource allocator.

In 1978 a group of four patients took on the Secretary of State for the NHS in a landmark legal battle. These Staffordshire people sought to show a failure in duty of care as evidenced by their lengthy and continuing inability to gain access to health care. The Court of Appeal held that the Secretary was only required to do the best he could in the
Considerable concern has been expressed about the role of the doctor in priority setting. Pellegrino has eloquently explored the issues in relation to what he refers to as 'medical gatekeeping'. He argues that it is ethically perilous to move from the view that scarce health care resources need rationing, to the conclusion that the individual practising doctor should be the designated guardian of society's resources. In the traditional model, the clinician acts as the agent or advocate for the patient. He has a morally binding responsibility to function as 'gatekeeper' — to recommend that which is both effective and beneficial — for the good of the patient.

Policy makers are now manipulating the financial incentives to subtly alter this role.

The system of prospective payments based on DRGs, provides incentives for the doctor to limit access to expensive treatments (negative gatekeeping). Positive gatekeeping occurs in situations where increasing the use of high technology enhances the doctors' profits — here the patient becomes primarily a source of income and the ethics of the marketplace take over.

The legal liability for medical treatment denied by a doctor in the interests of overall cost containment, do not bear looking at. The courts work on the principle of the rights of the individual, and the 'best interest' of the patient. Any legislation aimed at establishing priorities in technologically sophisticated areas of medicine would be tantamount to political suicide.

Once again we must ask is it defensible to transfer the societal responsibility for rationing to the doctor? Clearly the criteria for rationing and the principle of justice to be followed should rest with society.

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Ian Kennedy, lawyer and ethicist, King's College, London, strongly protests the responsibility of society to set the moral agenda, but adds that justice is not solely a matter of majority decision or a search for consensus; that rightness is not a matter of numbers. Principles of egalitarian justice and respect for life underlie a basic rightness. He argues for taking the power back into the political institutions. That doctors — in return for being licensed by society to enjoy a monopoly of medical practice and to do things no other citizen may lawfully do — have an obligation to serve society. Society must set the moral parameters, doctors decide where a particular case fits into these.

Nowadays we live in a society that depends upon the consent of the governed. Ethical decisions on resources taken at the macro level by our governments must lead us to question whether we want a more equitable society? The uneven distribution of 'health' is poignant.

Our governments in Australia are sending out confusing and contradictory messages about health care. To the providers they are preaching economy — doctors overservice, patients are prescribed too many drugs, occupy too many beds. To the consumers of health services, governments are saying the resource is free and unlimited; there are no barriers to access; waiting lists are a sign of inefficiency not resource limitation. One must question the morality of this apparent double standard. It is claimed that the key to coping with tragic choices lies in honesty.

We want all men to be equal, but they are not. We want suffering to end, but it will not. Openly facing this through our elected governments will allow us as citizens to accept responsibility for the choices decided in our names.'

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ETHICS IN THE ALLOCATION OF MEDICAL RESOURCES

The Rev. Canon Dr John Morgan

Medical resources — like any other resources — are not unlimited in our society, while so often the demand for such resources appears almost unlimited. Decisions about resource allocation are made at two basic levels: the macro level when we set basic priorities for health care and medical research, and at the micro level of clinical practice where particular cases are concerned. The two are not unconnected. I take as the fundamental ethical aspiration of all discussion in this area that we seek to do justice.

What do we mean by justice? The simplest view is that justice is something active — it is not a static concept. It involves the giving to each person of their due. In the matter of allocating health care resources our concern is largely with distributive justice — to distribute amongst persons those benefits and burdens due to them. The basic understanding of distributive justice is perhaps of justice as fairness. This means that like cases shall be treated alike and different cases differently (see Rawls 1971).

With the idea of justice also comes the notion of rights. The United Nations Declaration of Human Rights speaks of everyone having a right to a standard of living adequate to the well-being of himself and his family, including food, clothing, housing, medical care, and necessary social services. These are basic aspirations for human society, but here they are expressed in the form of rights and a deliberate denial of them constitutes a form of injustice. The right to medical care and to be maintained at a certain level of health stems from basic understandings of human dignity and autonomy. To be ill, to suffer from some form of ill health, is
to have one’s autonomy and dignity impaired. On this view, society is required to ensure the basic health of its members and should not allow its public health resources to be allocated to some people in ways that impair the treatment of the ill health of others. However, there may be questions to be asked about entitlement in this area where it is evident that individuals have squandered their own health — by over-indulgence in alcohol or tobacco products or other lifestyle excesses. To what extent is a basic duty of health care owed to them? Does it still constitute a right or have they perhaps abrogated their rights?

The notion of beneficence, of actually seeking to do good, acts as a counterpoise to this approach. If we are able to do good then we should not deny access to health care. The question is to what extent are we taking resources away from those who might benefit the more from them? Consider the development of more exotic medical treatments such as the artificial heart. Here we have a development which has consumed hundred of millions of health research dollars in the USA and so far has come to little. Should valuable medical research funds have been spent here? Or perhaps to take a case closer to home, should we spend as much money as we do on research related to in-vitro fertilization? We cannot, of course, compare the artificial heart with IVF, they are clearly not like cases. It is frequently, however, a jibe of some people when discussing IVF to construe it as an exotic and expensive practice, especially in the face of over-population in developing countries, or even to say that it consumes a disproportionate amount of the Australian health dollar. Yet, infertility is for the infertile an impediment to their full functioning as human beings, so far as aspirations to parenthood are concerned. A successful outcome of IVF is a legitimate good both for the individuals concerned and for society, even though it benefits a comparatively small number.

People being treated by IVF procedures stand in need of treatment which is not the same as purely elective procedures, such as, cosmetic surgery. To that extent it can be claimed the infertile are being treated justly: it is their desert to have this infertility overcome. If we select a criterion of justice which argues that social utility — maximising the amount of good for the greatest number is to be our criterion — then practically anything which treats only a relatively small segment of the population will be open to doubt.

The treatment of all people as equal on the basis of distributive justice in health matters makes questionable a refusal to develop even such devices as the artificial heart, except that where resources are limited some things become simply too expensive for society to afford. In the end, egalitarian notions of justice are tempered by social and economic realism. The individual cannot demand of society more than society is capable of providing with its limited resources. This is because to do so is to threaten the general thrust of health policy. It is bad enough to deny one person but lowering the standards of all is not the solution. It is not that there is a conscious exclusion of the treatment of certain conditions, but that a balancing of considerations of justice prevents us from selecting for development devices such as artificial hearts where the likelihood of their being successful seems in itself to be questionable.

The allocation of resources at the macro level must then be in accordance with commonly accepted health goals for our society and it needs to be seen that groups of people are not being discriminated against when their particular health concern is not funded for research, or experimental therapy. These areas tend to be decided by government. However, it is worth remembering that people do not always want to do only the simple things or meet the most basic needs. There is a matter of balancing the need to do this with other human aspirations. Paul Ramsey notes that in post World War II Europe, opera houses were reconstructed along with housing for the homeless. Men did not wait until everyone was well sheltered before turning to music (Ramsey, 1970, p.274).

Justice is not necessarily served by denying the ingenuity and skills of those who want to work beyond the basics.

The multitude of factors involved in the life of any one person makes any choice problematical at the level of preserving life.

When we turn to the micro level of allocation — who, at an individual level, will be saved when not all can be saved? — the question becomes even more difficult. This question has haunted medicine ever since the introduction of new drugs or techniques which are in short supply during the initial period of their use. There are some striking examples of attempts to allocate such resources. One of the earliest of these has been suggested as a basis for contemporary practice.

During the early days of penicillin, United States army doctors in North Africa in 1943 were faced with a dilemma: should the scarce penicillin be used to treat those wounded in combat — and whose recovery might be questionable anyway — or should it be used to treat men who had contracted VD and who were able to return to the front almost immediately after treatment? In addition, to leave such men untreated was for them to become a possible source of infection for others. The chief surgical consultant directed that priority be given to the wounded whilst the theatre medical commander directed priority be given to the VD victims.

Paul Freund comments that the latter decision was a highly pragmatic judgment in accord with the morality of social utility in a situation where objectives were closely defined: maximum fighting power being required as rapidly as possible (Freund, 1969).

The moral dilemma in this particular case seems to be a matter of conflict between caring for individuals or maximising the benefits in terms of consequences: the case of either individual justice or social utility. However, it is the future or forward-looking dimensions of the utilitarian approach which complicates the ethical analysis. Joel Feinberg, an American ethicist, says that considerations of justice are both of a forward-looking kind and a backward-looking kind. When we look to the past and discover either a promise or a created expectation, or say that some soldiers seem more deserving than others on account of past services, we are beginning to consider matters relevant to a weighing of moral claims on the scales of justice. At the same time considerations of justice are found in the projection of future consequences in this case. Not to return venereally diseased soldiers to the front might deny reinforcements necessary for victory, or not give necessary rest to those fighting at the front. Hence that latter group may be denied justice by the decision not to treat their potential replacements and may well imperil the lives of those already at the front (Feinberg, 1978).
When we attempt to discriminate between patient candidates for transplants we find the same dilemmas — dilemmas created by the very shortage of resources. Recently, there were reports in the United Kingdom of attempts to buy kidneys from live donors. Poor Turkish men were flown in and paid for one of their kidneys. While it is possible to argue that little or no harm has been done — the poor Turks received a good payment, and a free trip to England, and of course assented to the procedure, the patient, possibly a higher achiever, was able to live — there is for most people an intrinsic and intuitive rejection of buying such medical treatments. However, proponents of a free market system would argue about the freedom involved as an aspect of justice for those who are able to pay. To prohibit such commerce by law — as has recently been proposed in the UK and as the Australian Law Reform Commission recommended — is, on this view, to prevent a person being denied the possibility of life and thus justice, so defined, has been denied to them. The problem is that a contract such as delivering up a kidney for money from a live 'donor' is not a contract between parties in any way equal, especially in view of the different economic and social groups involved. While legally a person may not be wronged by that to which they have freely consented, we must ask whether one can fully give free and informed consent to the giving up of an organ such as a kidney, with all the attendant risks to health which lie down the track. It is certainly not the same thing as the altruistic donation of organs to members of one's family, although that too is fraught with possibilities of coercion. The moral debate here is in some ways reminiscent of the debate over surrogate parenting arrangements (Andrews 1986).

The choice of candidates for the receipt of scarce resources must be a matter of both just procedures and just outcomes. However, it is on the whole easier to feel comfortable about procedures rather than outcomes. The Australian Law Reform Commission report on transplants said of priorities between potential recipients that: 'In Australia this is normally left to the medical profession or to the institution or recipient, and obviously should be so left' (Law Reform Commission 1977, p.82). The Commission reported that in the early days of dialysis age limitations had been placed on potential dialysis and transplant patients.

The medical profession is left in a difficult position if it is expected to make decisions without support from the general community. The pressure is always on doctors to do the best for their individual patient — generally to do all that is permitted. For that reason there needs to be responsibility of a shared kind, or agreed principles, which enjoy broad public support and which do not involve questionable judgments regarding the social worth of particular individuals. For that reason there is much discussion of using either a lottery system or a simple 'first come first served' approach, instead of relying upon arbitrary judgments which might try to balance the need to treat say a lawyer with five children as against a doctor with four children. Such attempts at distribution do not mesh with those notions of justice which speak of the equal access of all to health care.

Those who advocate a social utilitarian approach, that is, the selection of candidates for treatment being decided on the basis of relative contribution to society, argue that emerging reactions often involve a triage as in the war time situation. Some people are chosen for treatment in order that they can better help others because their role is deemed essential or important for survival of society itself. However, this is not easily translatable into the medical sphere.

The multitude of factors involved in the life of any one person makes any choice problematical at the level of preserving life. The safest policy is to rely initially on objectively determined medical criteria, including the likelihood of success and life expectancy. Only after that can we even consider arguing about whether family or social dimensions should be taken into account, but these of course cannot be easily quantified.

On the whole, after medical indications are taken into account, it would seem that abstract notions of justice are best served by a chance or random allocation, including waiting list place. For that reason age, as an automatic exclusionary characteristic for treatment, in either transplant procedures or for places in intensive care units, operates only as a general medical criterion. On this view it would be a combination of age with other characteristics which would be allowed to have a bearing on medical treatment.

The allocation of our resources in medicine should generally be in accord with feelings of justice held within the society. As we have seen there are different notions of justice depending upon individual starting points. This is perhaps a characteristic of democratic society in general but it does not mean that we should not debate nor seek to draw out aspects of priorities involved in allocating scarce resources. Perhaps Paul Ramsey should have the last say:

'We have now come full circle. A society is not a machine. Neither is it an organisation having neatly tiered priorities. A society is an unfocused organisation of many diverse, often conflicting interests and pursuits. There are communities within communities pursuing a common good, and many ways in which the uniqueness and welfare of their members are manifest . . . We may perhaps know when priorities are decidedly out of joint; but no one knows exactly where are the joints. Civilization is simply not an arrangement of human activities in a set hierarchical order. A society is largely an unfocused meshing of human pursuits.' (Ramsey, 1970, p.275).

IMPLICATIONS OF CONSTRAINTS FOR PATIENT CARE, MEDICAL EDUCATION AND CLINICAL RESEARCH

Professor Richard Larkins

Medical practitioners have until now used two criteria when advocating a certain treatment for a patient. The first criterion is that, taking into account potential side effects and quality of life considerations, the patient is likely to derive net benefit from the treatment. The second criterion is that the patient, when fully informed, wishes to receive the treatment. Although the issues relating to the first criterion are often complex, doctors are trained to cope with these criteria.

References


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If resources are insufficient to allow patient management decisions according to these criteria, a third criterion will need to be applied. A decision will have to be made on whether the benefit of the treatment to the patient under consideration is greater than the benefit of the same treatment for another individual or of other treatments for other individuals. This criterion brings in questions relating to the relative worth of different individuals and the absolute dollar value of different individual's lives or wellbeing.

Doctors are not trained to cope with these questions (who is?). Before further consideration of the implications of resource constraints to the practice of clinical medicine, two unassailable facts should be highlighted. The first is that medical practice is more expensive than before — high technology costs money. The second is that medical practice is more effective than ever before. New methods of diagnosis and treatment have revolutionised medical care. Examples of effective but expensive new technologies include:

- CT and magnetic resonance imaging which allow precise diagnosis without risk to the patient;
- kidney, heart and liver transplantation which unquestionably not only prolong life but convert invalids into well and fully active members of the community;
- coronary artery by-pass surgery and joint replacement surgery which, in the former case, saves lives and, in both cases, relieve debilitating symptoms;
- lithotripsy for kidney and gall-bladder stones which avoids the need for major surgery;
- chemotherapy for leukaemia, lymphomas and other cancers, which not only prolongs life but now often results in complete cure;
- and a range of new drugs which have transformed the management of such common disorders as peptic ulcer, hypertension, heart failure, growth deficiency and many others.

The very success of new medical technology also has cost implications. Successful management of a previously fatal disorder which stops short of absolute cure, leads to an inexorable growth in the number of patients with the condition requiring ongoing care, with an increasing cost burden to the community. Examples from the paediatric age group extending into adult life include cystic fibrosis and spina bifida, and, in all ages, the management of chronic renal failure by chronic kidney dialysis or transplantation (the latter requiring continuing medical supervision and expensive immunosuppressive drugs). In 1984 there were approximately 1000 people in Victoria being managed for end-stage renal failure, but by 1988 this number had increased to over 1300. At the current rate of acceptance into renal failure management programs in Victoria (which is low by Australian and world standards) and survival (which is high), this increase will not plateau for another 40 or 50 years.

Thus, a rise in health care costs is an inevitable consequence of more effective forms of diagnosis and treatment. The rise in costs is exacerbated by factors such as the 38-hour week in the health industry and new conditions for resident, specialist and visiting medical staff at hospitals; but it should be realised by the community and the governments that much more is being delivered in medical care, and, if we wish to have the benefits of these advances, more will have to be paid.

The problem, of course, is that the State health departments which pay for the health services are not able to provide the increased funds necessary to pay the increasing costs. The State health departments are forced to improvise a series of approaches to achieve 'solutions' to the problems of rising costs. The approaches used in Victoria, which I believe are not unique to this State, and for which the Commonwealth Government with its policy of tougher financing of health must share responsibility are what we can call the 'business' approach, the 'devolution' approach and the 'ideological' approach.

The 'business' approach centres around the hospital agreement. The hospital budget is linked to an agreed number of services. However, the problem in the State hospital system is that, unlike business or private industry, the hospitals have no control over the demand for the services, and State health departments have no ability to increase funding if the agreed number of services is exceeded. With the shift of large numbers of the community from private medical insurance to reliance on Medicare and the ageing of the population, the demand for services in our hospitals has increased dramatically, and no financial compensation is provided to hospitals which exceed (because of increased demand) the agreed number of services.

The 'devolution' approach has been adopted in recent years. Budgets have been assigned to hospitals on a one-line basis. Any budget deficit or consequent contraction of services can therefore be blamed on the hospital. A health department can avoid taking responsibility for shortcomings of services which are attributed to inefficiency of the hospital, and a cloak of silence is maintained by the government and hospitals. Hospital representatives cannot speak out because the board and administration of the hospital will be accused of inefficiency and incompetence, and the government does not speak out because of the political implications of admitting inadequacies in the service. We are seeing just such a silence in Victoria at present, where the disastrous state of affairs in our hospitals is receiving little publicity.

The State health departments are forced to improvise a series of approaches to achieve 'solutions' to the problems of rising costs.

The approaches . . . are what we can call the 'business' approach, the 'devolution' approach and the 'ideological' approach.'
funding of the large hospitals with a relative diversion of funding to district health councils, women's health centres and so on. The problem is that although health promotion and disease prevention are totally desirable, they will not decrease demand for secondary and tertiary care in the foreseeable future. Disease prevention does not necessarily decrease health care costs — old people need more health care, so it is cheaper for individuals to die suddenly of a heart attack at 65 than to live into old age.

How do our hospitals respond to these funding problems? Two main approaches are forced on them: the first is the 'business' response to the government business approach; the second we can call the 'buck-passing' approach. The hospitals' 'business' response is, to cut services if services and costs are going to exceed the agreement. Beds are closed and services reduced. These techniques are applied almost universally through our hospital system, provoking a gross shortage of beds in relation to demand for emergency and elective admissions.

The second or 'buck-passing' approach is to transfer as many of the costs as possible from the hospital budget to the Commonwealth Government, despite the fact that this usually entails higher total costs to the tax payer. Examples of this technique include severe restriction of supplies from hospital pharmacies (even patients regularly attending hospital outpatient departments must have separate visits to their general practitioner to get prescriptions on the Pharmaceutical Benefits Service, a Commonwealth cost), and attempts to 'privatise' medical services, such as outpatient clinics (to shift costs to Medicare). These techniques are nonproductive and expensive in overall terms.

Clearly, an enormous amount of energy is being spent by governments, health departments and hospital administrations on a number of specious non-solutions to the funding crisis. The required approach is for the public and governments to debate and decide whether we wish equity of access to life-saving and symptom-relieving but expensive medical care, or whether access should be limited to those who can afford to pay for it in the private sector or overseas. Priorities in relation to other demands for public funds such as education, roads, police force and defence and in relation to taxes, should be reconsidered. If we decide we wish to continue our philosophy of equity of access, it is inevitable that hospital costs will rise, and steps should be taken to achieve the extra funding. If we decide we do not, there should be government acknowledgement of this decision, and a committee structure established to set priorities in health care, in relation both to patient criteria, and an analysis of cost-effectiveness of the available effective investigational and treatment modalities (ineffective ones should be abandoned anyway). If the latter path is chosen, a hornet's nest will be opened, and a basic political and moral tenet of social justice will have been abandoned.

Resource constraints also endanger medical education. Good medical care goes hand in hand with good medical education and vice versa. Extensive 'privatisation' would make undergraduate and resident access difficult, with less staff time for teaching. At the postgraduate level, resource constraints lead hospitals and health departments to attempt to separate positions important for service from those required primarily for training, failing to recognise the importance of well-trained doctors to the future of medical care. Resource constraints also impose a greater-than-ever responsibility on undergraduate and postgraduate training to provide education in relative costs of alternative diagnostic modalities and management protocols, with transmission of the obligation of every medical practitioner to choose the least expensive method of achieving the desired end.

Students and doctors must learn how to evaluate and often to reject the exaggerated claims of pharmaceutical companies on the miraculous powers of expensive new drugs, and the seduction of new and technologically advanced investigational procedures that may not advance the decision making process in patient management.

There are also major implications of resource constraints on clinical research. Public hospitals are in a constant state of crisis with respect to demands on services. The immediate priorities of management of desperately ill patients overwhelm longer term rewards of properly conducted clinical research. There is an urgent need for protected funding, including the provision of beds and training positions for clinical research, for this provides an essential critical evaluation of investigational and therapeutic modalities, and the development of new and more effective approaches.

In conclusion, with advances in medical technology and more effective treatment, it is inevitable that medical costs will rise. Most of the activity forced on health departments and hospitals by contracting funding in times of increasing demands is directed towards non-productive and often absurd methods of shifting blame and fiscal obligation from one source to another. Patient care, teaching, postgraduate training and clinical research are suffering. There is a requirement for an honest appraisal of the problem, a resetting of community priorities with regard to its expectations in health care compared with other services, perhaps a review of the method of funding health care and a continued effort by all to minimise ineffective expenditure.

PRÉCIS OF DISCUSSION

The first question raised concerned factors which govern the order in which people reach a medical resource when its availability is limited (B.W. Neal). It was said that 'first come first served' operates in Victoria, plus the ability of some people to avoid the queue by buying access privately.

In the ordering of priorities, it was then suggested that, apart from considering individual needs, attention needs to be given to society's values: we don't understand at present why we place more value on the life of a single child than we do on the lives of thousands of adults (D. Horvath). This led to the comment (which recurred during the afternoon) that if we knew more about society's feelings on these matters, the questions might not appear to be so hard to answer (P. Jones). But how are society's feelings to be discovered? How can the community understand the issues (M. Tehan)? News media, it was observed, were primarily concerned with news, not with conveying information (R. Lovell).
Discussion of the need to distinguish between costs and outcomes in health maintenance on the one hand, and in treatment of disease on the other (R. Marks), led to the comment that, looking at international data, there was no correlation between expenditure by the health industry and indices of health outcomes, like infant mortality and morbidity, and how long people live (K. Davidson). These indices were criticised as crude and more appropriate to third world countries, and as ignoring indices of morbidity reflecting quality of life (R. Larkins). In considering the allocation of resources, it was imperative to distinguish between lifestyle modification and provision of medical services for people who became ill (R. Larkins). The need to make this distinction was further stressed by the comment that 80 per cent of health care costs are incurred in the last year of people's lives (P. Baume). A good preventive strategy simply pushes that year further away, but from the point of view of the Department of Finance the cost requirement hasn't changed.

The subject of the increasing need for health care in an ageing population led to the question being posed whether, in the context of justice, people should have a disproportionate share of resources in the last part of their lives (J. Morgan). We didn't know what old people thought about this. Altruistic feelings might well exist. Maybe we should enquire?

Mention of different political views on the provision of health care led to the assertion that issues about health were 'clouded' by governments (D. Horvath). All governments seemed to feel that they had a responsibility to appear to the public to be able to provide everything. They should stop trying to hide the fact that they could not do this, and that constraints on resources would exist under any system.

The question as to what part, if any, the law should have in allocating resources (L. Skene), brought expressions of praise for the way in which law reform commissions could promote discussion and identify issues (D. Horvath), but no support at all for the notion that the law should regulate the provision and use of resources: 'We'd love you [law reform commissions] to do the work, but we don't want you to take any action.' (R. Lovell).

The seminar ended with a comment on the moral framework in which decisions are made, John Morgan observing that socially and politically people tend to work from a utilitarian point of view, but in fact the clear thrust in the afternoon's discussion was, in part, the opposite. There was a strong Kantian view of respect for persons, and a concern that the rights of individuals, and a duty of care for individuals, is being swamped by social utilitarian considerations.

1990 Highlights

Seminar
Privacy in medicine: issues old and new
Convener: Professor Emeritus Richard Lovell
Friday 27 July 1990
2.00 pm to 5.00 pm
Sunderland Theatre, Medical Building,
The University of Melbourne

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UMMS Annual General Meeting
Tuesday 8 May 1990
6.30 pm

UMMS 1990 Lecture
(to be announced)

Alumni Association Annual Dinner
Friday 10 August 1990, Ormond College
Speaker:
The Former Governor-General of Victoria
and Professorial Associate in Law at
The University of Melbourne
Sir Ninian Stephen
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THE LINK BETWEEN ALZHEIMER'S DISEASE AND SLOW VIRUS DISEASES OF THE BRAIN

Professor Colin L. Masters

Dean's Lecture Series
The University of Melbourne
4 April 1989

Abstract
The major protein subunit of the amyloid fibril in Alzheimer's disease is a small molecule of 42 residues (termed βA4). It is derived from a larger precursor (APP), the gene for which is located on chromosome 21, in close proximity to the region involved in Down's syndrome. The predicted structure of APP and in vitro translation studies demonstrate that it is an integral membrane glycoprotein. The mechanisms by which APP is degraded to βA4 may contribute to a better understanding of the cause of AD.

Similarly, the amyloid fibril in the unconventional virus diseases is composed of the PrP molecule, which in turn is derived from a neuronal membrane glycoprotein. The process by which the PrP molecule is converted into an amyloidogenic molecule may also shed some light on the nature of the infectious unit. The PrP molecule is involved in the replicative cycle and may determine the incubation period of disease. A similar process may occur in AD where the processing of the APP molecule in some manner determines the age at onset of AD. To date, AD has not been shown to be caused by an infectious agent.

The recent advances in the molecular biology and genetics of AD stem from an understanding of the importance of the amyloid fibril in this disease process. Pathognomonic amyloid deposition in AD is restricted to certain areas of the central nervous system, and then occurs within two clearly definable compartments:

A. Intracellular, the polymerization of fibrils to form neurofibrillary tangles (NFT) and 'dystrophic' neurites, composed of characteristic paired helical filaments (PHF) and single 'straight' filaments; NFT occur in the soma of pyramidal cells and the 'dystrophic' neurites accumulate around the periphery of the extracellular amyloid deposits.

B. Extracellular where amyloid fibrils first polymerize and then condense in a spherical fashion in the neuropil, and finally crystallise into an amyloid plaque core (APC); at the same time, and to a variable degree, the same molecular species polymerize into amyloid fibrils around the walls of selected blood vessels to form amyloid congophilic angiopathy (ACA).

The topographic distribution of the amyloid deposits (NFT, APC, ACA) within the brain are yielding important information. In neocortical areas, NFT/APC have laminar distribution, with the NFT principally in layers III and V while the APC tend to be accentuated in layers II and III, and to a lesser degree in layers V and VI. There is no correlation of the distribution of lesions with any known neurotransmitter or neuropeptide system, nor with any pattern of vascular distribution or vascular innervation. The lesions are more severe in association cortex and are less pronounced in the primary sensorimotor cortices, which are involved only in the more severe cases. The only clear systematic distribution of lesions lies in the olfactory pathway/hippocampus/amygda/ and basal forebrain nuclei.

Although the proportion of the population with neuropathologically confirmed AD increases exponentially with age (from 50 years onwards), nevertheless, AD is not an invariable component of the aging process. There are clearly genetic, epigenetic and probably environmental factors which operate to induce the deposition of amyloid fibrils as the major structural anomaly in AD. The neuropathological diagnosis of AD has been difficult with conventional histologic techniques, but with more sensitive immunocytochemical screening procedures for the deposition of the βA4 amyloid protein, a clearer picture is emerging.

Many authors have drawn attention to the autosomal dominantly inherited forms of AD (familial Alzheimer's disease — FAD). It is probable that many cases of FAD go unrecognised and that the proportion of all cases of FAD which are familial exceeds 50 per cent.

The association of AD with Down's syndrome (DS) elucidates one of a number of possible pathways in the molecular pathogenesis of AD. Although conventional histology shows all DS have cerebral amyloid deposits by the age of 40 years, the more sensitive immunocytochemical techniques now show that the amyloidogenic process begins much earlier.

Our strategy over the last few years has been to purify and biochemically characterise the amyloid deposits. A similar line of investigation was also pursued by groups in San Diego.
Neurofibrillary tangle (NFT) in perikaryon of neuron

Plaque:
(a) NFT in presynaptic neurites
(b) amyloid plaque core (APC)

Amyloid congophilic angiopathy (ACA):
infiltration of small arterioles

(Glenner), Nottingham (Kidd, Allson, Landon), Boston (Selkoe), Detroit (Wolfe, Roher), New York (Frangione), Staten Island (Bobin, Iqbal, Wisniewski), and Tokyo (Ihara).

Glenner was the first to purify and sequence the ACA material. We purified the APC from both AD and DS, and showed that the principal subunit (termed A4) was a small protein (mass 4.5kD), which was similar if not identical to the β-protein of Glenner. The βA4 protein had a great tendency to aggregate and form dimers, tetramers, and higher oligomeric species.

When we next purified a NFT preparation from AD and DS, we found that the amyloid material in these preparations had a very similar biochemical profile to the APC preparations (similar in amino acid composition, SDS-gel electrophoresis, HPLC gel chromatography, and N-terminal amino acid sequence). We concluded that the βA4 subunit was also the principal component of the NFT. Many investigators could not accept this result because of the clear structural and immunochemical differences between NFT and APC/ACA. They attributed our results to the presence of contaminating APC/ACA within the NFT preparations. Accordingly, we next showed that the NFT in the Guam Parkinsonism-amyotrophic lateral sclerosis complex (PD-ALS) was also composed of the βA4 subunit. In the Guam AD-ALS complex, APC/ACA does not occur to any appreciable degree.

The N-terminal sequences of the NFT and APC showed considerable heterogeneity; the NFT more so than APC, and both more than ACA. This suggested to us that in situ processing was occurring, and possibly that the degree of heterogeneity was a direct reflection of the age of the deposits.

The full length of the βA4 molecule has now been sequenced, and shown to consist of 42/43 residues. One remarkable feature is the hydrophobic C terminus (residues 30-42).

As soon as the partial sequence of the βA4 protein was determined, many groups around the world set about gene cloning experiments to determine the structure of the precursor protein (the βA4 product as such is small and unlikely to be derived as a primary translational product). At the same time, knowing the amino acid sequence permitted the construction of synthetic peptides which could then be used for studies of the biophysical nature of the βA4 molecule, and also for raising antibodies to predetermined specificity.

The synthetic βA4 material clearly showed that there are two regions in the molecule which are responsible for fibril formation. The synthetic fibrils closely match the native amyloid fibrils. X-ray diffraction studies by Kirschner and infra-red spectroscopy by our group showed that the basic packing of the subunit is an anti-parallel β-sheet. This type of subunit orientation is similar to that found in other forms of amyloid fibrils (pre-albumin, light chains of immunoglobulin, etc).
Monoclonal and polyclonal antisera raised against the \( \beta A4 \) synthetic peptides and the native molecule are now proving to be most useful in the immunocytochemical demonstration of amyloid deposits in the AD brain, in the DS brain, and in the studies of amyloid deposits of aged normal animals such as the polar bear, rhesus monkey and dog.

The \( \beta A4 \) protein epitopes are not usually demonstrable on NFT, although some antisera to the N-terminal region of the \( \beta A4 \) molecule do recognise a subpopulation of NFT. Most antisera or histochemical reactions demonstrate a variety of adventitial molecules which may only be coating the surface of the PHF. These include neurofilament triplet protein, ubiquitin, microtubule-associated protein 2, tau protein, ganglioside GM1 and sulfated glycosaminoglycans. Epitopes unique to NFT/PHF are also claimed. In contrast, the \( \beta A4 \) epitopes are readily demonstrable in situ in both APC and ACA. But even these structures also have adventitial molecules incorporated.

The gene coding for the \( \beta A4 \) protein was partially sequenced by a number of workers and fully sequenced by Kang. The precursor protein (APP) has a predicted length of 695 residues, and has the structural domains typical of an integral membrane glycoprotein. APP is not homologous with any other known protein. The \( \beta A4 \) fragment is derived from a region of the molecule which encompasses part of the extracellular domain and part of the transmembrane region (thereby explaining its hydrophobic C-terminal region).

The \( \beta A4 \) precursor gene is highly conserved, being present in all vertebrate species so far examined. The gene is expressed in most mammalian tissues (human, rodent), but expression in neurons is particularly evident from in situ hybridization studies.

The \( \beta A4 \) precursor gene is located in chromosome 21, at the junction of bands q21.3 and q22.1. This is very close, if not actually within, the region of chromosome 21 which must be duplicated for the phenotypic expression of DS. The gene is also present on the homologous mouse chromosome 16.

St. George-Hyslop found linkage between the gene locus of FAD (young onset cases) and anonymous probes for the long arm of chromosome 21. More than one gene for FAD may exist. Initially it was thought that the APP gene may be duplicated in AD. We and others find no evidence for any form of duplication of the \( \beta A4 \) precursor gene in sporadic and familial AD. The gene is duplicated in DS, and we now have biochemical evidence for the over expression of this gene in DS but not in AD.

The normal function and metabolism of the \( \beta A4 \) precursor is now our primary target for research. The APP has a molecular mass of 90-110 kD and is very labile. Its transmembrane orientation has been confirmed from in vitro translation experiments. The normal cellular location of the APP is now being visualised using antisera to synthetic peptides corresponding to regions of the APP molecule. In muscle, it is principally located at the perinuclear region of differentiated myofibres.

We speculate that there are two distinct pathways involved in the pathogenesis of AD. The intracellular processing of APP gives rise to \( \beta A4 \) aggregates which form NFT. It is most likely that the main origin of the extracellular material is neuronal. In situ hybridization for mRNA shows a principal neuronal origin, and we are now awaiting the results of immunocytochemical studies.

Some investigators argue strongly for the hematogenous origin of the APC and ACA. We would argue equally strongly against this proposition on the following grounds:

a) the topographic distribution of APC/ACA does not correlate with any vascular territory or supply;

b) deposition of ACA occurs in the outer walls of arterioles, less in capillaries and least in venules;

c) there is often a demarcation of the deposition at the intima/media boundary in arterioles;

d) there is a preferential deposition in the Virchow-Robin space and overlying leptomeningeal arteries;

e) APP has been localised to neurons by in situ hybridization and immunocytochemistry;

f) the relative lack of APP in the liver and blood by Northern blots and radioimmunoassay;

g) from analogy to the neuronal PrP which polymerises into APC/ACA in the unconventional virus diseases.

Is there one gene for AD? Given our present knowledge on the multiple steps likely to occur in the processing of APP, this now seems unlikely. Even if we can rule out overproduction of the \( \beta A4 \) precursor, we are now faced with the prospect of multiple forms of the precursor, the mechanisms by which it is inserted and released from the cell membrane, and the processes which allow its degradative processing and the aggregation of the \( \beta A4 \) subunit. A simple gene mutation or epimutation may be involved at any step in this complicated pathway, but it is more likely that two or more errors contribute to the formation of NFT/APC/ACA.

AD shares a number of clinical and pathological features with Creutzfeldt-Jakob disease (CJD), the human counterpart of scrapie in animals. Not least is the familial (autosomal dominant) inheritance of CJD and the occurrence of amyloid plaques and amyloid filaments in CJD. The amyloid plaques occur as non-neuritic APC/ACA in all forms of the unconventional virus diseases, and are best seen in the Gerstmann-Sträussler syndrome (GSS). The amyloid filaments, like in AD, occur in two forms: there is a distinctive scrapie associated filament (SAF) which bears some resemblance to the PHF, and there is a more typical amyloid filament with its presumed origin in the APC/ACA.

The principal protein component of the SAF is the PrP protein with a mass of 33-35kD. The gene for this protein is linked to genes which control the incubation period of scrapie and to the expression of disease in GSS. The predicted structure of the PrP shows that it too is a membrane glycoprotein and in situ hybridization and immunocytochemical studies show that it is probably a neuronal membrane protein. Antisera to PrP and the direct biochemical analysis of the GSS-APP show that the APC in these virus diseases is composed of PrP molecules. Since it appears that PrP plays an important role in the replication cycle of the infectious agent, it is logical to question whether APP may also participate in a similar process.

Many other etiological hypotheses for AD exist, some of which can be easily woven into the background of the studies now emerging on the \( \beta A4 \) molecule and its role in amyloidogenesis. For example, if APP requires membrane damage before it is released and becomes susceptible to amyloidogenic proteolytic cleavage, then theories and data which deal with lipid peroxidation, free radical attack and oxidative stress should be pursued. Do aluminosilicates play a role in the proteolytic degradation of APP? These and other interesting theories will form the basis for research into the cause of AD and its relationship to normal aging of the brain.

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HORMONES, MOOD AND SEXUALITY
FROM FREUD TO FEMINISM

Associate Professor Lorraine Dennerstein

Dean's Lecture Series
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INTRODUCTION
This paper summarises our findings from sixteen years of research into the relationship between hormones, mood and sexuality of women.

It is an immensely interesting research area both because it concerns the most intimate level of our experiences, and because it evokes the debate of nature versus nurture.

How did this research come about? As a young female graduate working in general practice in the early 1970s, it was quickly apparent that my major clientele was female and that they chose to consult me about specific problems, mainly those related to reproduction, family planning and emotional and sexual problems. Now whilst our undergraduate medical graduate working in general practice in the early 1970s, it determined early this century and both oestrogen and progesterone had been synthesised by 1952, and were then extensively used for contraceptive and gynaecological purposes other than the control of disease (Moos, 1968).

Did the pill affect behaviour and if so did this reflect psychological or pharmacological factors?

Although the existence of sex steroid hormones was determined early this century and both oestrogen and progesterone had been synthesised by 1952, and were then extensively used for contraceptive and gynaecological disorders, there was a lack of knowledge about their behavioural effects (Dennerstein and Burrows, 1976).

Animal studies
In contrast, the effects of hormones on sexual behaviour of other animal species had been more intensively researched. These studies showed that endocrine influences on sexuality were pronounced, especially in lower mammals, where sexual behaviour varied predictably with the phase of the reproductive cycle.

Of most interest are the primates, who have discrete menstrual cycles. Even amongst the primates there is great variability between species, with the gorilla mating only at oestrus and no further copulations occurring during pregnancy or the following years of lactation. In contrast, female rhesus monkeys living in communities with males, male throughout the cycle. Yet in an experiment to determine female motivation, where female rhesus monkeys had to press a lever 250 times to gain access to males, shortest mean access time occurred at mid-cycle one day following the oestradiol peak (Michael and Bonsall, 1977).

Oophorectomy reduced sexual interaction but to varying degrees. Administration of oestradiol stimulated sexual receptivity and increased female attractiveness to males, whereas progesterone resulted in a decline in sexual receptivity and attractiveness. However, individual and social factors modified this behaviour (Herbert, 1977). There are obvious methodological considerations which limit comparison of findings. Nevertheless the animal models cited provided some hypotheses about the effects of female sex steroids which could be investigated further.

Hysterectomy
The first investigation was of 89 women who had already undergone hysterectomy and bilateral oophorectomy and hence had no ovarian hormones. It became apparent that the women interviewed had experienced a variable response to the operation, which had been performed in all instances for benign conditions. Sexual relationships deteriorated in 37 per cent, improved in 34 per cent, whilst 29 per cent detected no change. Women who did not take oestrogen therapy post-operatively reported significantly more dyspareunia. Women who reported pre-operative anxiety about being altered sexually by the operation were likely to experience both loss of desire and dyspareunia (Dennerstein et al., 1977).

This study indicated women had many concerns about undergoing hysterectomy. Few women were able to discuss these anxieties with their doctors. There was a profound lack of information available to women about the operation of hysterectomy, estimated at that time to be undertaken by 40 per cent of Australian women in their lifetime. In order to help women deal more effectively with the prospect of surgery a book was written: Hysterectomy: How to cope with the Physical and Emotional Aspects, (Oxford University Press, 1982).

The importance of even limited information was highlighted by Dr Maggie Ryan. In a later research study of psychosexual aspects of hysterectomy, she found that women interviewed pre-operatively by the researcher had a better sexual adjustment subsequently than those who were only interviewed post-operatively (Ryan, 1986).

Hormone replacement therapy
In a subsequent investigation, 50 women who had undergone hysterectomy and bilateral oophorectomy were studied (Dennerstein, 1979). The study aimed to determine the effects of replacing the ovarian hormones with a synthetic oestrogen and a gestagen, which at that time together comprised the most frequently prescribed oral contraceptive pill. Psychological and social variables were...
controlled to some extent by selecting for study only those women in stable, heterosexually active relationships, and without any psychiatric complaints. The women were curious to know which hormone would be preferable (if any) for long term use as hormone replacement therapy. A double blind placebo controlled cross-over study was carried out. This consisted of 3 months each of ethinyl oestradiol 50ug/day, levonorgestrel 250ug/day, Nordoir, and placebo. The women were interviewed and completed rating scales each month.

The 36 women who received all 4 drugs were in accord in their preference of the drug received, with first preference being for the oestrogen and least for the placebo (Dennerstein et al., 1978). The oestrogen and progestagen studied were found to have pharmacological effects on mood and sexual behaviour (Dennerstein et al., 1979, 1980). The most beneficial influence was observed with the oestrogen; lowest scores were for placebo. The oestrogen was also found to have a stimulatory effect on each parameter of female sexuality studied: sexual desire; vaginal lubrication; sexual enjoyment; and orgasmic frequency. The gestagen and placebo were inhibitory to sexual response. Interestingly, despite marked effects on female sexuality, coital frequency did not change throughout the study, indicating that other factors than women's desire influence the occurrence of sexual intercourse amongst Australian couples.

Thus, this study confirmed findings from primate research and had implications for how women may respond to ovarian hormonal decline at the menopause and the administration of hormone replacement therapy.

Menopause
Community surveys have shown a decline in sexual interest, capacity for orgasm and coital frequency of women in the middle years of life. A fundamental question was whether the observed decrease in sexuality was related to a progressive decline due to chronological ageing or to the menopause. A Swedish study was able to demonstrate that decreased sexual functioning was significantly related to menopausal status rather than age (Hallstrom, 1977).

Further confirmatory evidence was provided by a Stanford University longitudinal study of women through the climacteric years (McCoy and Davidson, 1985). In this study there was a marked decline from pre-to post-menopause in sexual interest, frequency and responsiveness and this correlated with the onset of menstrual cycle irregularity and with low levels of oestriadiol (<30 ppm/ml). The small sample size (16 women) rendered it impossible to determine the interactive effects of other variables, such as stress. In larger cross-sectional studies, an association was found between climacteric complaints, psychosocial vulnerability factors and life events (Cooke, 1984). Thus, in some women undergoing endocrinological changes may in themselves be sufficient to trigger emotional change leading to distress. In other women these changes may lead to psychological complaints only when other factors are present such as low socio-economic class, lack of a supportive social network and undesirable life events. These associative studies need confirmation from larger longitudinal studies. A prospective international collaborative study of the many factors contributing to women's health through the menopausal years has been commenced.

Menstrual cycle research
It is not justifiable to extrapolate from findings based on women without functional ovaries to those women who have normal ovarian function. Are there psychological, physical and sexual fluctuations occurring in relationship to daily hormonal changes? Community surveys suggest that the majority of women are aware of changes in mood and sexual behaviour with the menstrual cycle. In a few women (5 to 10 per cent) these changes are severe enough to cause distress and to interfere with occupational or interpersonal functioning. Psychodynamic, social learning and biological explanations have each been separately advanced to explain these changes.

Interpretation of studies attempting to link hormonal and behavioural fluctuations is limited by the many methodological problems besetting this area. The greatest difficulty related to the differing and usually inadequate methods used to assign behaviour to menstrual cycle phases. Differing methods were used to organize cycles of different lengths, using menstruation as the cycle marker. It was determined that future studies should be: prospective; adequately define and measure the subjective changes; include groups of women who reported suffering from a clinical severity of change; and correlate these changes with daily levels of endogenous hormones.

Our research group has carried out such a study over the last ten years. The sample included: women referred with clinically severe premenstrual changes in mood; women with menstrual migraine; and women who reported little or no change over the menstrual cycle. Women were studied over at least 2 menstrual cycles. During this time changes in mood and behaviour were scored daily on a daily rating chart. They collected 24-hour urinary samples throughout a menstrual cycle so that daily production of urinary total estrogens and pregnanediol could be measured. Women were also assessed by the research team in the follicular and premenstrual phases of the cycle. After two months of prospective assessment, the women were categorised into the following groups:

- Premenstrual Syndrome — women with marked symptoms premenstrually, alleviated during the menstrual phase
- Menstrual Distress Syndrome — women who reported symptoms throughout the cycle with an exacerbation premenstrually
- No Change — women whose symptom reports showed no significant cyclical changes
- Volunteer women (non-treatment seekers)
- Menstrual Migraine group.

The median age of patient groups was 35 years, 77 per cent were currently married for a median of 10 years with a median of 2 children. The Volunteers were older (37.7 years). Eighty per cent of the patients reported problems when using oral contraceptives. Premenstrual Syndrome women were also significantly more likely than were Volunteers to have suffered from postpartum depression. The Patient group differed from Volunteers on self-esteem, general well-being and marital adjustment. Women with low self-image may be more vulnerable to stress in their environment. Interestingly, the only factor which predicted an abnormal hormonal cycle was neuroticism level. Thus, through the hypothalamic pituitary ovarian pathway, the female reproductive system may respond to chronic stress.

Let us look now at the results of daily rated variables over the menstrual cycle. Cycles of disparate length were compared using the following methods:

- Counting forwards from the first day of menstruation
- Centering cycles on the day of the pre-ovulatory oestrogen peak
- Standardising the cycle (using the markers of the oestrogen peak and menstruation) into 14 cycle
showed similar changes over the menstrual cycle for sexual
Cyclical changes were distorted and obscured by the first two
scores on negative symptoms in the first part of the cycle and
scores were found pre-menstrually. The PMS patients
(least level) was present in the follicular phase and highest
experiment and occurring surely to procreational advantage
demonstrated more cyclicity than other groups. Migraine
clear. Further studies should determine whether the addition
other substance(s) in parallel with the menstrual cycle is not
confirmed that the women studied did experience psycho-
multivariate analysis is still to be carried out, this study
Postpartum depression
women's psychosocial
and to determine the way in which these factors interact.
The study was prospective, with interviews and rating
and 4 months postpartum and was carried out simulta-
and 4 days postpartum, and 4 months postpartum and was carried out simul-
and to determine the way in which these factors interact.
The large sample size (300 women) enabled multivariate
analysis to be carried out. Using the Beck Depression
Inventory score as the outcome assessment of mood, the
most important factor predicting depressive mood post-
partum was the level of depressive symptoms during
pregnancy.
Other risk factors included the continuation of breast
feeding in those who were already symptomatic in preg-
nancy, age greater than 30 years, and a prior history of mood
disorder, particularly that of premenstrual depression. These
variables appeared to interact in a multiplicative way. Stress
during pregnancy or delivery and a lack of support from the
woman's parents, were factors which had an additive effect
in predisposing the new mother to depression. These findings
of risk factors which may be identifiable in pregnancy,
suggest possible interventions for the woman at risk
(Dennerstein et al., 1989).

Conclusion
Well, you may ask, how did Freud and Feminism get into all
this? There are a number of possible interpretations. Perhaps
the subtitle refers to our recent move from the Department of
Psychiatry, to the Key Centre for Women's Health in
Society. The subtitle may also indicate a substantive
theoretical shift from an essentially psychodynamic view of
behaviour. Interestingly, Freud himself indicated that it was
out of the question that his writings based on psychological
techniques would ever be extended into a 'complete theory of
sexuality'. The unsatisfactory conclusions, however, that
emerges from these investigations of the disturbances of
sexual life is that we know far too little of the biological
processes constituting the essence of sexuality (Freud, 1903).
Freud had anticipated as early as 1896, the discovery of
sex-hormones, and their effects on behaviour: substances
which would 'disseminated generally through the organism
give rise to a specific stimulus which acts on the reproductive
organs upon a spinal centre related to them.'
The inadequacies of Freud's work on female sexuality
may well have reflected his gender and social value system.
It would seem that Freud was very much a man of his time
and held certain paternalistic stereotypes of women, whom
he characterised as passive, narcissistic and masochistic.
Men, he said, had a 'natural scorn' for women. He comments
that only the erotic life of men has been fully accessible to
psychoanalytic research 'that of women — partly owing to
the stunning effects of civilised conditions and partly owing
to their conventional secretiveness and insincerity is still
veiled in an impenetrable obscurity'. No wonder that he
made so many mistakes about female sexuality. The litany
included his concepts of: the need to transfer the 'immature
clitoral orgasm to a mature vaginal orgasm; the clitoris as an
immature penis; oral sex as a perversion, and the lack of
awareness of the vagina until puberty; Thus female sexuality
became a series of lacks: the lack of a vagina, lack of a penis,
lack of a specific sexuality, lack of an adequate erotic object.
The work of sex-researchers such as Masters and Johnson
(1966), has provided us with a more accurate perception of
the physiology of orgasm and female sexuality. Yet how
applicable are their laboratory techniques to everyday
experience? Women who readily described orgasm in the
same way as Masters and Johnson's subjects are often those
who are most aware of the findings.
Our research program outlined used features consistent
with feminist research. The distinctive features of such
research are that it generates its problems from the
perspective of women's own experiences. These experiences
are then used as an indication of the 'reality' against which
hypotheses are tested. Our research has grown out of
listening carefully to women's views of their behaviour, of
attempting to help find an explanation for behaviour and
where possible, evaluating strategies for change. These
studies suggest that hormonal factors do influence mood and
sexuality in women. Other factors also act to modify these
influences. The complexity of the area under study is such
that it is only in more recent years that the interaction of
variables has been studied.
As the focus of our research has moved to that of health,
we have investigated the relationship between career
patterns and quality of life. All surviving female graduates
of this Faculty and an equal number of males were surveyed.
Female graduates were found to have constricted and
constrained careers, affected adversely by commitments to
family, to partner's careers and the structures of postgraduate training (Dennerstein et al., 1989).

In our Key Centre for Teaching and Research on Women's Health in Society we will attempt to address, and redress, some of these issues. The Centre was established in June 1988 with the objective of integrating knowledge developed by scholarship in the social sciences with that of medicine to develop a new perspective for teaching and research on women's health issues, a perspective which is interdisciplinary and responsive to women's needs. In addition to the research program the Key Centre will make a major contribution to undergraduate and postgraduate courses. Both a Postgraduate Diploma in Women's Health and a Master of Medicine in Women's Health will be offered in 1990. It is hoped that the course content and the availability of part-time training will be particularly attractive to women doctors. Enhancing their training (and that of other allied health professionals) will enhance ultimately the health of women in our community.

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References

Sir Alan Newton
from John Zwaar

Sir Alan Newton was a dominant figure in the surgical world during the 1930s and World War II years. Amongst the many positions he held was President of the Royal Australasian College of Surgeons, from 1933 to 1934. He was a brilliant teacher, with a splendid command of the English language, and a tongue as sharp as the scalpel which he wielded with skill and dexterity. His repartee spared no one — students or colleagues.

On one occasion he was demonstrating his thyroidectomy technique, an operation at which he excelled, to a group of visiting surgeons. As was his custom, having scrubbed up, he held his hands firmly clasped in front of him. At the conclusion of the operation one of the visitors approached him: 'Sir Alan, I noticed before you commenced operating you appeared to be praying. I presume, Sir, you were asking guidance from the Almighty?' Sir Alan drew himself up to his full height, and fixing the visitor with piercing eyes, replied: 'I will have you know, my dear Sir, that under no circumstances would I consider consulting with an unqualified practitioner.'

On another occasion, following again a thyroidectomy demonstration, this time to young surgeons, Sir Alan was asked: 'Sir, how do you tackle a difficult thyroidectomy?' In a withering voice, he replied: 'I do not perform difficult thyroidectomies. I make all thyroidectomies simple!'
Professor Stephen M. Cordner

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INTRODUCTION

There is often confusion between the various names of my area — forensic medicine, forensic pathology and forensic science. The word 'forensic' comes from the Latin 'forum' which, as you would be aware, was the place of assembly for judicial and other public business. The word 'forensic' when used in a legal context by lawyers means those skills of the law related to the court room itself and in particular those skills of advocacy. Forensic Medicine is the broad medical subject which applies the principles and practice of medicine to the needs of the law. It has four main areas: Forensic Pathology, Clinical Forensic Medicine (the work of the Police Surgeons), Forensic Psychiatry, and Medico-Legal Issues.

 Traditionally, medical ethics was taught as part of courses in Forensic Medicine, but this is a subject which has now far outgrown its parents. Furthermore, Forensic Medicine should be differentiated from Forensic Science which deals with matters such as ballistics, analysis of soil, paint, suspicious botanical specimens, chemical analysis of white powders, blood stains and the like. In some parts of the world forensic medical and forensic scientific services are provided from within one institution. In Britain and Australia the two are separate and in my view properly so since it is now beyond the capacity of any individual to have sufficient understanding of both areas to control them properly.

That separation exists in Victoria with, on the one hand, the Victorian Institute of Forensic Pathology, a statutory body with service responsibilities which is also the department of Forensic Medicine at Monash University and affiliated with the University of Melbourne, and on the other, the State Forensic Science Laboratory which is part of the Police Force and has no academic functions.

History of Forensic Medicine

I thought that at the outset it might be of value to give some idea of the origins of forensic medicine as a background to developments currently occurring in Victoria.

The history of forensic medicine is really that of forensic pathology and goes hand in hand with the development of the Coroner's system in England. The word 'Coroner' itself comes from the Latin corona, meaning crown, and Coroners were in mediaeval times the representatives of the Crown in the local districts. By the end of the twelfth century the Crown had lost faith in the Sheriffs who had become corrupt, and introduced the new office of Coroner to look after the Crown's interest in any matters which might have a pecuniary advantage to the King. The office was not popular because it was unpaid and severe penalties were imposed for anything less than a rigorous pursuit of the responsibilities. The first elections for Coroners were held in 1194 and among the responsibilities at that time were:

1. The holding of inquests into sudden and unnatural deaths.
2. The establishing of Englishry. This was proof provided at an Inquest that the deceased was English and not French. After the Norman conquest, members of the indigenous population were not averse to murdering their new masters when opportunities presented themselves. In order to deter this the Normans passed Lex Murdrorum. This law, from which our word murder is derived, imposed a crippling fine upon the Lord of the region in which the death occurred.
3. To establish the value of goods and chattels of felons and outlaws — property that reverted to the Crown.
4. To establish Deodands. These were goods that also became forfeit to the Crown. For example, if someone fell down a well and died the value of the well was forfeit to the Crown. A Coroner would establish the value in conjunction with a local jury. It became complicated if someone was run over by a carriage and four. A sympathetic jury would value the Deodand as that of the wheel which ran over the unfortunate victim, whereas an unpleasant jury or a jury that disliked the carriage's owner would establish the value as being that of the whole carriage and four.
5. To take control of wreckage from the sea.
6. To investigate treasure trove, royal fish and fires.

In relation to deaths, there were no autopsies and the findings were based on external examination. A very common cause of death was Ex Visitatione Divina — Visitation by God. There were ten inquests on deaths in Newgate Gaol in one year of the sixteenth century in which the cause of death was given as Ex Visitatione Divina. As recently as 1880 this was the most common verdict in the Birmingham Coroners Court. However, juries were not completely imperceptive. In 1514 a merchant tailor by the name of Hume was taken before an ecclesiastical court because contrary to custom he refused to hand over the burial sheet of his dead child to the person who conducted the service. There was so much anti-clerical feeling that this was heard by an ecclesiastical court, not a civil court, and the charge was one of heresy. Before the trial Hume was found hanging in his cell and the Bishop of London wanted to burn his body as a heretic. The Coroner outflanked him and with 24 Jurymen examined the body. It was plain to the jury who had seen many hanged people that he had been suspended after death. The jury found three persons guilty of murder, including the Chancellor to the Bishop of London. Confessions (it is not recorded how these were obtained) revealed that Hume had been killed by having wires passed up his nose into the brain.

The first account of an autopsy in England is one conducted at the instigation of Charles I in 1635, by William Harvey on Thomas Parr. Thomas Parr was apparently 153 years old and his longevity was of considerable interest to the
King. It is apparent from Harvey's account that he was well versed in autopsy procedures. Text books in forensic medicine appeared in Italy in the first half of the seventeenth century and English versions of these appeared in Great Britain in the late eighteenth century. The first original English language text on forensic medicine was An Epitome of Juridical or Forensic Medicine by George Male in 1816 (an epitome is an abridgement or an abstract). The first lectures in forensic medicine in Great Britain were given by Andrew Duncan at the University of Edinburgh in 1789. The first Chair was at that University in 1807 and the foundation Professor was Andrew Duncan (Jnr). The next Chair was at Guy's and was established in 1834. In the years following, Chairs were established in Glasgow, at Kings College, London, and in Aberdeen.

In 1836, the Births and Deaths Registration Act and the concept of a death certificate were introduced in England. The main motivation for the Act was to overcome the problem of hidden homicides. This motivation for the introduction of the Act is important to remember today, because the main purpose was not to collect accurate statistics or information about causes of death. Even today it is well established that causes of death given by clinicians on death certificates are substantially inaccurate in as many as 25-33 per cent of all cases. This is no criticism of clinicians, but it is simply an indication of the inaccuracies inherent in diagnosis in general and diagnosis of the cause of death in particular. The failure to appreciate this and, as a consequence, the failure to appreciate the real value of the autopsy as a major component of any clinical audit is, I am sure, a factor contributing to the decline in autopsy rates to less than 20 per cent in most of our major hospitals today.

There are a number of key dates in the history of forensic pathology in Victoria. The first of these is 1861. In that year a Dr John Wilkins, who was the Port Surgeon and who also owned some hotels in the district, was granted 500 pounds by the Victorian Government to build a mortuary at Williamstown. Prior to this the Publicans Act had required all owners of hotels to store bodies that came within the jurisdiction of the Coroner, in the hotels' cellars. This was both a benefit and a detriment to the publican. There were the disadvantages of storing bodies without the benefit of refrigeration on one hand, but on the other, the inquests into the deaths were held in the public bar and this was obviously good for business. However, the disadvantages were in the ascendancy and John Wilkins' mortuary still stands today in Williamstown, and is used as a store by the Maritime authorities.

In 1866, James Neild was appointed foundation lecturer in forensic medicine at this University, and he delivered his first lecture in the subject on Monday, 12 March of that year. In 1888, a second mortuary was built on the Yarra River in what came to be known as Batman Avenue. With minor modifications this mortuary stayed in use until 1951, when it was torn down and moved down river to Flinders Street Extension. The building in Flinders Street Extension, which was demolished earlier this year, was modelled directly on the Batman Avenue building and thus up until last year the main mortuary in Victoria was basically a nineteenth century structure.

In 1975, the then Attorney-General, Mr Wilcox, appointed a small committee to investigate and report on the adequacy or otherwise of facilities and staffing for the provision of forensic pathology services in Victoria. This committee reported in early 1977 that the facilities for the storage and examination of bodies coming within the jurisdiction of the Coroner were a disgrace to the State of Victoria and, further, that no suitable medical graduate would ever be attracted to undergo training there. This resulted in a series of departmental and interdepartmental committees which culminated in 1983 with the Attorney-General, Mr Kennan, on the second day of his assumption of office, promising his support for a new Coronial Services Centre of Victoria to house the State Coroners Office, and a new organization to be called the Victorian Institute of Forensic Pathology. These two organizations were formally established by the revamped Coroners Act of 1985 and the new building in South Melbourne was opened by the Premier in July 1988. It was occupied by both tenants in September last year.

The Victorian Institute of Forensic Pathology

South Melbourne landscape with the new Coronial building in the foreground.

I would now like to look at the structure and function of the Institute, which is a statutory body established by the Coroners Act 1985 and whose governing body is a Council. The Council comprises:

- State Coroner
- Director
- The Council of The University of Melbourne represented by our host this evening, the Dean
- The Council of Monash University also represented by the Dean of the Faculty of Medicine, Professor Porter
- Representative of The Minister for Health, Dr Gad Trevaks, past Chairman of the Health Commission
- Representative of The Minister for Police and Emergency Services, Mr Michael Bourne, acting Director of the Police Division of the Ministry
- Representative of the Chief Justice — Mr Justice Phillips of the Supreme Court, previously Victoria's first Director of Public Prosecutions and prior to that the Chamberlains' counsel at their trial. He is the Council's Chairman, an appointment made by the Attorney-General.
- Two representatives of the Attorney-General, one of whom is to be a Fellow of the Royal College of Pathologists of Australasia. These representatives are Professor Plueckhahn — a member of the 1975 committee mentioned previously and who has been intimately involved with all the developments since that time, and Mr John Barnett, a member of the Victorian Bar specializing in Criminal Law.

The person appointed to the Chair of Forensic Medicine at Monash University by virtue of that appointment becomes Director of the Institute and responsible for its day-to-day operations. This method of appointment sets the seal on the independence of the Institute since I can only be dismissed by the Council of Monash University. It is perhaps opportune at this time to mention that the Institute became formally affiliated with The University of Melbourne on 1st January
1988. This means that, *inter alia*, postgraduate students can pursue work leading to University of Melbourne degrees at the Institute. The intertwining of the Institute with both universities predated one of Mr Justice Morling's conclusions in his *Report of the Royal Commission into the Chamberlain Convictions*. He agreed that there should be 'closer links between forensic science centres and universities and other appropriate institutions so as to ensure the former have the advantage of the research conducted by the latter'. Even though this conclusion relates to forensic science — and I might say it is a conclusion which shows no sign of being acted on — it applies equally well to forensic pathology.

The objects of the Institute are laid down by the Coroners Act as follows:

1. **The provision of forensic pathology and related services in Victoria.**

   Before illustrating something of what this involves, it may be of interest to consider the aims of a forensic pathology investigation. These can be described briefly as follows:

   a) At autopsy to discover, describe and record the pathological processes present in the deceased.

   b) To relate these processes to the known medical history to make conclusions about the causes of symptoms and signs observed in life and then to make conclusions about the medical cause of death and factors contributing to death. (The above two aims are the same as for hospital autopsies.)

   c) To contribute to the reconstruction of the circumstances surrounding the death. Where these circumstances are important or likely to be in dispute then this will require consideration of the scene of the death as well as the relevant autopsy observations, many of which may be of trivial medical consequence.

   d) To record all the relevant observations and negative findings in such a way as to put another pathologist in the same position as the pathologist performing the autopsy.

   It is the third principle above which sets forensic pathology apart from the otherwise closely related hospital pathology discipline. The legal process is very much more interested in the circumstances surrounding the death or injury than it is in the medical aspects of the death or injury. The forensic pathologist therefore becomes familiar with those aspects of the scene of the death or event and those aspects of the autopsy which allow conclusions and inferences to be made about the surrounding circumstances. That is the fascination of forensic pathology. Furthermore, the forensic pathologist has only one opportunity to make and record all the observations that will allow answers to be given to issues that have not even surfaced at the time of the autopsy. This is particularly important in homicides, suspicious deaths and deaths in custody, where the factual information about the circumstances is almost always incomplete and often changes with time.

   It may be of interest to hear in some detail what is actually involved in the forensic pathology investigation of a suspicious death or homicide: In such a case, the pathologist will be called to the scene. This is extremely important from my point of view because, as mentioned before, an important function of the forensic pathologist is to contribute to the reconstruction of the circumstances surrounding the death. This means the pathologist has to have first-hand knowledge of the scene to make best sense of all his autopsy findings.

   At the scene, the pathologist will be given such information as is available and this is usually very incomplete and often turns out to be wrong. If he or she (we do have a female forensic pathologist on our staff) is the first medically qualified person at the scene then the fact of death is certified.

   He then must become familiar with and record the physical characteristics of the scene and the position of the body in relation to those characteristics. Consideration will then be given, before the scene or body have been disturbed, to the collection of any trace evidence from the body or clothing that seems relevant. An initial examination of the body and assessment of any injuries present or derangement to the clothing will then be made, looking for anything that might assist the investigation at that point. Observations that may assist with coming to some estimation of the time of death will be made if it appears to be relevant. Appropriate photographic records of the observations must be made and the pathologist must ensure that all photographs of relevant findings have been taken. All of this should enable another pathologist instructed by a party to later proceedings to come to his own conclusion.

   The examination of the scene may be the critical part of the whole forensic pathology investigation. I well recall in November 1985 on a dark, wet, miserable winter's day in Oxfordshire standing looking at a skeleton in a forest on the Duke of Marlborough's estate — it had been discovered by beaters involved in a shoot the day before. The skeleton was relatively intact but there were no clothes around so on the face of it, it was a suspicious death. It was covered with vegetation and half sunken in mud and quagmire. It took about half an hour of just looking at the skeleton to finally see a ligature that was around the cervical spine area. Apart from identifying the skeleton, that particular observation was the critical one in resolving the circumstances of the case — the skeleton would have been so easy for the people first on the scene to have simply bundled the bones up, put them in a bag and taken them away. If they had, the relationship between the ligature and the neck would have been lost and it would never have been possible to be so sure about the cause of death.

   After examination of the scene, the body is removed to the mortuary. A close inspection of the clothed body is made, all observations recorded and every step of the subsequent examination is photographed. The body will be unclothed and the clothes retained for further examination as required at the State Forensic Science Laboratory. The unclothed body may be x-rayed. The detailed external examination of the body is then performed, again recording and photographing all findings, both positive and negative. The internal examination is then performed and samples taken for histology and toxicology.

   A report is generated but will not be signed out until clearer information about the circumstances is available, hospital records are consulted, and the results of all investigations are complete. The scene investigation and autopsy together may take 8-10 hours or more — much more if the scene is in the country, and basically we are now attending all homicides in Victoria.

   Following the completion of the autopsy report what then? Prior to the Institute's existence forensic pathology services in Victoria were provided in an *ad hoc* way by histopathologists from both public hospitals and private laboratories. This meant that there was no formal way in which possible idiosyncratic approaches to forensic pathology were subject to any scrutiny by appropriately informed and trained colleagues. Too often — and this is a comment which applies not only to Victoria and Australia but to the United Kingdom and North America — pathologists in homicide cases have entered the witness box without any other forensic medical mind ever having been turned to the case. This is particularly critical since the Justice System assumes a very high standard of expert evidence because it
I'm a good old sort
Of forensic import,
With an eye to the fun in the game;
Among babes and bodies
And fourteen inch waddies
I'm an expert of doubtless fame.

The Speculum, May 1929, p.78

'MOLLIE'

[Crawford Henry Mollison, who had graduated in 1884, was appointed demonstrator of anatomy in the place of William Moore, who had resigned. He began an almost unique association with the university, for he was later to take Neild's place as lecturer in forensic medicine, a position which he held with distinction from 1904-43 during which period 'Mollie' won the very real affection of generations of students and graduates. (K.P. Russell, The Melbourne Medical School 1902-1962, Melbourne University Press, 1977, p.78)]
has only relatively crude means available to it of assessing the quality of that evidence. Therefore, it relies heavily on the professional background and personal qualities of the individual witness and the organization from which he or she comes to ensure that the evidence being presented is reliable. The Institute therefore has a considerable benefit in that cases can be and are presented to the other staff for their view and comments. An important adjunct to this is the Institute's open invitation to prosecution and defence lawyers to speak to the pathologist involved.

As far as the witness box performance of an individual staff member is concerned this is a personal responsibility. Direct control there, is neither desirable nor possible and the individual must take full responsibility for all opinions expressed. It is to be hoped that the discipline of the preparation process carries over to improve the likelihood of objective and reasonable opinions being given from the witness box. The nature of medicine is that there will always be an element of individuality in the opinions of its practitioners. I hope that the Institute succeeds in establishing a uniformity in the fundamentals of forensic pathology and that the individuality of the pathologists can be harnessed in providing valuable insights into specific cases.

As a general rule, the forensic pathologist, while providing valuable information to investigators, is more valuable at the stage of court proceedings where the types of conclusions we reach are better suited to supporting or denying particular propositions or hypotheses put by one side or the other. In other words, forensic pathology is less well suited to creating a *scenario de novo* than it is to supporting or denying a particular proposition.

Put a bit more starkly, the provision of forensic pathology and related services in Victoria includes the following:

**a)** The performance of 3,500 autopsies at our new facilities annually. These autopsies are performed 7 days a week and after hours as required. Of these approximately 50% are natural deaths, 20% accidental, 15% suicide and drug-related deaths, 10% operative deaths, 5% suspicious deaths and homicides.

**b)** Ancillary laboratory services to support this autopsy function:

i) Radiology and photographs. X-ray facilities are important for the identification of foreign bodies (such as bullets), fractures in inaccessible parts of the skeleton (e.g., cervical spine, hands, feet), or for comparison purposes when identification is an issue.

ii) Histology — 45,000 blocks per annum.

iii) Microbiology — routine testing of all bodies admitted to the Institute for HIV antibody status and Hepatitis B surface antigen, basic bacteriological culture and identification service.

iv) Toxicology analysis for alcohol, drugs and poisons as required. Currently, full analysis sought in about 30% of cases. This is a time, staff and equipment expensive science in a forensic context because it is often a hunt for an unknown drug in contrast to toxicology in a clinical context.

**c)** The major related service to forensic pathology being established by the Institute is the Donor Tissue Bank of Victoria. Everyone is well aware of kidney, heart, lung, liver and pancreatic transplantation using organs obtained from brain dead beating heart donors. There are tissues that can be used, and are used, if donated from true cadavers — the chief of these being corneas and aortic valves. Other tissues include bone, cartilage and skin. The Donor Tissue Bank has been established by the VIFP and the ethical aspects of its establishment and operations are being scrutinized by the Institute's Ethics Committee which has been set up in conformity with NH&MRC guidelines. (The Ethics Committee also scrutinizes applications for the use of tissue for research purposes and all research projects at the Institute.)

We are in the process of appointing two staff whose principle function will be to approach relatives for permission to use tissues, remembering that the underlying purpose of the approach to relatives must be to assist in the process of grieving. There are numerous fascinating issues in relation to this development, but the establishment of the Bank enables the Institute to contribute very directly to the health of the community.

**d)** Further contact with the community arises from our autopsy work. It is only proper that the treating doctor should, in the first instance, be the person approached by the relatives about the autopsy findings and be involved in explaining them to the relatives. But if relatives want to know more, or the death was completely unexpected and there is no treating doctor, then the Institute pathologist will see the relatives himself. I believe that an important part of coming to terms with the death — if indeed it is possible — is for the relatives to at least have accurate information about the death itself. This role for the pathologist reflects, I believe, a duty of care extending, via the deceased person, to his or her relatives.

**2. The second statutory objectives** of the Institute is to provide postgraduate training in forensic pathology in Victoria. We have positions for two registrars and these are available for those who already have their first part of the Fellowship of the Royal College of Pathologists of Australasia in Anatomical Pathology and who either want a career in Forensic Pathology or simply an exposure to the area. The Institute is approved by the College for two years training in Anatomical Pathology slanted to Forensic Pathology. These positions may also be used for new fellows who want to have a year's exposure to forensic pathology before perhaps taking a provincial position where they will be responsible for the routine forensic pathology. Once fully staffed, the Institute will become the training centre for other states — I already have two applications for registrar positions from New Zealand for next year.

In addition there is a requirement for all Anatomical Pathology trainees to perform a certain number of coronial autopsies and these can be done at the Institute.

**3. The third objective** is to provide a training for graduates in the biological sciences in the field of toxicology and forensic science in Victoria.

The Institute has not as yet been able to develop this objective fully. We currently have a Masters and an Honours science student from Monash University undertaking research for those degrees with us in the area of forensic applications of Molecular Biology.

**4. The fourth objective** is to provide training facilities for doctors, medical undergraduates and such other persons as may be considered appropriate by the Council to assist in the proper functioning of the Institute.

We provide the undergraduate teaching in Forensic Medicine to both Monash and Melbourne University. In the case of this university, the teaching is provided in the Department of Community Medicine. Institute staff provide a course of 14 lectures twice a year and contribute to a seminar program mounted three times a year. Final year Monash students, in groups of twenty attend the Institute on Friday mornings for six weeks for a program of seminars, lectures and exposure to the autopy material. In July, we start a 30-hour course entitled Elements of Forensic Medicine.
as an optional subject in the third year of the Monash Law Course. This has been mounted on the premise that the quality of forensic medical evidence presented in court can only improve if the lawyers have some understanding of what we are doing.

5. The fifth objective is to conduct research in the fields of forensic pathology, forensic science and associated fields as approved by the Council.

This is an exciting objective and means that we can properly devote some of our resources to this end. Our first research grant, which we received jointly with this University’s Department of Criminology under the Chairmanship of Dr Kenneth Polk, earlier this year, was from the Australian Criminology Research Council in relation to homicides and domestic violence. However, much of our research will be based on managing the considerable amount of information generated by our service load. The autopsy findings, the laboratory investigations, demographic and circumstantial information is to be computerized (funding for our computer project was recently approved) and this should enable fundamental information of direct benefit to community health and safety to be generated. Valuable forensic pathology information will also be generated. In particular firmer conclusions about the causes of particular injuries and patterns of injury should result from this exercise. In this area, one project now underway is a survey of cervical spine injuries in road traffic accidents using both radiology and careful macro and microscopic examination following decalcification.

At a more fundamental level, the Institute will be involved in work relating to the ageing of injuries. Time in biology is a very difficult thing to measure, but it is a vital aspect of the assessment of injuries in relation to an event at a particular time. This sort of work involves routine histology together with histochemistry and biochemistry of injuries of known age and parameters.

Our molecular biology laboratory is currently investigating techniques of extraction of DNA from bone. This will be an important tool in the identification of skeletal remains (of which there are 10-12 cases per year in Victoria). If the extraction proves possible then it can be compared with relatives of whoever the skeleton is thought to be. This will be an advance on a fairly common situation where one has to say that the remains are consistent with being those of so and so. Other research projects in this area include the development of techniques for more rapid mapping of human genetic markers and for improving the resolution of DNA analysis. As an aside, in relation to the forensic applications of DNA technology, I have the feeling that haste should be made slowly in this area. There are not only problems with the techniques but the interpretation of the results in a particular case by reference to statistics is an area that I am not convinced has been fully explored.

The toxicology laboratory is currently simply coming to terms with having assumed responsibility for the service from the beginning of this month. One of the main problems with post mortem toxicology is that the specimens are not those of a clinical toxicology laboratory. The effects of decomposition affect analytical procedures quite quickly by, for example, preventing the ready separation of plasma and cells. The analysis is often a whole blood exercise rather than a plasma based one. Again, much of the research here will flow from the service work, for example, drugs and driving. However the Institute will be well placed to contribute to the increasing awareness of environmental toxicology and the levels of heavy metals and the various pesticides and herbicides that exist in the population quite apart from looking at the underexplored area of therapeutic drugs and death, particularly in the aged.

This lecture is entitled 'The New Era of Forensic Pathology in Victoria'. There is no doubt that there are wonderful opportunities for the Victorian Institute of Forensic Pathology to contribute to the proper functioning of the justice system, and the health and safety of the community. I can only hope that in a few years time we will be judged to have done so.

Hospital Silhouettes

I.
A dignified presence and pale fawn spats,
And plenty doing underneath his hats:
An elegant car of silvery grey,
With a bar to push the kids away.
All dressed in white, with an op. to be done,
He keeps the theatre staff on the run;
A marvellous manner of steel and ice!
But they tell me that really he's rather nice.

II.
Rosy and round, with a twinkling eye,
He calls the roll as the class tramps by.
With a fatherly smile at his little Meds.,
He waves a revolver at our heads.
He tells us of murders and struggles and groans,
And carries a bag of the victim's bones —
The movies now seem insipid and dead:
We go to forensic lectures instead!

— Blue Peter

[An earlier version, see page 25.]
The fact remains that the world continues to spend something in the order of 1 billion US dollars a day on weapons of mass destruction.

The Medical Association for the Prevention of War, Australia is the Australian affiliate of the International Physicians for the Prevention of Nuclear War (IPPNW). IPPNW was founded in 1980 following a meeting of three Soviet and three American physicians in Geneva. From these humble beginnings has developed one of the most rapidly growing medical associations in the world. At the 9th IPPNW World Congress, held in Hiroshima in October 1989, the organisation was able to identify over 200,000 members from 70 nations.

In 1985 IPPNW was the recipient of the Nobel Prize for Peace. This was an award to the organisation rather than to any specific individuals within the organisation and all members could legitimately feel that they had been awarded a small share of the prize. The organisation received the award, at least in part, because it is made up of medical practitioners from countries of many different political ideologies. Indeed, the constitution of IPPNW requires that there be co-presidents; one from the United States of America and one from the Soviet Union.

At about the same time as IPPNW was being founded a group of Australian doctors set up the Medical Association for the Prevention of War, Australia (MAPW), the name derived from a similarly named group in the United Kingdom. Subsequent to the formation of IPPNW the Australian group, like similar groups all round the world, became an national affiliate to IPPNW.

MAPW Australia, like its international counter part, exists to educate the public, our medical colleagues and policy makers of the medical consequences of war and of the costs, both economic and psychological, of preparing for war. It has branches in all States and Territories of Australia with its national office and executive currently being located in Melbourne.

Involvement with the development of a lobby group is always a fascinating process. MAPW Australia is a dynamic organisation and one which has had to review and reconsider its position constantly, most especially given the frequency and dramatic nature of recent world changes. Although the organisation was initially most concerned with nuclear weapons and the catastrophic consequences of their development and use, it has now become more clear that the difference between nuclear weapons and so-called conventional weapons is not nearly as great as once thought. With this in mind MAPW Australia has now focused its attention on all types of conflict in the belief that modern medicine would have very little to offer subsequent to a major war, whether such war was fought with 'conventional', biological, chemical or nuclear weapons. Recent dramatic events in the East and in East-West relations have made many people complacent and less interested in taking active steps to end the arms race. It is important to remember that currently there are no talks even about beginning talks regarding weaponry in the Asian Pacific region.

Developments in this part of the world are clearly of enormous importance to MAPW Australia. Even more since Dr Tilman Ruff, an Infectious Diseases physician and MAPW member from Melbourne, was honoured by being elected an Asian Pacific international vice president of IPPNW.

The National Council of MAPW met in Melbourne in November 1989 and, among other things, debated extensively the question of whether the time had come to turn the organisation's attention to matters ecological. The conclusion of this debate was that, notwithstanding the urgency of ecological issues and the clear need for medical practitioners to play a leading role in focusing attention on the medical aspects related to such issues, the time had not yet arrived such that MAPW Australia could turn from its original purpose.

The fact remains that the world continues to spend something in the order of 1 billion US dollars a day on weapons of mass destruction. The major, if not the only, rational for such expenditure is, it is argued, that the more of such weapons a country possesses the less likely it may be necessary for them to use them. This thesis remains unproven and the consequences of a failure in this theory are clearly beyond our worst imaginations.

Late in 1989 MAPW Australia hosted a visit of a number of Soviet physicians to Australia. This visit was organised in response to a visit to the Soviet Union by a number of Australian doctors in 1987. On both occasions the group of Australian and Soviet doctors journeyed into the wilderness and, in the Soviet Union, climbed a 16,000 ft peak. In Australia they journeyed from the top of a snow clad Mt Kosciuszko by land and water to the sea.

The climax of the Australian visit was a reception for the Soviet visitors hosted by the Lord Mayor of Melbourne and attended by many doctors and by the Victorian Minister for Health and the Opposition Spokesperson for Health. The distinguished nature of the audience which included many of Melbourne's most senior medical practitioners made it clear that many remain convinced of the urgent need for action to lessen the likelihood of the use of weapons of mass destruction and, indeed, to lessen the perceived need to develop such weapons.

Recent events notwithstanding the time has not yet arrived where complacency can be justified in this matter.

Dr Rob Simpson is a member of the National Executive of the Medical Association for the Prevention of War, Australia.
James Edward Neild

Victorian Virtuosa

Harold Love

Melbourne University Press 1989

pp. 372

rrp $39.95

Harold Love, Reader in English, Monash University, has written an informative biography of James Edward Neild (1824-1906), one of the many colourful characters who were pioneers in this medical school.

Neild, a Yorkshireman, came to Victoria in search of gold in 1853, having studied surgery at University College, London, and gained his Licentiate of the Society of Apothecaries in 1847. Neild came as ship's surgeon. However, both in London and in Rochdale where he was in general practice, he had already started to write reviews of the drama, and it is of his life as a drama and music critic that much of this book deals. This should not deter the medical reader as this aspect of his life, not surprisingly, was very lively.

As an unofficial prosector to George Britton Halford in 1863 he became a good friend of our first professor and Neild's name is incorporated into the names of not a few of the Halford family. Appointed foundation lecturer in Forensic Medicine in 1865 Neild continued this appointment for forty years, resigning in 1905 in his eightieth year. During much of this time he was also coroner's pathologist and as such was closely associated with the Coroner, Britton Halford in 1863 he became a good friend of our first professor and Neild's mentor in matters forensic. In this sphere, as in his work as a critic, Neild was the centre of much controversy, some of which is vividly recounted. A hilarious account is quoted from the Record (25 October 1876) in which 'Pill Box' not only lampoons Neild's lack of skills in forensic pathology but also gloriously exaggerated his imbibing with Curtis Candler, the Coroner, and the subsequent effect on the inquest.

'And how long do you think he is dead, doctor?' asked the landlord. 'Sh-sh, about two two months', was the reply. 'Three months, damme. Which is his head, and which is his tail? — and then I'll, I'll begin the postorn. And here goes.' He laid his hand upon the form, and was about to commence the 'postorn' when the form sat up in the bed and gave the unfortunate doctor such a buffet on the side of the head as tumbled him about the room, and at last, coming down, he contrived to jam his head in an article of delf, that was beneath the bed...

This exaggerated account does, however, reflect the general concern of the time about the office of coroner and the coroner's pathologist — a concern that was also present in members of the medical profession opposed to reform and members of the legal profession jealous of their responsibility.

In any account of forensic matters of that time James George Beaney cannot be bypassed and there are good accounts of trials, lobbying for positions and his 'medical embassy' to Britain helped greatly by his modification of 'in an honorary capacity' to 'as an honorary commissioner'.

Neild did a great deal to reform the medical profession and his biting criticism of the drama and the actors probably contributed to improvements of standards there as well. His musical criticisms were less fair and he was destructive of the opera. Harold Love's unobtrusive scholarship has provided an accurate text for any subsequent historian who wishes to deal with a particular facet and much reference material not previously collated. The illustrations and index are excellent. I enjoyed reading the book.

Harold Attwood

Sir Victor Hurley, Surgeon, Soldier and Administrator

by John Victor Hurley

John Victor Hurley, Melbourne 1989

Cloth bound, pp. 148, 18 illustrations

$20 + $3 postage & handling, from Prof. Em. J.V. Hurley

25 Mary Street, Hawthorn VIC 3122

This is a fine biography of a distinguished Australian told by his son, a Professor Emeritus of Pathology in The University of Melbourne. The story is simply told and well illustrated. The contributions made by Sir Victor Hurley were considerable and are here fully and clearly recorded. The book is essential reading for all interested in the history of medicine. It is easy and enjoyable reading. (HA)

From Charity to Teaching Hospital.

Ella Latham's Presidency 1933-54

by Howard E. Williams

Book Generation, Melbourne, 1989

pp. 174, 29 illustrations

$20 + $3 postage & handling, from Department of Auxiliaries & Volunteer Services, Royal Children's Hospital, Flemington Road, Parkville, 3052.

The Royal Children's Hospital, Melbourne, was founded in 1870 as a charitable hospital for sick children of poor parents. The hospital was founded by women and has since then been managed and financed by women. This book, written by a paediatrician with over fifty years association with the hospital, covers a relatively short period in the hospital's history, but it was during the eventful twenty-one years of Ella Latham's presidency that the hospital changed from its original format to the internationally renowned teaching hospital of today. Much space has rightly been given to the hospital's senior management and doctors, but perspective has been achieved by giving due credit to nurses, social workers and all who assist in caring for sick and disabled children. This story is warm with the selfless devotion of many caring people. It is an important contribution to the history of medicine in Australia. (HA)
Since establishment in July 1960, The University of Melbourne Archives has classed medical records as an area of commitment. This is within a broad prescription to collect historical source material of and relating to the faculty of Medicine are, however, still lodged with the University’s Central Registry. Records of Professor Harry Brookes Allen (Dean of Medicine 1886-89, 1897-1924) were transferred to the University, also from wider areas for preservation and use in teaching and research. Where a microfilm copy of the minutes is at Archives, the originals and most other records relating to the Faculty of Medicine are, however, still lodged with the University’s Central Registry. Records of Professor Harry Brookes Allen (Dean of Medicine 1886-89, 1897-1924) were transferred to the University, also from wider areas for preservation and use in teaching and research. Where a microfilm copy of the minutes is at Archives, the originals and most other records relating to the Faculty of Medicine are, however, still lodged with the University’s Central Registry. Records of Professor Harry Brookes Allen (Dean of Medicine 1886-89, 1897-1924) were transferred to the University, also from wider areas for preservation and use in teaching and research. Where a microfilm copy of the minutes is at Archives, the originals and most other records relating to the Faculty of Medicine are, however, still lodged with the University’s Central Registry. Records of Professor Harry Brookes Allen (Dean of Medicine 1886-89, 1897-1924) were transferred to the University, also from wider areas for preservation and use in teaching and research. Where a microfilm copy of the minutes is at Archives, the originals and most other records relating to the Faculty of Medicine are, however, still lodged with the University’s Central Registry. Records of Professor Harry Brookes Allen (Dean of Medicine 1886-89, 1897-1924) were transferred to the University, also from wider areas for preservation and use in teaching and research. Where a microfilm copy of the minutes is at Archives, the originals and most other records relating to the Faculty of Medicine are, however, still lodged with the University’s Central Registry. Records of Professor Harry Brookes Allen (Dean of Medicine 1886-89, 1897-1924) were transferred to the University, also from wider areas for preservation and use in teaching and research. Where a microfilm copy of the minutes is at Archives, the originals and most other records relating to the Faculty of Medicine are, however, still lodged with the University’s Central Registry. Records of Professor Harry Brookes Allen (Dean of Medicine 1886-89, 1897-1924) were transferred to the University, also from wider areas for preservation and use in teaching and research. Where a microfilm copy of the minutes is at Archives, the originals and most other records relating to the Faculty of Medicine are, however, still lodged with the University’s Central Registry. Records of Professor Harry Brookes Allen (Dean of Medicine 1886-89, 1897-1924) were transferred to the University, also from wider areas for preservation and use in teaching and research.
A. The spinal marrow seen in front. B. Acquired nerve of the anterior root. The nerve of motion. C. The angle of the radicoma root. The nerve of sensation.

Apophysis of the shoulder joint.
some days after leaving Port Melbourne on board his troopship bound for Egypt: 'Wrote diary from beginning up to date. Will not again indulge in so indolent a lapse. I intend to incorporate more detailed news in personal letters, a sort of circular letter.' An entry a few days later showed that his papers would not lack personal comment: 'Sunday 8th Divine Service C. of E. as usual. Thought of prayers at Springbank. Don't like this public worship which has to trim its sails to reconcile the fact we are on a mission of Bloody Murder! I approve of the bloody murder but not the attitude of mock sanctity. I would not be surprised if God has all his money on the Germans.'

As well as being a keeper of papers, 'Plum' was a keeper of objects. His collection includes his very early model World War I gas mask, and the shorts he cable-stitched together from calico at the old morgue at Changi where he was imprisoned in World War II. This was his first exercise in sewing. His ingenuity would show in other ways. Paper was in short supply. His medical records for prisoners he treated are written on the inside of opened-out small sleeve-covers of Japanese cigarette boxes. Early in 1989 a level 12 student of Tintern Girls' School viewed them for her subject 'Australians at War' and exclaimed at the prisoners' weight losses 'in only a couple of months!'

Another Melbourne graduate who went to both wars was (Harold) Clive Disher (MBBS 1916). He willed his Gippsland property Strathfieldsaye and family papers to the University. The bulk of papers relate to running the farm but it is notable that there are records of Disher stroking the AIF rowing eight to victory over other Allied nations, and Oxford and Cambridge for the King's Cup in 1919. There is little on medicine other than detailed war diaries for Egypt and New Guinea and parallel correspondence 1940-43 with Rupert M. Downes (MBBS 1907) of the Department of the Army.

Papers of the obstetrician and gynaecologist Felix Meyer (MBBS 1880) 1872-1936 are similarly light in medical content, yet strong as to his interests in the Wesley Old Collegians Classical Association, Boobooks, Beefsteak and Wallaby Clubs. By contrast whereas the big Sir Clive Fitts (MBBS 1926) collection, of over 70 shelf metres concerns his extensive time on the Council of the University, the Felton Bequest Committee, and at fly-fishing, there is a very weighty medical content particularly of patient history cards, 1940s-1970s. These illustrate the need for appropriate conditions of access. When the official biographer of Sir Robert Menzies recently wanted access to his record in the collection, permission was obtained from Lady Fitts and Dame Pattie Menzies. Similar safeguards apply to the case histories in the Victor Hugo Wallace collection with many relating to birth control and drug addiction. Permission of his widow and daughter must be given and information cited only demographically — no names and addresses.

Other practitioners' material could be described, but quick reference should be made to related collections. These include minutes, reports and correspondence of the Melbourne University Medical Students' Society 1880-1944 and the Women Medical Students' Society 1902-1937. Archives also holds 13 metres of records of industrial arbitration and subject files 1930-1979 of the (ex-Royal) Australian Nursing Federation and 27.6 metres of material 1903-1973 from the Royal Victorian College of Nursing. There are, too, 7 metres of prescription and accounts books 1907-1970 from Charles Ogg & Co's Collins Street pharmacy, 5 metres 1928-1969 from Geoffrey Saunders of Hawthorn, and 3 metres 1876-1942 from Victor and William Say, Benalla.

To round this off with a united historical front, those three magnificent display cases made for the Melbourne Exhibition of 1888 and central to the Medical History Museum, were obtained by Archives for Professor 'Red' Russell (Personal Chair in Anatomy and Medical History 1969-76), as a donation from Edward Duckett & Sons, Wholesale Hardware Merchants, Lonsdale Street, Melbourne.
Notice of Annual General Meeting 1990

The Annual General Meeting of The University of Melbourne Medical Society (UMMS) will be held at 6.30 p.m. in the Sunderland Theatre, ground level, Medical Building, The University of Melbourne, Grattan Street, Parkville, on Tuesday, 8 May 1990. This meeting is preceded by the Dean's Lecture in which Professor Brian Tress, University Department of Radiology, The Royal Melbourne Hospital, will deliver a lecture entitled 'Tuning in on the brain: brain imaging from Roentgen to magnetic resonance.'

Business
1. Minutes of 1989 Annual General Meeting
2. Chairman's Report
4. Amendment of Constitution: Following the amalgamation of the Faculty of Medicine and the Faculty of Dental Science to form the Faculty of Medicine and Dentistry, comprising the School of Medicine and the School of Dental Science, the following resolution to amend the Constitution is proposed:

Resolution
That where the word 'Faculty' appears it is changed to 'School' and where the word 'Dean' appears it is replaced by 'Head'. That the opportunity also be taken to replace the word 'chairman' by 'chairperson' and that the generic 'he' is replaced by 'he or she'.

Moved: Professor Em Sir Sydney Sunderland. Seconded: Dr David Westmore.

5. General Business.

Minutes of Annual General Meeting 1989

The Annual General Meeting of the University of Melbourne Medical Society (UMMS) was held at 6.30 p.m., on Tuesday, 9 May 1989, in the Sunderland Theatre, Medical Building, The University of Melbourne. The meeting was preceded at 5.30 p.m. by the Dean's Lecture entitled 'Hormones, Mood and Sexuality — From Freud to Feminism.' This was delivered by Dr Lorraine Dennerstein, Director of the Key Centre for Women's Health in Society.

1. Minutes of Annual General Meeting 1988
The minutes of the 1988 Annual General Meeting, previously circulated in Chiron Vol. 2, No. 2, 1989, were adopted as an accurate record of the proceedings.

The Chairman noted that the Faculty had launched a newsletter entitled Medicine following discussion at last year's Annual General Meeting recommending a newsletter for graduates.

2. Chairman's Report
- The Chairman warmly acknowledged the Medical Defence Association of Victoria (MDAV) for its sponsorship of Chiron this year. The MDAV's much appreciated donation of $25,000 towards publication costs will assist UMMS to continue to produce the journal at its present standard. Special thanks were given to the Editor, Mr Peter Jones and the Associate Editor and Designer, Mrs Margaret Mackie, for their excellent work in producing another edition of such high quality.

- Membership has increased over the last year and is currently nearly 2000 members. The Chairman noted that Foundation Life Membership is now available.

- 'Two candidates were awarded the UMMS BMedSc Prize for 1987: Ms Rosalind Coulson for her study entitled 'The endocrine regulation of glucose-6-phosphatase and total tissue protein content in the liver, kidney, skeletal and cardiac muscle of the fetel sheep during late gestation,' and Ms Christine Phillips for her study entitled 'Diabetes mellitus in Central Australia.'

- Special thanks were extended to Dr Jeannine Paton who retires as Honorary Secretary of the Society. On her retirement from this position Dr Paton generously donated a handsomely bound minute book which will aid in the future preservation of the Society's records.

- The success of the UMMS events in 1988 was noted, in particular the UMMS Lecture, at which Dr Robert Simpson gave a lecture entitled 'To the Antipodes by Sailing Ship — Medical Aspects of the First Fleet Re-enactment Voyage.' A report of this lecture was published in the recent issue of Chiron. Members enjoyed meeting Dr Simpson prior to the lecture at a special function.

- Two features of the 1988 Dean's Lecture Series were noted: the seminar 'Contemporary Issues in Medical Ethics — a Review,' and the Bicentenary Lecture delivered by Professor Priscilla Kincald-Smith entitled 'The Future of Medical Practice in Australia.' Edited transcripts of both have been published in Chiron.

- Other activities in 1988 were the Continuing Medical Education Program and some very successful medical graduate reunions. Information regarding 1989 reunions is published in Chiron.

- Forthcoming events were noted including the final Dean's Lectures. Members were asked to note in particular the Seminar on Friday 21 of July at 2.00 pm on 'Resource Constraints and the Practice of Medicine: Everything that Might be Done Can't be Done' which will be convened by Professor Emeritus Richard Lovell.

The financial report for 1988/89 was presented by the Chairman and copies were circulated at the meeting. This showed, at 31 March 1989, an income of $45,823, with expenditure of $29,849. A motion to receive the report was carried.

Five retiring members of the UMMS Executive Committee were available for re-election: Dr Thomas Kay; Dr John McDonald; Mr David Westmore; Mr Michael Wilson and Professor Emeritus Sir Douglas Wright. Dr Diana Sutherland was nominated and accepted her nomination for the Committee. There were no other nominations. All were duly elected.

There being no further business, the meeting closed at 6.45 pm.

1990 DEAN'S LECTURE SERIES
CONTINUING MEDICAL EDUCATION
for dates and details see inside back cover
Stephen Rosen, a third year medical student, completed a B.Med.Sc. during 1988 in the Research Centre for Cancer and Transplantation, Department of Pathology, under the supervision of Dr. J. McLaughlin. Stephen's project involved the characterisation of mucins, which are heavily glycosylated proteins formed in large amounts in normal lactating breast tissue and in milk, but more particularly in breast cancer. The characterisation involved a comparison of normal mucin extracted from milk using a monoclonal antibody (BC2), with mucins extracted from breast cancers using the 3E-1.2 antibody. It was clear that these mucins were different—they differed in size, in their mode of solubilisation with detergents, and in their capacity to bind to different lectins, based on their different carbohydrate expression and content. The studies are of importance in highlighting the differences in these substances in normal and malignant tissue and provide the basis for further investigation, particularly providing a basis of making monoclonal antibodies selective for tumour mucins. These reagents can then be used to develop diagnostic and therapeutic strategies for breast cancer. The studies represent the culmination and the successful application of many different laboratory techniques to a problem of considerable clinical significance.

UMMS Membership
1 April 1990 — 31 March 1991
A membership renewal form is enclosed for those whose membership expires on 1 April 1990. Those who have been graduates for 50 years or more will become honorary members. The membership donation in 1990 is $35. A special donation of $10 for each of the first three years of membership will apply to first-year graduates who join in their internship year.

Besides MBBS (Melb.) graduates, persons with a substantial association with the Faculty or the University's affiliated institutions, for example, past and present academic staff may become members. 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.

We would like to urge members to propose membership of persons who would be interested in being associated with the Society. All that is required is a joint letter together with the consenting signature of the recommended person.

Foundation Life Membership
Foundation Life Membership, which is a tax-deductible donation to the University, carries with it a life-long membership of UMMS and the Alumni Association. The life membership donation of $1000, or $500 in each of two years, is a practical way of supporting the University. New members will be admitted to Foundation Life Membership only in the next four years. Medical graduates are already well represented in this special foundation group.

1989 THOMAS VICARY LECTURE
AT THE invitation of the Royal College of Surgeons of England, Mr James Guest, AM, OBE, VRD, delivered the 1989 Thomas Vicary Lecture in London. This lecture, which is one of the important occasions in the College's calendar, is named after Thomas Vicary (1495-1561) whose significance today to the Royal College of Surgeons of England and to the Worshipful Company of Barbers is that he was Serjeant-Surgeon in 1540 when King Henry VIII united the Company of Barbers and the Guild of Surgeons to form the Barber-Surgeons' Company. In 1541, Vicary was Master of the newly-formed joint Company and had probably been involved in planning the union.

In 1745 the Surgeons separated from the Barbers and 174 years later in 1919, at the suggestion of the Barbers, the annual Thomas Vicary Lecture was instituted at the College. Since 1951, the day of the lecture has provided an opportunity each year for the Surgeons and Barbers to dine together, alternately at the College or at Barber-Surgeons' Hall.

Only two Australians have given this lecture, Ken Russell in 1955 and James Guest in 1989. Mr Guest's lecture, entitled 'John Hunter's Disciple - Frederic Wood Jones', was presented on 25 October 1989. As an undergraduate science student at this University, James Guest was greatly influenced by Frederic Wood Jones, whom he met through the McCoy Society for Field Investigation and Research. Wood Jones led the first two expeditions of this Society (which he founded) and James Guest was present on the trip to the Sir Joseph Banks Group in Spencer Gulf and later became Secretary of the Society.

The Wood Jones papers were bequeathed to the Royal College of Surgeons in 1984 and on subsequent visits to England Guest spent much time perusing the material and gaining a greater insight into the life of this exceptional man.

After completing his science degree, James Guest studied medicine at Melbourne, graduating MBBS in 1941. He served in the Royal Australian Navy (1942-46) receiving an OBE in 1945 for his wartime services. Following postgraduate work in England his professional life was in general surgery associated with the Alfred Hospital, and he has been an active member of the Department of Anatomy of this University since 1946.

He became a Member of the Order of Australia in 1982 and was Chairman of the Board of the Peter MacCallum Cancer Institute 1983-88. He is still in consultant practice, a Director and Medical Adviser to the Brockhoff Foundation and on the Board of the Murdoch Institute.
The curious Master Thomas Vicary
A note from Peter Jones

The rise and rise of Master Thomas Vicary, a typically upwardly mobile Tudor man, is a curiosity of his century. How did an unschooled, un-Latinned, unqualified ‘rural’ general practitioner become Serjeant-Surgeon to Henry VIII (and, nominally at least, to all succeeding monarchs)? How did he become founder and First Master of the United Company of Barber-Surgeons of the City of London (1540), a re-founder (1544) and, in effect, Chief Administrator of St Bartholomew’s Hospital until his death in 1562? His knowledge of anatomy was primitive (the textbook attributed to him and republished by his colleagues until the end of the sixteenth century, was a plagiarised mishmash of a pre-Vesalian text by de Mondville), but his familiarity with macroscopic pathology, particularly osteomyelitis, may have been the key to his success and eminence.

The nature of Henry VIII’s much debated ‘sorre legge’ remains speculative. The most recent retrospective diagnosis is not a syphilitic gumma (perhaps over-treated with toxic mercurial inunctions), but a chronic osteomyelitis of the lower end of the left femur, the result of a jousting injury in his youth, leading to amyloid disease with multi-organ failure. If he had the classic pattern of an involucrum and a cloaca with an occlusive sequestrum, simple, gently probing of a sinus might well have tilted the valve-like sequestrum, producing an immediate discharge, decompression and almost magical relief from pain and toxæmia. Was that what Thomas Victory did when called from Maidstone to attend the King in an emergency? It would have been equally successful in predictably later episodes over two decades and possibly the reason for continuing patronage and preferment from a grateful and relieved patient. Did he in fact, know enough pathology to understand what he was doing? Or was the treatment the work of a shrewd, intuitive, practical man of his time?

Reunions — Think Ahead

Reunions need to be planned well ahead to give overseas and interstate alumni an opportunity to attend and to ensure that you are able to book the venue of your choice. Please let the UMMS office know if you are planning a reunion and we will supply you with a list of graduates from your year and a set of address labels from the Alumni office. We can also supply you with some reunion suggestions, ideas for venues, University contacts and sample information from other reunions.

UMMS OFFICE
Graduate and Community Relations
School of Medicine
The University of Melbourne
Parkville 3052
Telephone (03) 344 5888

1990 Reunions

10th Year Class of ‘80
Those interested in a reunion please contact
Dr Rod SItlington (03) 836 1777

20th Year Class of ‘70
Date 24 November 1990
Venue 9 Darling Street,
South Yarra
(formal dinner dance)
Contact Mr David Bracy
(bh) (03) 51 5355

30th Year Class of ‘60
Date Friday 16 November 1990
Venue Zoological Gardens
(Conference Centre)
Contacts Dr Alan MacLeod
(03) 654 3857
Dr R. Abud
Dr P. Patterson
Dr J. Wright-Smith

35th Year Class of ’55
Date October/November 1990
Venue To be advised
Contact Dr John O’Brien
(03) 387 9088

50th Year Class of ’40
Date 9 November 1990
Venue University House
Contact Dr Norman Wettenhall
(bh) (03) 650 3177
(ah) (03) 241 6734

The UMMS office has not heard from the following groups. Please contact us if you are planning a reunion.

15th Year Class of ’75 40th Year Class of ’50
25th Year Class of ’65 45th Year Class of ’45
MBBS Graduate Anniversaries in 1991
10th Year Class of ’81 35th Year Class of ’56
15th Year Class of ’76 40th Year Class of ’51
20th Year Class of ’71 45th Year Class of ’46
25th Year Class of ’66 50th Year Class of ’41
30th Year Class of ’61

Bottom: Provisional registration with the Medical Board of Victoria, December 1989.
Who are the Wends?
from John Zwar

In two articles in Chiron — my own in 'Medical Genes' (1988) and in the late Oliver Burger’s memoirs published in this issue — the authors refer to the fact that their forefathers were Wends. Who are the Wends, and when and why did they come to Australia? A short history may be of interest to readers, and, perhaps, stimulate them to look at the early history of their families in Australia.

Four thousand or more years ago many related tribes, generally classified as Aryan or Caucasian, moved into Europe from the north. The so-called Slavs constituted one of the main branches of this migration, and at one time occupied most of northern and eastern Europe. Today they are represented by twelve nations: Russian, Ukrainian, White Russian, Polish, Czech, Slovak, Serb, Croatian, Slovene, Macedonian, Bulgarian, and the Wends or Sorbs (as they call themselves), the smallest of the Slavonic nations.

Originally, all Slavic people were called Wends — Pliny the Elder, who died in 79 AD, referred to them as Venedi. Eventually the ancient name Wend gave place to the term Slav, but a few tribes retained their old name and settled down in the area between the Oder and Elbe rivers. They called it Wendeland. Later known as Saxony, the region lies between Germany, Poland and Czechoslovakia, about 70 km south-east of Berlin, and some 150,000 Wends still live there.

For centuries circled by German tribes of different origin to the Slavs, the Wends were continually at war with their neighbours. Conquered in 1002 by Poland, they never regained their independence and were ruled, in turn, by Bohemian kings, the kongdoms of Prussia and Saxony and, more recently, became a part of East Germany.

In the middle of the nineteenth century, after centuries of economic and political oppression, religious persecution, famine, and the ever present fear of war, a strong urge to migrate swept through the people. At that time, South Africa, North and South America, and the great southland, Australia, all offered opportunities.

From 1849 there was a steady flow of Wends to Australia. The voyage took from 18 to 24 weeks, and their destination in most cases was Port Adelaide. The subsequent spread and settlement of Wends through South Australia and Victoria makes interesting history, but space permits only a brief mention here. A large number, including my grandfather, Dr Johann Zwar, settled in the Barossa Valley; others moved into Victoria and formed settlements at Byaduk, Tarrington and Mt Rouse, all near Hamilton. Among those who settled in 1857 at Mt Rouse, southeast of Hamilton, were Oliver Burger’s great grandparents, Peter, a tailor, and Agnes B(e)urger and their three children.

Throughout all this, the Wendish people endeavoured to keep their own language, culture and their Lutheran religion. The old homeland in Saxony is now called Lausitz, with Bautzen its chief city. It is a pleasant land of rolling hills and farms. From there about 400 families migrated to Australia.

I wonder how many of the descendants of those original Wendish migrants, now well assimilated into Australia’s multicultural society, ever think of their heritage from this dying nation of central Europe?

For much of this story I am greatly indebted to an article by Oliver’s elder brother, Pastor R.J. Burger, published in the Yearbook of the Lutheran Church in 1976 in Adelaide. Entitled ‘The Coming of the Wends’, it traces the history of many Wendish families settling in Australia. It is well worth the study by anyone interested in the subject.

Mr Hans Post of the Department of Germanic Studies at the University of Melbourne, and Dr Denise Ryan (departmental bibliographer) have kindly provided some additional information, Eds.

The Wends were almost exclusively peasants and fishing folk by the rivers of their area. In the wake of the Reformation, they developed their own literature, which remained largely religious in nature. In the middle of the nineteenth century there were also some Wendic periodicals, collections of Wendic folk tales and legends, and some Wendic grammars and dictionaries.

Today, the last purely Wendic community lives in the region called the Spreewald, an area of interlocking river waterways some 100 km south-east of Berlin. These Wends were granted cultural autonomy by the state in 1945, and retain their own schools, language, customs and colourful costumes. They attract a large number of tourists every year, for they conduct nearly their entire lives on water, on large flat-bottomed wooden boats: the bride and groom arrive at the church by boat, coffins are brought to the cemetery by boat, the market place is the river. There are no roads or streets, just waterways. And it has been so since time immemorial.


‘In Victoria they established a small settlement Bueccy, which was later named Hochkirch. During World War I the name Hochkirch was changed to Tarrington. Many of the families made a good living by selling agricultural products to the goldfields population. Another settlement of Wends — Thomastown — played an important part in the economy of Victorian early days and led to the foundation of Coburg, today a suburb of Melbourne.’

The First Fleet Revisited — again from Rob Simpson

Since the publication of Rob Simpson’s 1988 UMMS Lecture ‘The First Fleet Revisited’ (Chiron, Vol. 2, No. 2, pp.35-36) there has been a further historical discovery. Dr Simpson, who is currently Deputy Chief Medical Officer, Health Department Victoria, was Fleet Surgeon on the Re-enactment Voyage, and continues the story here for the benefit of UMMS members. Eds.

Until recently it was thought that ten medical men sailed with the First Fleet, which left Portsmouth in May 1787, destined to establish European settlement in Australia. At the same time there has been much debate about the possibility of an eleventh medical man, in the person of the shadowy Surgeon Lowes. Surgeon Lowes certainly lived in Sydney Cove in the early years of settlement, but the first time he is mentioned in a First Fleet journal is in June 1789.

Between the January 1788 arrival of the First Fleet and the time that Surgeon Lowes is first mentioned, the HMS Sirius returned to Cape Town for supplies and the possibility existed that Surgeon Lowes was picked up in Cape Town during that trip.

Octogenarian author and historian, Nance Irvine, after sailing as a trainee crew member from London to Portsmouth with the First Fleet Re-enactment Voyage in April 1987, set off for Devon to continue her research into the life of the convict Mary Reibey. Instead, she discovered the letters of Midshipman Newton Fowell who sailed on the Sirius, letters which were gathering dust in the attic of a house previously owned by the Fowell family.

Midshipman Fowell’s letters have now been published, and include one written to his father from the Sirius, dated 4 March 1787: ‘... the only one I know on board at present is Mr Lowes one of the Surg. Mates — he is a very gentle young man, providing the evidence that there was an eleventh medical man — Surgeon Lowes, a member of the crew of the Sirius in March 1787, some two months before the First Fleet sailed for New South Wales.

In 1790, Midshipman Fowell was sent to Batavia on the HMS Supply. Tragically, he died of fever on the return voyage.
**Reunions**

**MBBS 1939**
**Fifty Years Reunion**
**Hilton**
**10 November 1989**

A great night was had by all, with much indulging in reminiscences and renewing old associations. Twenty-two of us were present (listed); this was a good 'turn up' considering that out of the 81 who graduated in 1939, there are 39 still living — of those, two are living in England, five in Western Australia, three in Queensland and three in New South Wales (Henry Clegg). D.A. Alexander, A.J. Barnett, H.R. Clegg, C.R. Copland, R.A. Douglas, W.F. Ferguson, A.N. Fraser, D.R. Gauld, M.M. Gooley, V.E. Hollyoak, F.W. Keill, C.R. Laing, R.F. Lowe, M.E. Meredith, H.K. Millikan, N. Rose, G.F. Salter, U. Bergold, W.H. Smith, R.F. Strang, B. Widmer, R.C. Willis.

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**MBBS 1949**
**Forty Years Reunion**
**Melbourne Club**
**11 November 1989**

Fifty-nine graduates attended this very successful evening. When asked if there was a special, honoured guest, Dr Barry Grove ('Coordinator and Adjuster of Statistics') replied that 'the graduates themselves were all honoured guests'. They were:


In his *Summary of the Achievements of the Course*, compiled from fifty replies to a questionnaire, Dr Grove comments with wit and [I hope! Ed.MM] tongue-in-cheek, under a variety of headings, some of which are highlighted:

**The Original Course.** You will remember that 180 aspiring doctors started the course in 1944, or in some cases, rejoined it in 1945 from service in the various Forces. Of these 120 managed to graduate in 1949... There were 23 women and 99 men who finally attended, after 'Savouries in the Garden', dined on Bismarck Herrings, Beef Wellington, Mixed Berries and Stilton-in-the-Round, attended, after 'Savouries in the Garden', and... The Original Course.

**Teaching posts.** There seems to be no branch of medicine where we have not passed on our superior knowledge to the next generation of doctors... And, glory of all glories, we have one member who was academically sufficiently brilliant to obtain a Ph.D. This was not in Medicine, but in History. All told, more than 50 per cent have devoted themselves to teaching in one form or another... Military service and decorations. We were not a very warlike group.

**Civilian decorations.** Our work has been largely unrecognized...

**Overseas trips for strictly medical purposes.** We were an extraordinarily well travelled lot. We went overseas to learn or to teach... One member reported going to Sorrento on thousands of occasions...

**Membership of clubs, social or sporting.** Approximately half the course have worked so hard that they haven't had time to devote their energies to clubs or associations. The remainder, however, have gained access to the highest institutions in the land...

**Summary.** The 1949 graduates in Medicine have distinguished themselves in their calling; they have passed on their knowledge to their children... There were those amongst the group who failed to graduate, but who have gone on to other endeavours of great significance.

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**MBBS 1954**
**Thirty-five Years Reunion**
**Melbourne Club**
**Saturday 2 December 1989**

The reunion was a great success and, of course, the main event is seeing whether we can all recognize each other after such a long period of time, especially those whom you do not see from year to year — indeed, many people thought we should hold reunions more often than every five years because of this. (Norman Beischer)

Of the 138 graduates, 22 are now deceased. The 40 (listed) who attended, after 'Savouries in the Garden', dined on Bismarck Herrings, Beef Wellington, Mixed Berries and Stilton-in-the-Round, accompanied by the appropriate refreshing beverages!


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**MBBS 1959**
**Thirty Years Reunion**
**Hilton**
**25 November 1989**

It was an extremely successful evening, attended by 47 graduates out of a possible total of 98. Seven have died, eight have been completely lost, from 13 there was no reply (or confirmation), and 26 apologies were received. The Guest Speaker was Dr Dorothy Rubenstein (as lovely and charming as we remember her 50 years
Class of '39

Class of '59
ago), now a physician on Park Avenue, New York. ‘Nice notes’ were received from Alan Baird, Director, Emergency Department of the Regional Trauma Centre, Urbana, Illinois, USA; from Gideon Goldstein, Executive Vice President, Immuno-Biological Research Institute of the Squibb Co., Annandale, New Jersey, USA; George Poli, Senior Lecturer in Medicine, Consultant Physician, University of Leicester, UK; G.K. Wong, General Physician in Kowloon; Alice Cheah, Surgeon (specialising in paediatric cosmetic surgery), Singapore; and from Albert Wei, Consultant Physician, Singapore. (Clive Bennetts) Those moving around, enjoying the smorgasbord and drinks, were:


And some advice from that practised reunion organizer, Clive Bennetts: I would recommend to any organizer that you stick to graduates, make it a smorgasbord at a central location, on a Saturday night and give folk 10-12 months notice, followed up by a second letter in August/September.

**MBBS 1974**

**Fifteen Years Reunion**

**Leonda**

17 November 1989

The event, attended by over 100 graduates and guests, consisted of dinner with entertainment provided by a string quartet, and later in the evening by disco music from the seventies. Our Guest Speaker was Mr Peter Jones, the distinguished and recently retired Consultant Paediatric Surgeon, who fascinated us with reminiscences of his early surgical career. David Tuxen was an entertaining M.C. and presented awards to a number of people in the year who had distinguished themselves in various ways... all look forward to a twenty years reunion in 1994. (Neil Collier)

Graduates who dined and danced were:


**MBBS 1979**

**Ten Years Reunion**

11-12 November 1989

The reunion commenced with an academic program on Saturday morning held, for old times sake, in the Sunderland Theatre in the Medical School. Eight presentations from members of the year embraced a wide range of topics: artificial intelligence, computers in medicine, cardiac transplantation, AIDS, counselling skills, quackery and allergy, hyperbaric medicine, and what could be done with the combination of an MBA and a medical degree. In the evening, a black-tie dinner dance was held in the Great Hall of the National Gallery of Victoria, where we were entertained by a string quartet during dinner and later danced to the sounds of Warrick Wright’s band. On Sunday, those who survived the excesses of the previous evening, and some who had not been able to attend, enjoyed a family picnic lunch at Princess Park. Entertainment for the children was provided, giving us a good chance to ‘reunion’ (Mark Buckland) Enjoying some or all of the events, accompanied by spouses, children and friends were:


**STOP PRESS**

**Late Announcement**

**UMMS Reunions**

**25th Year Class of ’65**

Date
Saturday 20 October 1990

Venue
Lunch & lecture
The University of Melbourne
Dinner
Ripponlea

Contact
Dr Peter Habersberger
(03) 267 4262

**48th Year Class of ’42**

Date
Saturday 2 June 1990

Venue
Royal South Yarra Tennis Club
Dinner

Contact
Dr John Zwar (059) 74 1397
Dr John Tucker (052) 51 3468
All details to be confirmed

**Reunion Funds**

The University would like to give special thanks to graduates of the Class of ’45 and Class of ’73 for their generous donations of surplus reunion funds. Organisers of forthcoming reunions might consider including a ‘reunion fund’ in their budget. These donations can be directed to particular areas such as medical research, student facilities, continuing medical education, medical history or can be given to the University to allocate at its discretion.

Donations and gifts to the University are tax deductible and will be acknowledged in Chiron.

Enquiries: UMMS Office (03) 344 5889
From the Dean

THIS HAS BEEN an historic and important year for the Faculty. We commenced the year as the Faculty of Medicine. We completed it as the Faculty of Medicine and Dentistry comprising two schools, the School of Medicine and the School of Dental Science. The amalgamation of the Faculties of Medicine and Dental Science occurred on 1 September 1989 after much discussion and planning extending back more than a year, with the following Foundation Appointments for the 'new' Faculty:

Faculty of Medicine and Dentistry
Dean of Faculty, and
Head, School of Medicine
Professor Graeme Ryan
Deputy Dean of Faculty, and
Deputy Head, School of Medicine
Professor Gordon Clunie
Assistant Dean (Medicine – Preclinical)
Professor Trefor Morgan
Assistant Dean (Medicine – Clinical)
Professor Ken Hardy
Head, School of Dental Science, and
Assistant Dean (Dental Science)
Professor Clive Wright

The new Faculty Board includes staff and student representation from both Schools, and outside representation from both professions.

The amalgamation will lead to a larger and stronger Faculty, with a significantly greater capacity to cope with future fluctuations and uncertainties in funding. More importantly, it will provide opportunities not only for more effective collaboration in undergraduate and postgraduate teaching and in research, but also in developing closer links between the professions of medicine and dentistry.

Accreditation
Another major event in 1989 was the visit of the Accreditation Committee of the Australian Medical Council for a week in March. Under the Chairmanship of Professor John Hamilton, the Committee noted the many strengths of the Faculty that underpinned medical undergraduate teaching programs of high quality. Special mention was made of the success of the Curriculum Review Committee in curriculum development based upon the achievement of objectives. The Committee was also impressed with the level of research activity and the quality of staff and students of the Faculty. Following receipt of the report of the Committee, the Australian Medical Council agreed to accredit the Melbourne medical course for the maximum period of ten years, the first such maximum accreditation of any medical school in Australia.

Australasian Medical Deans’ Meeting: Research Infrastructure Funding

In August, the Faculty hosted the annual Australasian Medical Deans’ Meeting, including the Deans of all ten Australian medical schools and the two New Zealand medical schools. It was a successful meeting resulting in the useful interchange of ideas and information concerning medical education. Of considerable concern to the Australian Deans was the issue of research infrastructure funding. Resulting from implementation of recommendations in the White Paper prepared by the Minister for Employment, Education and Training, Mr Dawkins, the ‘clawback’ of funds from the universities for reallocation mainly by the Australian Research Council is having serious consequences for the maintenance of adequate infrastructural support for research in the universities. Following the Smith Committee Report, the Prime Minister announced in his Science Policy Statement in May the provision of new money towards such infrastructural support. Under the Chairmanship of Professor Don Aitkin, a Working Party of the Higher Education Council and the Australian Research Council recommended that this new money should be allocated to universities on the basis of a formula that took account of success in attracting competitively based Commonwealth research funds but excluding NHMRC grants. Furthermore, the Working Party suggested that clinical medical and dental research should be excluded from obtaining access to these infrastructure
funds on the basis that these should be provided by NHMRC. However NHMRC had not been provided with such funds.

Under the Chairmanship of Professor Ryan, the Medical Deans launched a campaign against the Working Party's recommendations. Following a series of press conferences, public meetings, radio and television interviews, newspaper articles and letters to the Minister and his Cabinet colleagues, the Minister decided to over-rule the Working Party's recommendation and allow access of NHMRC grantees to the new infrastructure funds. This was an important outcome for universities with Schools of Medicine and Dental Science.

Vocational Registration
The Faculty had a less successful outcome in its opposition to the Federal Government's proposal to introduce vocational registration for general practitioners. Despite vigorous efforts by the Faculty in conjunction with medical students, women doctors’ groups and the Australian Medical Association (AMA), the Senate Committee of Inquiry into this issue recommended passage of this contentious legislation subject to the development of certain safeguards. Until more is known about these safeguards, the Faculty remains concerned that the registration process will distort the career plans of graduates and will particularly disadvantage women doctors.

Medical Students Society
Faculty congratulates the Medical Students Society under the Presidency of Mr Russell Gruen for an active and productive year. Throughout the vocational registration debate, the students showed admirable solidarity and energy in their efforts to educate politicians and the community to the pitfalls in the proposed legislation. In conjunction with the medical students from Monash, our students were hosts for the Australian Medical Students Association (AMSA) Convention at The University of Melbourne in July. This was a resounding success academically and socially and a tribute to all those who participated in the planning and implementation of the program.

Teaching Hospital Affiliations
Further progress was made during the year in the implementation of new teaching hospital affiliations. The new joint clinical school between The Royal Melbourne Hospital and Maribyrnong Medical Centre (now Western Hospital) was established, with students attending the Western Hospital from the beginning of 1989. Arrangements are now in place for students to attend Geelong Hospital and for the establishment of the joint clinical school between St Vincent's Hospital and Geelong Hospital from the beginning of 1990. It is expected that Chairs of Medicine and Surgery at Geelong Hospital will be filled during 1990. Once again, Faculty is most grateful to the Boards of Management and staff of all of its affiliated teaching hospitals for their excellent support of the University’s teaching and research programs.

Clinical Academic Salaries
A special concern for Faculty during the year has been the extent to which clinical academic salaries have fallen behind those of comparable hospital staff and clinical academic salaries in other states, especially in New South Wales. Late in the year, discussions with the Health Department of Victoria resulted in agreement to provide salary loadings from hospital budgets in recognition of on-call duties of full-time clinical academic staff. It was also agreed that additional loadings, paid from hospital sessional earnings, would be paid to full-time clinical academic staff with significant clinical duties. In addition, Council has approved a change in the Outside Work Rules whereby the academic staff of clinical departments will be permitted to undertake outside work for remuneration on the same basis as academic staff in the rest of the University, that is, on a time basis (up to 13 days per quarter) rather than up to 25 per cent of salary.

Academic Titles
A notable change in the nomenclature of academic titles occurred during the year with the introduction of 'Associate Professor (Clinical)' to replace the outmoded 'First Assistant' title. First Assistants who have been appointed Reader now carry the dual title of 'Associate Professor (Clinical) and Reader'.

Medical Students
The quota numbers for entry into the first and second years of the medical course were unchanged at 182 and 192 respectively. This is the last year for entry of subsidised overseas students. The School will be seeking to replace in 1990 the present quota of 13 such students entering first year with a similar cohort of full-fee paying students. There were four full-fee paying first year students in 1989. With the operation of the Faculty's Extended Special Admissions Scheme, seven disadvantaged students were admitted to second year of the medical course after satisfactory completion of two years of Science to prescribed standards. This meant that only three places were available for entry into second year under the long-standing Lateral Entry Scheme. It is planned that the numbers admitted under the Lateral Entry Scheme will be increased for 1990. Five refugee students were studying in the course during 1989. A total of nine refugees have graduated from the course during the past four years. The first Koorie medical graduate of this University qualified at the end of 1989. The top medical student in the final year class of 1989 was Ms Sharon Keeling who entered the course as a mature-age student after training as a nurse, and interrupted her medical course briefly to have two children.

Research Funding
Once again, Faculty was very successful in attracting outside research funds. These totalled approximately $18 million. The largest contribution was an allocation of NHMRC funding totalling $8.2 million (compared with $7.3 million in 1988) for 109 Project Grants and 7 Program Grants. In addition, another $1.7 million of NHMRC funds were awarded to associates of university departments in the affiliated teaching hospitals, giving an overall total of approximately $10 million of NHMRC funds for the Medical School in 1989.

Staff and Alumni
Appointments during 1989

- Edgar Rouse Chair of Radiology
  The Royal Melbourne Hospital
  Professor Brian Tress
- Professor of Pathology
  Professor Colin Masters
- Professorial Associate (with title of Professor) Department of Biochemistry
  Professor Geoffrey Tregear
- Professor/Director, Anatomical Pathology, Austin Hospital
  Professor Roger Sinclair
• Professor/Director, Anatomical Pathology, St Vincent's Hospital
  Professor Jurgen Rode
• Professor of Orthopaedic Surgery, Royal Children's Hospital
  Professor William Cole
• Professor of Medicine, Repatriation General Hospital (commencing 1990)
  Professor Richard Smallwood
• Director, Howard Florey Institute, Professor of Experimental Physiology and Medicine (commencing 1990)
  Professor John Coghlan
• Chair of Community Medicine (May 1990)
  Professor Hedley Peach
• Professor/Director, Austin Hospital Medical Research Institute (end 1990)
  Professor Ian McKenzie

Retirements
• Professor Derek Denton
  Director, Howard Florey Institute; Professor of Experimental Physiology and Medicine
• Professor Ross Webster
  Department of Community Medicine

Honours
Notable Honours awarded during 1989 to those associated with the Faculty:
  Companions of the Order of Australia
  Professor Priscilla Kincaid-Smith
  Professor Sir Gustav Nossal
  Officers of the Order of Australia
  Professor Graham Burrows
  Mr Donald (Scotty) Macleish

It is also noted that Council agreed to Faculty's recommendation to award the Honorary Degree of Doctor of Medicine to Professor Paul Korner.

1990 Australia Day Honours include:
  Officers of the Order of Australia
  Professor David Danks
  Prof. Em. William Hare
  Professor Paul Korner.
  Members of the Order of Australia
  Dr Ray Bradley
  Dr David Dewhurst
  Dr Robert Fraser

University of Melbourne Medical Society
Faculty continues to promote increasing interaction with its graduates. The University of Melbourne Medical Society has approximately 2,000 members, including graduates of all ages ranging from the classes of 1914 to 1988. The Society's journal Chiron goes from strength to strength under the excellent editorship of Dr Peter Jones and Mrs Maggie Mackie. In addition, Mrs Mackie prepared another edition of the Faculty's newsletter Medicine with a special theme focused on the participation of medical students in Faculty developments, and their successful hosting of the AMSA Convention.

Graduate and Community Relations
The Dean's Lecture Series continues to be well attended. Professor Emeritus Richard Lovell convened an excellent seminar entitled 'Resource Constraints and the Practice of Medicine: Everything that Might Be Done Can't Be Done'. In November, an evening function for UMMS attracted a large audience to hear Professor Ian Gust and Professor Priscilla Kincaid-Smith present a most interesting seminar entitled 'AIDS 1989: A Scientific and Political Update'. Under the leadership of Professor Emeritus Lovell, very ably supported by our Administrative Officer, Ms Robin Orams, the Faculty's Continuing Medical Education Program continues to fulfil a major need within the medical community. Most courses generate considerable interest, particularly those designed for general practitioners.

Faculty Office Staff
At the end of a very busy and productive year, it is most appropriate to pay special tribute to the outstanding work of the Faculty office staff under the excellent leadership of Mr Darrell Mead, with Ms Deborah Rogers taking special responsibility for budgetary and NHMRC matters, Ms Tina Adams dealing with curriculum and student issues and Mrs Iris Welcome running the Dean's office with skill and efficiency.

Graeme B. Ryan
Head, School of Medicine

1989 graduates being congratulated at the official ceremony to mark their provisional registration with the Medical Board of Victoria.

OSCE
Objective Structured Clinical Examination
The School of Medicine introduced a new format for assessing students' clinical skills in the Fourth Year examinations in 1989. The OSCE — Objective Structured Clinical Examination — consists of a number of stations through which students rotate, performing particular tasks at each while an examiner watches.

In 1989, the OSCE consisted of eight 10-minute stations, and was held simultaneously in each of the three clinical schools. At each station, students were asked to take a short history, or to examine one system, or to perform a task such as urine testing. The main advantage of the OSCE is its perceived fairness: each student in the year is tested on the same clinical problems, and the examiners all mark to the same pro-forma at the replicates of a particular station in three schools. Nevertheless, the OSCE is not so well suited to testing overall integrative skills ('putting the whole patient together'). For this reason, a separate 'long case' clinical examination is still being used in addition. (NDY)
Austin Hospital and Repatriation Hospital

As the decade ends, the twentieth year of graduation occurred in 1989. Of the 56 students who sat their final examinations from the Clinical School, all bar one passed. Ms Sue Walker was awarded the Austin Hospital Senior Medical Staff award for the top Final Year student. Amongst the prize winners Mr Trevor Duke shared the top mark in Obstetrics and Gynaecology, and was also awarded the Neil Bromberger prize as the top Final Year student in orthopaedics at the Clinical School. In the Fourth Year results all students passed.

Ms Andrea Kattula was the top student obtaining a first class honours in the examination. With the new Fourth Year the examination result is expressed as a composite mark for the year and no longer divided into medicine and surgery marks.

Nineteen eighty-nine saw the new Fourth Year introduced and the Third Year students coming to the Clinical School during the second semester for a 10 half-day program in 'Introduction to Clinical Medicine'. The Third Year students enjoyed their attendance at the Clinical School and this introductory program should ease their entry into the clinical studies for 1990. The other major change has been the attendance of students in groups of 6 at the Bendigo and Northern District Base Hospital. The response from the students who went to Bendigo was extremely positive both in the learning experience and also in their enjoyment of the country rotation. It is planned to increase the number of students who will be going to Bendigo for 1990. Geriatric teaching was also conducted in two-week blocks in Fourth Year either at the beginning or end of a medicine term and this has proven to be successful especially now with a continuous program. Finally, the Fourth Year assessment has changed with the clinical component consisting of one long case (medicine/surgery), and the objective structured clinical examination. As with any new procedure there have been some teething problems which will need correcting, but overall the OSCE ran well and was well received by both students and examiners.

During 1989, eighteen students attended for electives from overseas including students from Poland and Zimbabwe. This represents only a small percentage of the number of applications that are received. In the same way, a majority of our own medical students are going overseas for electives in 1990.

In 1990 the number of student deferrals has increased significantly from previous years. Of the 65 students who applied to the Clinical School half way through Third Year in 1989, sixteen have deferred for 1990. Of the 55 students going from Fifth Year to Final Year 1990, there are 8 deferring and only 2 returning from deferrals, thus reducing our Final Year to 50 students in 1990. These deferrals have made the clinical years very uneven in numbers.

Nineteen eighty-nine saw a number of retirements from the Clinical School: Dr Chris Louis, Mr John Grant, Mr Harold Story, Mrs Margaret Wilson, Dr Alan Cuthbertson, and Dr Bruce Smith. These last two were not replaced before the end of 1989.

Royal Melbourne Hospital and Western Hospital

Important new initiatives were introduced in 1989: Maribyrnong Medical Centre, now known as the Western Hospital, commenced taking students in Term 1. Travel to and from The Royal Melbourne has meant some disruption of the lecture and case presentation program, but the benefits in the form of increased access to patients and the enthusiasm of the teaching staff has far outweighed the disadvantages. Professor Neville Yeomans carried much of the administrative burden during the settling-in period. As yet, the Professor of Surgery has not been appointed. Hopefully this will eventuate this year.

The change in the name of Maribyrnong Medical Centre to Western Hospital has caused yet another name change for the Clinical School and a new set of stationery.

Wangaratta District Base Hospital also took students from our clinical school for the first time in 1989. A group of our Fourth Year students studied medicine, a group from St Vincent's undertook a surgical rotation. These country rotations provide an opportunity for students early in their clinical training to spend time with patients and develop clinical skills on which they can build over the next two years.

Fourth Year students have also continued to rotate through Ballarat Base and Goulburn Valley Base Hospitals.

In an attempt to smooth the transition from student to intern the Final Year students during the general medical term acted as 'student interns'. They were allocated two to each general medical ward and became involved in the day-to-day running of the ward. This change has been made possible because of the smaller number of students and the addition of Western and Wangaratta to the teaching hospitals.

Our congratulations go to Sharon Keeling who was top Final Year student.

Alan Cuthbertson
Associate Dean (Clinical)

St Vincent's Hospital

This past year has been one of considerable change for St Vincent's Hospital Clinical School. Dr Greg Whelan retired at the end of 1988 after six years as Associate Dean (Clinical) to take up an appointment as Director of Community Medicine at St Vincent's Hospital. Greg, renowned for his enthusiasm and boundless energy, has made an immeasurable contribution to undergraduate medical education at St Vincent's Hospital. We wish him well in the future and look forward to his continuing association with the Clinical School in his new position. Dr Maria Pissale (Clinical Supervisor) also retired at the end of 1988 after many years of dedicated service.

Nineteen eighty-nine was a very happy and successful year in the Clinical School, with all 55 Final Year students passing their examinations well, and a number distinguishing themselves by winning various prizes and scholarships. Our top students were Marion Kainer and Luke Jolly who gained equal second place in the course aggregate. Marion was the top student in Medicine and was also the winner of the coveted Jamieson Prize in Clinical Medicine. Luke Jolly was the top student in Surgery and was also credited with various scholarships and prizes.

During the year our 53 Fifth Year students were kept busy with their studies and were mainly based at other hospitals including The Royal Women's, The Royal Children's, Fairfield Infectious Diseases Hospital and Mont Park. In addition, many students took the opportunity to rotate to country practices or country hospitals as part of the Community Medicine and Clinical Practice Rotation.

Students welcomed the opportunity to spend time away from the city and at the same time gain experience in common clinical problems — a marked contrast to the spectrum of illness seen at the parent hospital.

Nineteen eighty-nine saw the introduction of the new curriculum into Fourth Year. Changes included tuition in Geriatric Medicine at Mount Royal Hospital and accident and emergency teaching with 'hands-on' live in experience in Casualty at St Vincent's Hospital. For the first time students had the opportunity to spend one term at a country hospital. Medical rotations were offered at...
Goulburn Valley Base Hospital and at Warrnambool and District Hospital and a surgical team at Wangaratta and District Hospital. These country rotations proved to be most popular with students, who were very well received and welcomed the opportunity to clerk a large number of patients.

We are very pleased with our ongoing association with The Preston and Northcote Community Hospital and are delighted that this association has been strengthened by the appointment of Associate Professor (Clinical) Hamish Ewing in Surgery.

Trial clinical examinations were held at St Vincent's and at PANCH as well as a written examination. Students benefited from the experience and the feedback that they obtained assisted them in their study program.

During 1989 Third Year students attended the hospital for one afternoon each week for a 10-week term during the second semester. The course consisted of a clinico-pathological session, bedside tutorial and a lecture each week and served as an introduction to clinical method. The course was well received by the students who enjoyed their time at the hospital.

We are most grateful for the tuition given by the dedicated and hard working teachers in our own institution and at all the associated hospitals and practices which our students visited in 1989.

It is fitting that in 1990, the 80th anniversary of the Clinical School, we will join with the Geelong Hospital to form the St Vincent's Hospital and Geelong Hospital Clinical School. We look forward to this amalgamation and to a continuing and fruitful association with all our allied institutions.

Wilma Beswick
Associate Dean (Clinical)

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**Final Year MBBS 1989**

**Top Final Year Student 1989**
**Sharon Lee Keeling**

Sharon Lee Keeling gained the top marks in the final MBBS examinations. In her undergraduate years she became prosector and gained the exhibition in Anatomy. Her final year prizes included the AMA Prize, the Proxime Accessit Prize in Surgery, the Fulton Scholarship in Obstetrics and Gynaecology (jointly with Trevor Duke) and the Sir Alfred Edward Rowden White Prize in Clinical Obstetrics.

Dr Sharon Keeling

The third child in a family of five children, Sharon grew up in Croydon where she attended Croydon South Primary School and Maroondah High School. Her HSC marks were not high enough to qualify her for a place in the medical course so she enrolled as a trainee nurse at the Royal Children's Hospital and graduated as a State Registered Nurse in 1979. After working as a nursing sister at The Royal Melbourne Hospital and at The Royal Hospital for Sick Children in Edinburgh, Scotland, Sharon made a second attempt at getting into medicine. She repeated her HSC at Camberwell Girls' Grammar School and her results gained her a place in the medical course at Melbourne.

During the eight years it took her to complete MBBS Sharon was busy with both academic and family concerns. She married Andrew Rothfield, a fellow medical student, and, on two occasions, took a year's leave of absence for the birth and care of Adam, born in the fourth year of her course and Emily, who was born halfway through fifth year. She joined the RMH Clinical School in 1985 and spent her elective period in general medicine at PANCH, neurology at St Vincent's Hospital and Radiology at RMH.

Sharon is fully occupied with her work as an intern at Fairfield Hospital and the care of her two children. Her future career interests are in general medicine, paediatrics or in general practice.

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**Prizes and Awards 1989**

**Australian Medical Association Prize**
Keeling, Sharon (RMH/WH)

**The CIBA-GEIGY Prize**
Keeling, Sharon (RMH/WH)

**Medicine**

Keith Levi Memorial Scholarship in Medicine
Kainer, Marion (SVH)

Robert Gartly Healy Prize in Medicine
Kainer, Marion (SVH)

Jamieson Prize in Clinical Medicine
Kainer, Marion (SVH)

Upjohn Award in Clinical Pharmacology and Therapeutics
Butler, Melissa (RMH/WH)

**Community Medicine**

RACGP Prize in Community Medicine
Glassenbury, Brian (SVH)

**Surgery**

Beaneys Scholarship in Surgery
Jolly, Luke (SVH)

Robert Gartly Healy Prize in Surgery
Jolly, Luke (SVH)

Proxime Accessit Prize in Surgery
Keeling, Sharon (RMH/WH)

Ryan Prizes in Surgery (RACS) (RMH/SVH)
Keeling, Sharon (RMH/WH)

Smith & Nephew Prize in Surgery (AH/RGH)
Chapman, Susan (AH/RGH)

E.H. Embley Prize in Anaesthetics
Su, John (RMH/WH)

Neil Bromberger Prize in Orthopaedics (AH/RGH)
Duke, Trevor (AH/RGH)
Obstetrics & Gynaecology
Fulton Scholarship in Obstetrics & Gynaecology
Duke, Trevor (AH/RGH)
Keeing, Sharon (RMH/WH)

Robert Garty Healy Prize in Obstetrics
Duke, Trevor (AH/RGH)
Deague, Jenny (RMH/WH)

Prize in Clinical Gynaecology
Prince, Kimberley (AH/RGH)

Kate Campbell Prize in Neo-Natal Paediatrics
Bekhit, Elhany (SVH)

Alfred Edward Rowden White Prize in Clinical Obstetrics
Keeling, Sharon (RMH/WH)

Edgar & Mabel Coles Prize in Obstetrics (RMH/SVH)
Keeling, Sharon (RMH/WH)

Max Kohane Prize in Obstetrics & Gynaecology (AH/RGH)
Duke, Trevor (AH/RGH)

Paediatrics
Howard E. Williams Prize in Paediatrics
Deague, Jenny (RMH/WH)

Child Growth & Development Study — Nursing Mothers’ Association Prize in Paediatrics
Poon, Michael (SVH)

Clara Myers Prize in Surgical Paediatrics
O’Leary, Katrina (SVH)

Psychiatry
John Adey Prize in Psychiatry
Su, John (RMH/WH)

John Cade Memorial Medal in Clinical Psychiatry
Plastow, Michael (SVH)

Graduate List 1989
Bachelor of Medicine & Bachelor of Surgery

THE development of biochemistry as a discipline at the University stemmed from the appointment of William John Young as biochemistry lecturer in the Department of Physiology in 1920 and subsequently as the Foundation Professor of the Department of Biochemistry in 1938. The Russell Grimwade School of Biochemistry was largely the creation of the second incumbent of the Chair, Professor Victor M. Trikojus, who was appointed in 1943 and served continuously as Departmental Head for twenty-five years. Under his guidance, the Department expanded rapidly to become the centre of the discipline and an important source of staff for developing biochemistry departments, and for other senior University appointments in the country. Included in the list of distinguished former members of the department are Professor Michael Birt and Professor Laurie Nichol, Vice-Chancellors of the University of New South Wales and the Australian National University, respectively, and Professor Bruce Stone, Dean of the School of Biological Sciences, La Trobe University and Professor Pat Carnegie, Head of Department of Biotechnology, Murdoch University.

As with many universities, the Biochemistry Department has teaching responsibilities in the Faculties of Medicine and Dentistry, Science, Agriculture and Forestry, necessitating staff appointments with diverse backgrounds and research interests. During the formative years, major research activities were concentrated on investigations of the biochemistry of nutrition, food processing and storage, the chemistry, biosynthesis, metabolism and function of thyroid hormones and porphyrins, and the biochemistry of a variety of metabolic processes in plants and animals.

The strength of the metabolic research program was largely attributable to Francis (Frank) Hird who was appointed as senior lecturer in 1951 and later (1964) to the second Chair in Biochemistry. His diverse research interests ranged from the metabolism of ruminants to amino acid uptake in plants. His interests in metabolism of all organisms contributed to medical biochemistry, for example, through the application of his knowledge of skeletal muscle and mitochondrial metabolism to the investigation of the basic cause of malignant hyperpyrexia. While there has been a decline in interest in metabolic research in recent years, the Department has maintained a strong teaching program in the area largely through the efforts of Kai Mauritzen (retired December 1989), Max Marginson and Lloyd Finch.

The major thrust in biomedical research was initiated by the thyroid work of the Trikojus group and was later extended to other areas of endocrinology following the appointment of Peter Hall to the first Chair of Medical Biochemistry. Biochemical endocrinology remains a major research area in the Department centering around Bruce Livett's interests in catecholamines and adrenal neuroactive peptides, and the interest of Dick Wettenhall, recently (December, 1988) appointed as Professor and Head of Department, in the mechanism of insulin action.

Major new areas of protein research were initiated following the appointments of Sidney Leach and Gerhard Schreiber to the Chairs previously held by Professors Trikojus and Hall. The lysozyme model in the foyer of the Department is a legacy of Professor Leach's internationally acclaimed work on the structure of antigenic determinants of lysozyme. Professor Schreiber's comprehensive studies of plasma proteins provided the foundation for his important recent work on the expression of plasma protein genes. Protein chemistry was further developed with the appointments of Dr Barrie Davidson (primary structure and regulation of bacterial enzymes), Dr Bill Sawyer (enzymes and lipid-protein interactions), Dr Bob Augusteyn (structure of lens crystallins), Dr Ken Gayler (grain legume proteins), Dr Geoffrey Howlett (protein-protein and protein-lipid interactions) and, most recently, Professor Wettenhall (protein micro sequencing and the structure of regulatory phosphoproteins). The protein area has been targeted for further development in the future, particularly to take advantage of the new protein design and engineering technologies.

Of major biomedical interest in current protein-based research programs are the contributions of Dr Augusteyn to the understanding of human cataract development; Professor Schreiber to the role of plasma proteins in the maintenance of homeostasis in extracellular compartments; Dr Livett to the biochemistry of the adrenal medulla; Dr Sawyer to the dynamics of membrane and cytoskeletal proteins in normal and diseased tissues; Dr Howlett to the regulation of lipoprotein metabolism; and Professor Wettenhall to the role of protein phosphorylation in the actions of insulin and mitogenic polypeptide growth factors. An important new area of protein biophysical research being developed by Dr Sawyer makes use of luminescence spectroscopy to determine the dynamics of hormone receptors and other medically relevant membrane and cytoskeletal proteins.

The emergence of recombinant DNA and related technology in the 1970s has seen a major shift in research emphasis within the Department towards investigations of gene structure, function, regulation and engineering. The technology was introduced into the Department by Dr Davidson to further his investigation of the bacterial genes directing the biosynthesis of aromatic amino acids and genes of importance in the fermentation of cheese. The technology was rapidly adopted by a number of biomedical research programs, particularly those of Professor Schreiber, Dr Howlett, Dr Livett and Dr Finch (molecular genetics of mycoplasma). The power of the technology for uncovering new areas for research is illustrated by the important progress of the Schreiber group in the area of chemical communication between the body and the central nervous system. This investigation was initiated by the discovery of the expression of the transthyretin (prealbumin) gene in the choroid plexus, a discovery which stemmed from the work on the structure and expression of plasma protein genes.

The Department's role in the teaching of agricultural biochemistry has led to the introduction of a number of research activities in the plant biochemistry field. Important contributors in the past have been Professor Hird's investigations of amino acid metabolism in plants and of the role of oxidants and disulphide exchange reactions in the bread manufacturing process. Currently, the major plant research programs are Dr Bruce Grant's investigations of the biochemistry and physiology of plant pathogens and the mode of action of fungicides, and Dr Ken Gayler's plant
Professor Wettenhall analysing data from the Protein Sequencer.

molecular biology program directed towards the genetic engineering of grain legume proteins.

An important consideration in the development of a modern biochemistry department has been the need to make provision for state-of-the-art equipment. One of the Department's most complex items of equipment when Professor Trikojus assumed office was a hand-cranked bench centrifuge. This is compared with the present range of highly sophisticated instrumentation for ultracentrifugation, fluorescence spectroscopy, protein and DNA sequencing, DNA synthesis, DNA amplification (PCR-reaction), high performance chromatography and computerised densitometry. The resurgence in interest in protein conformational analysis, particularly in the context of protein expression and engineering, has led to the recent purchase of a new circular dichroic spectrometer funded largely by the NHMRC. The Department is also in the final stage of purchasing an instrument designed for DNA sequencing, but which also has a number of other potential applications in the investigation of protein DNA interactions and the development of DNA diagnostics strategies.

The teaching activities of the Department have seen major changes in the past two years, particularly in the Medical course. Students are introduced to the chemical principles underlying the structure and function of biological macromolecules in First Year and the bulk of biochemistry is taught in the two Second Year units 'General Biochemistry' and 'Functional Biochemistry'. This change has enabled the introduction of a new subject in Third Year, Integrated Medical Sciences, in which biochemists combine with members of other disciplines to illustrate the importance of the multidisciplinary approach for developing an understanding of disease processes and in the clinical application of knowledge in basic medical science.

An important recent development in the presentation of the various medical biochemistry teaching programs has been the reduction in hands-on practical work and the introduction of extensive computer-aided instruction classes. The Department, largely through the efforts of Drs Bill Sawyer and Bruce Livett, has assumed a leading role in the design and implementation of this form of instruction in the biochemical community in Australia and is in the process of installing a major computer network to facilitate the participation of staff and students in this important teaching activity.

The diverse teaching and research functions of the biochemists within the University has meant the development of a large department which includes over fifty postgraduate scholars enrolled for Ph.D. and M.Sc. degrees. In the current climate of rationalisation, it will be important to ensure that sufficient funds and outside collaborations be obtained to enable future development of the major teaching and research programs within the discipline. In this regard, it is encouraging that the Department has been successful in attracting a variety of collaborations with other institutes in Australia and overseas, as well as considerable outside funding from the National Health and Medical Research Council, Australian Research Council and a number of other major funding bodies.

R.E.H. Wettenhall
Head, Department of Biochemistry
Retirements

The following Minutes of Appreciation were adopted at the last meeting of the Academic Board for 1989:

Professor Derek Ashworth Denton

DEREK DENTON graduated in Medicine at the University of Melbourne in 1947 and, following appointment as Haley Research Fellow at The Walter and Eliza Hall Institute in 1948, he was successively Medical Research Fellow, Senior Medical Research Fellow and Principal Research Fellow of the National Health and Medical Research Council of Australia during the period 1949 to 1970. From 1964 to 1970 he was Administrative Head and Chief Scientist of the Howard Florey Laboratories of Experimental Physiology in the Department of Physiology, The University of Melbourne. In 1971 he became Director of the Howard Florey Institute of Experimental Physiology and Medicine. In 1977 he was appointed Foundation Research Professor of Experimental Physiology and Medicine at The University of Melbourne.

Professor Denton's high scientific standing is attested by his election as a Foreign Medical Member of the Royal Swedish Academy of Sciences (1974), as a Fellow of the Australian Academy of Sciences (1979), an Honorary Fellow of the Royal College of Physicians (London) (1988), as well as many other awards. He continues (since 1978) to be a member of the prestigious Albert and Mary Lasker Foundation Basic and Clinical Medical Research Awards Jury.

He has been active in the Australian research and scientific community, especially in committees of the National Health and Medical Research Council, as well as serving on serving boards relating to the arts, which is reflected in his election as an Honorary Foreign Member, American Academy of Arts and Sciences (1986).

Professor Denton will continue to have an active role in research at the Howard Florey Institute as Director Emeritus. His recent book *Hunger for Salt* is already a classic in the field of ingestive behaviour.

Professor Ross Wharton Webster

ROSS WEBSTER was appointed Foundation Professor and Chairman of the Department of Community Medicine in 1975, culminating an already distinguished career in Primary Medical Care.

Following graduation in Medicine at the University of Melbourne in 1947 and Residency Medical Officer and Registrar appointments at The Royal Melbourne Hospital, Ross Webster was a member of the British Commonwealth Occupation Force in Japan in 1948-49. He spent two years at the Repatriation General Hospital, Caulfield, before embarking on a period of twenty years in general medical practice in Horsham, including appointment as Honorary Medical Superintendent of the Wimmera Base Hospital. During this time, he also played an important leadership role in the community, including appointment as Mayor of the City of Horsham. In 1972 he returned to Melbourne to become Deputy Director of the Cancer Institute until his appointment to the University in 1975.

As well as developing Community Medicine as a key component of the medical curriculum, Professor Webster has promoted the disciplines of Primary Medical Care and Epidemiology as significant fields of postgraduate study in the Faculty. He has been a tireless worker for the wider university community, especially as Chairman of the Board of Social Studies, the Student Services Committee and the Academic Committee. He also served for many years as a member of other Academic Board committees and the Joint Committee on Policy, and is currently a member of the Council of University College. He was Chairman of the Board of Management of another affiliated body, the Social Biology Resources Centre.

Outside the University, he has acted for VPSEC as Chairman of Accreditation Committees for a range of courses related to nurse education. He has been Chairman of the Health Advisory Council to the (former) Health Commission of Victoria. He is a member of the Health Services Review Council of the Health Department of Victoria, a member of the Board of Management of Box Hill Hospital, and a part-time member of the Federal Administrative Appeals Tribunal. He has served the medical profession to an extraordinary extent in many important roles, including Presidency of the Victorian Branch of the Australian Medical Association (AMA), Chairmanship of the Federal Assembly of the AMA and Chairmanship of Directors of the Australasian Medical Publishing Company. He is a Fellow of the Royal Australasian College of Physicians and member of the Board of the Victorian Faculty of the Royal Australian College of General Practitioners.

Professor Webster has been an excellent contributor to the academic life and standards of the Faculty of Medicine and the University. He has forged invaluable links between the Faculty and the medical profession and between the University and the community.

Top: The patient's parents (foreground) look on while Fifth Year medical students and a consulting physician conduct a ward round at the Royal Children's Hospital.

Bottom: Students experience 'alternative medicine' at a massage techniques workshop, with instructors from The Association of Manipulative and Tactile Therapists, Wilson Hall, AMSA Convention, July 1989.
Introduction

In February 1989 Carolyn De PoI started a B.Med.Sc. project in the Medical History Unit, on an unusual woman, Mary Clementina De Garis, who was born in Charlton, Victoria on 16 December 1881 and graduated MBBS (Melb) 1904-5, MD 1907.

Mary De Garis had an uncommonly varied and decidedly useful career: Resident at the Melbourne Hospital, 1905-6; Women's Hospital, 1906-7; Resident Surgeon, Muttaburra (Qld), 1907-8; Resident Surgeon, Tibooburra (NSW) 1911-14; Manor War Hospital, Epsom, 1916; Scottish Women's Hospital Corps, Ostrovo, Serbia (where she became CMO and received the Order of St Sava), 1916-18. She returned to Australia and from 1919 worked as a general practitioner in Geelong where she was responsible for opening the maternity ward and the antenatal and postnatal clinics at the Geelong Hospital; HMO, maternity wards, 1931-41; and Honorary Consultant from 1941 until her death in 1963. During her eventful life, she wrote continually, publishing articles in medical journals, and texts on obstetrics and on economics. Despite all this, there was no obituary in any medical journal.

The Medical History Unit held an almost complete set of Mary De Garis's lectures notes and, in the beginning, these were all that Carolyn De PoI had to work on. After much hard work and some good fortune, she was able to piece together a biographical account.

Mary De Garis never married. She was engaged to Colin Gordon Thomson, who was killed in France while serving as a recently promoted sergeant with the AIF. At that time, Mary had gone to England to be near him. She then went to Serbia with the Scottish Women's Hospital and it is this part of her biography that is published here. It is one of the several chapters from the B.Med.Sc report that tell the most complete account of her life yet available.

The author, Carolyn De PoI, is also an unusual woman. The top medical graduate for 1988, she decided not to take up a residency but to take a year off. I have never known any recent graduate to do this. This year Dr De PoI is a resident at the Royal Melbourne Hospital.

Harold Attwood
About the time of Colin's death, Mary commenced work at the newly opened Manor War Hospital in Epsom, Surrey. Here she completed five months' service as a Resident Medical Officer, first in a surgical and then a medical ward as well as doing some clinical bacteriology. Toward the end of February 1917, she joined the Scottish Women's Hospital (SWH). By doing so, Mary had become involved in the dilemma surrounding the employment of medical women that raged throughout the course of World War I.

**Medical Women and World War I**

In Australia and New Zealand, the services of medical women were refused by the Army Medical Corps and the Red Cross, and this policy was upheld throughout the war. This rejection, and Colin's move to France, motivated Mary to pay her own way to England and contribute her medical skills to the war effort. Thirteen other Australian women doctors did likewise.3

In England, at the outbreak of war in 1914, the Royal Army Medical Corps (RAMC) and the British Red Cross refused to accept medical women: 'It was inconceivable that in a war of such magnitude women doctors should not join in the care of the sick and wounded, but it was obvious that prejudice would stand in their way.4 Despite regular appeals for medical officers to ease the short supply both at home and in foreign service, eventually requiring conscription, qualified women (over a thousand in number at the time) were ignored. It was argued that: they would not be physically equal to the demands of battle conditions; they would be unable to maintain military discipline amongst men; and, probably most importantly, men wanted to protect their own women from the (direct) horrors of war.5 The fact that female nurses had worked successfully at the battle front since the days of Florence Nightingale was ignored. The inconsistency stood fast until very late in the war.6

Not to be thwarted, groups of women, many of them members of suffragette movements, became involved in voluntary medical services. These voluntary units, independently funded, were authorized by their own government and, through associations with the Red Cross or the Order of St John, were placed at the disposal of allied armies, as the British War Office had refused their services.7 Of the many that existed, three were founded and run by the Scottish Women's Suffrage Societies, and supported by the King.8 Elsie Inglis, honorary secretary of the Scottish Federation of Women's Suffrage Societies, and supported by the Federated Suffrage Societies of Scotland and the National Union of Women's Suffrage Societies throughout the United Kingdom, founded the SWH in October 1914.8 Elsie Inglis realized that:

> From the very beginning we must make it clear that our hospitals are as well-equipped and well-manned as any in the field, more economical (easy!), and thoroughly efficient. I cannot think of anything more calculated to bring home to men the fact that women can help intelligently in any kind of work. So much of our work is done where they cannot see it. They’ll see every bit of this...9

This they achieved. Their name purposely did not suggest suffragette motives, for the group hoped to appeal to all sections of society and, in fact, many of the largest subscriptions in the early days came from prominent anti-suffragists.10 The organization expanded beyond all expectations and became the largest British Medical Relief Organization outside the Red Cross and St Johns. It sent fourteen medical units to foreign soil, including Belgium, France and Serbia, many simultaneously, and some working in the one location for three to four years. By the end of the war, the service had raised 449,000 pounds from England and abroad11 and had helped thousands of soldiers and civilians.

**SWH Corps in Serbia**

Mary worked for the SWH, involved in their aid to Serbia, but she did not commence until February 1917. Much had happened before then and a brief account is necessary to understand the situation Mary faced.

On 28 July 1914, Austria declared war on Serbia.12 Other nations soon took sides. In the months that followed, bloody war raged until January 1915 when the Australians were temporarily driven back over the Serbian frontier. They left behind masses of sick and wounded in appalling conditions. Into this, the second SWH Unit was sent, under the command of Dr Eleanor Soltau, and others soon followed. They were confronted with literally thousands of patients in miserable condition, suffering from war trauma, septic wounds, bedsores, recurrent fever and diptheria. In Valjermo alone, 70,000 cases of typhus lay unattended.13 The typhus epidemic was catastrophic — 30 per cent of Serbia’s 420 doctors died in the epidemic.14 Already with a chronic severe shortage of medical staff, both soldiers and civilians became progressively more dependent on foreign medical services. The SWH staff attempted to protect themselves from the fleas, wearing their hair, wearing high boots and tying bandages rubbed with naphthalene around their wrists and necks.15 By April 1915, the epidemic had ceased, having caused seventy to eighty thousand deaths.16

The SWH continued to work successfully until November 1915 when the German and Austro-Hungarian invasion stormed into Serbia and sent the retreating army fleeing. The units hastily retreated, but escape routes were blocked by Bulgarian assaults. Some volunteers, including Drs Inglis and Hutchinson, elected to remain in towns such as Krusevat and Vrinjatcha-Banija and were subsequently interned. During the German occupation, they continued to treat vast numbers of Serbian wounded in cramped and primitive conditions with little sanitation and less equipment, most of which had been confiscated. They worked unceasingly, constantly reminding their captors of the terms of the Geneva Convention, which were often ignored, until 11 February 1916 when the SWH staff and other foreign volunteer medical corps were repatriated via Vienna and Zurich.17

The remaining staff, under Transport Officer Mr William Smith and Dr Beatrice McGregor, chose to join what has become known as the 'Great Retreat.' The volunteers joined thousands of Serbians exiled from their occupied homeland in an attempt to flee to safety. Their trek involved travelling across the rugged, snow-capped Montenegro and Albanian mountains, with little food and supplies and even less shelter. They reached the safety of the Adriatic after some seven weeks of dreadful hardship. The loss of life from hunger and exposure had been immense and included some 23,000 Serbian boys.18

In autumn 1916, the second Serbian army was mobilized, equipped in Corfu, and prepared to recapture its lost land. The SWH was asked to provide a medical unit and a transport column to accompany it. It did so with the Fourth Serbian Unit under Dr Agnes Bennett, an Australian.19 Initially located near Salonika, the unit moved to Ostrovo on 1 September 1916 and it was there that Mary joined it. The unit was the only one given the 'privilege' of working near the fighting on the Western Front,20 and as a consequence ‘... received many wounded from the Serbian army during its advance and proved of the greatest value to it.’21
Dr De Garis in SWH Corps uniform, Ostrovo Camp, c.1917.
**Ostrovo**

Ostrovo was eighty-five miles from Salonika, in Macedonia but near the Serbian border. The hospital was situated a distance from the town, in a valley surrounded by numerous elms amongst the Macedonian hills, close to the Lake of Ostrovo. To reach it required crossing fifty miles of the Salonika plain, followed by travelling up a mountain track of sand and rock. This track, which continued past the hospital to the dressing station and the front, was little suited for motor transport. In fact, one assistant claimed, 'I should never have thought it possible that cars would negotiate such tracks.' However, for over two years, 'ambulance' truck convoys, driven by women, regularly travelled to and fro, bringing up supplies and staff and carrying down the wounded. The road zigzagged with sharp hairpin bends down precipitous slopes. The narrow track was often blocked by convoys with ammunition or patrols of soldiers and negotiating these required driving dangerously near the precipice. Often on the ascent, at different points, the nursing sisters and passing soldiers were required to push. Many times the drivers would have to wait to cool an overheated engine. Yet only on one occasion did a truck overturn off the edge, miraculously with no loss of life. 'That we did not have serious accidents is due as much as anything else to the skilful driving and extraordinary coolness of the girl drivers.'

The main 200-bed hospital consisted of tents. Twenty tents in two rows housed the patients in traditional hospital-style beds. In addition, tents were erected for use as operating theatres, x-ray rooms, dispensary, staff quarters, bathrooms and kitchens. Makeshift furniture was made from boxes etc. where appropriate, and innovative thinking ensured that 'Nothing was ever wasted in the camp, from bits of wood to old tins.' Cosy and colourful counterpanes and the planting of flowers all helped to make the camp a home. Food was good and plentiful. With their own garden, the staff managed to maintain an adequate and balanced diet. Mary stated that 'Living in tents sounds to one who has never tried it as the height of discomfort; as a matter of fact, we loved it...'

'**Miss Dr de Garis is a woman of medium build, physically well developed, energetic and of serious look. She steps into her ward, and with mild and courteous tone goes to every patient.**'

Nevertheless, discomforts did exist and the weather provided the worst. Macedonian winters are bitterly cold and keeping warm was very difficult. Charcoal was rationed for each personnel tent and the warming stoves in the wards were inefficient and dangerous. Thus staff and patients were forced to wear an amazing collection of clothes for warmth. Heating the operating theatres was equally difficult. Often surgery was restricted to mid-afternoons, a hindrance when dealing with extreme emergencies. In one cold spell, every lotion in the theatre froze hard and operating was postponed for days. With the heat of summer, conditions were reversed. Surgery took place in the early mornings and the evenings. Tent walls were removed in the middle of the day to provide some breeze, and all mobile patients were placed in the shade of trees.

Summer also brought the insects. As Commanding Officer, Mary attempted to relieve the discomfort they caused by introducing methods used in her familiar outback Australia. For example, sticky fly-papers, and a mixture of formalin, sugar and milk were used to catch flies, and food was kept in a modified version of the 'Coolgardie safe'. Wasps swarmed in late summer and most people were regularly stung despite all attempts to trap them.

Being close to a marshy area, mosquitoes were rife and malaria was a great health problem. Precautions undertaken included fly screens, bed nets, the wearing of gaiters and high boots at sundown, insecticides and mosquito flappers. Nevertheless, few staff members passed a summer without suffering from at least one bout of malaria. In fact, 'Sometimes 20 per cent of the unit was down at one time with malaria; girls were hurried on to duty before they were quite fit to replace fresh victims.' It is unclear if Mary suffered from malaria herself, but her concern about it is shown in an article in *The Medical Journal of Australia* in August 1919.

In the beginning, the hospital was wholly surgical and, being then quite close to the front, really served as a casualty clearing station. However, as the army moved on, the patient profile changed to patients with wounds two to five days old, fewer surgical emergencies and more elective surgery and medical work. Statistics substantiate these changes: from September to December, 1916, 516 of the 535 patients admitted were acute surgical cases; from January to October, 1918, only 247 of the 1133 patients had acute surgical complaints. 583 had malaria, and 265 had other medical conditions. The acute injuries were then managed by the dressing station.

The unit's immense workload is suggested by the figures that from September 1916 to October 1919, 1084 operations were performed at Ostrovo, many of these by Mary. These included: 'Repairing and scraping of old wounds (390); Removal of foreign bodies (80); Bomb wounds (38); amputations, and even hernia repairs (90). Most of the patients were soldiers, although some civilians, including women and children, were treated. Some of the more interesting cases Mary recorded include a Canadian soldier with bilateral dislocated hips, and a Serb with a half-inch stab wound of the abdomen with protrusion of much small bowel through it.'

All this work was undertaken under primitive and dangerous conditions, even worse at the dressing station. This was an outlying branch of the unit, situated first in Dobroveni and then Skotchivar, which opened in January 1917 and consisted of thirty beds and an operating theatre. Its aim was to connect and keep pace with the advancing army and as such came to act as the new clearing station, dealing with extreme emergencies before transporting them back to the main unit in Ostrovo. At Ostrovo, further emergencies were treated, patients were stabilized and some formal treatment commenced. Once fit to travel, the patients were moved to a French Evacuation Hospital near Ostrovo Station and then transported by train. Mary was sent to take charge of the dressing station only a few days after arriving in Macedonia. She concealed her ignorance of the nature of the work and the living conditions and, by watching people who did know what to do, soon learned a great deal about organizing such a camp and adapted herself to her expected role.

This dressing station was frequently raided by German aeroplanes and funk-holes were necessary so staff could avoid the shrapnel. However, Mary and her team were determined to help their patients despite the danger and often refused to take shelter. Dr Bennett reported that...
... Dr de Garis, Sisters Saunders and Angell went on with an operation during an air raid ... It was a particularly difficult operation, extracting a bullet from the back of the palate. Only those who know what it is to have bombs falling all round them can realise what an amount of presence of mind and courage such a thing takes ... No one ever wanted to go the shelters when the whistle used to blow ... 47

Mary's courage and skill were extraordinary, and she maintained simply that ' . . . the constant air-raids added a spice of excitement' 48 Conditions remained difficult and by September 1917, the dressing station was closed because malaria and dysentery repeatedly invalided many of the unit, and it was impossible to maintain sufficient staff there. 44

It was only with much endurance and calm that the unit, staffed by women with some help from Serbian boltichars, managed to continue successfully. In February 1918, a hurricane hit Ostrovo and blew down all but three of the seventy tents in the camp. Damage to tents and equipment was great. Almost all syringes, thermometers and medicine glasses were smashed, and many of the medicines were spilled and hopelessly mixed. Yet, in the middle of the night in the piercing gale, the women clad with great coats over their patients, prevent fires, and save what they could. Within three days of their camp being wrecked, they had sufficiently reordered the hospital to resume the admission of patients. 45

'describing Mary as '... Australian, clever face, eyebrows rather accentuated and prolonged' ...'

Life was not all hard work and misery. Under Mary's encouraging command the unit organized its own entertainment and managed to maintain a socially active, cosmopolitan existence. The vast majority of patients were Serbian, however there was a continual stream of French, Russians, Italians, Greeks, and the occasional English visitor, passing through the camp, and the camaraderie amongst these groups was exhilarating. 46 Mary, who like the other staff initially knew only a few vital words of Serbian, recalled numerous evenings and tea-parties where conversations were held with the aid of three or four dictionaries used at the one time. 47

The staff held a social evening of music, singing and dancing on the first Saturday of each month. It ran from 8 p.m. until 11 p.m. and Mary, in her dogmatic way, strictly ensured this by giving a signal at fifteen minutes to eleven; at eleven all lights went out. 48 In addition, parties and sports were conducted on important Serbian festival days such as Christmas, New Year, May Day, and Kossovo Day. 49 These not only lifted the spirits of the staff, patients and soldiers from the nearby camps, but also brought enjoyment to the Serbian families in the vicinity who regularly participated.

Mary arrived at Ostrovo in February 1917 and she spent nineteen months there, leaving on 30 September 1918 immediately after the armistice with Bulgaria. 50 She commenced work as Assistant Surgeon and then Chief Surgeon. However, in September 1917, Dr Bennett was forced to resign due to ill-health, and Mary became Chief Medical Officer (CMO) and Officer Commanding (OC) for the remainder of her stay. 51 Records of the Scottish Women's Hospitals are kept in the Mitchell Library, Glasgow. In Tins 36 and 44 are the personal file of M.D. De Garis, and details of the fourth Serbian Unit which she commanded, respectively. 52

The difficulties and hardships Mary endured can only be imagined, but tributes to her ability and skill are recorded. A letter in broken English by a Serbian patient, Sergeant-Major Milan Luhivitch, beautifully conveys a picture of Mary in Serbia.

Miss Dr de Garis is a woman of medium build, physically well developed, energetic, and of serious look. Her every look, her every step, is of great importance and significance. You could see her every morning going over the Hospital area ... There is no nook in a hospital where she does not see it, or looks into, with the assistance of her true and worthy Sisters, who with motherly care look for Serbian soldiers. After 8 o'clock commences the morning visit of patients. She steps into her ward, and with mild and courteous tone goes to every patient, and with smile on her face asks in Serbian, 'Kako ovi? Boli glava, nogi, maka grudi;' she understands everything that soldiers tell her in Serbian ... The visit usually lasts till 12 o'clock. After lunch there should be rest for her, but, being brave among the braves, she avoids it, and with book on her table and knitting in her hands she reads her book and knits her socks. She does two works in one and the same time. If there is urgent case for an operation, which she always performs with skill, alertness, and success, she immediately leaves her book and drops her knitting, going quickly to the operating theatre. If a new patient comes to the Hospital, she never lets him wait five minutes unless she examines him ... 53

A fellow worker at the Ostrovo camp, Dr Joan Rose, is less effusive, describing Mary as ' ... Australian, clever face, eyebrows rather accentuated and prolonged, seems quite capable Administrator'. 54

Mary's services to Serbia did not go unnoticed. Upon her departure, she was awarded the medal of the Order of St Sava, Third Class, by Alexander, successor to the throne, in the name of His Majesty Peter I, on 14 September 1918. This medal is displayed in the medical library of the Geelong Hospital, mounted with her other two war medals.

Mary went to Serbia whilst attempting to cope with the death of her beloved Colin. In letters to her sister during this time, she frequently stated the number of days since his death and commented on her continuing grief. At the end of her war she stated, 'After working with the [Serbs] it was impossible to complain of one's own griefs, when one met hundreds who bravely bore worse losses'. 55 Her respect for the Serbian race grew continuously and she regarded them as 'admirable in every respect, knowing full well that each man was sick or wounded, in exile from his country, and unaware of the welfare of his family and friends. 56 As a consequence, she became all the more devoted to doing her very best for them.

Mary's overwhelming memory of this extraordinary period of her life was:

There must be a few of us who cannot look back on their term of service with the Scottish Women's Hospital and the Serbs otherwise than as one of the happiest and most useful periods of their lives. 57

References
6. Women in Voluntary Medical Services did excellent work in France, Belgium and Serbia, and they slowly came to the attention of the British War Office. Finally in March 1916, the Women's Hospital Corps was offered full control of a military hospital in Endell Street London which it opened in May. It thus became attached to the RAMC but it was still some time before the medical women were to receive equal rank and conditions. (see Mitchell p.108).


12. McLaren, p.82.


15. Ivens, p.205.


25. ibid., p.257.

26. ibid., p.250.

27. ibid., p.257.


29. ibid., p.146.

30. ibid., pp.148-149.

31. ibid., p.150.

32. ibid., pp.150-151.

The Johann Burger homestead area at Gnadenthal, c.1888 — the original Peter Burger homestead area is on the right, and both buildings still stand today in good order.

Memoirs of Oliver Paul Burger
1912-1989

My trust in God has sustained me through all the changes in my life. Now my interests lie in the activities of my grandchildren, from the youngest in the nursery to the oldest at university, and the tending of my scores of orchids. I luxuriate in a range of sights and sounds and in a mass of words.*

I WAS BORN in Hamilton, Victoria, on the 20th day of April 1912, the second of the five children of Johann Paul Burger and Ida nee Habel. Both my parents were born in Victoria in the early 1880s. Their forebears had migrated from Germany, sailing on the three-masted baque, Helene, arriving in Adelaide on Christmas Eve 1851 after sixteen weeks at sea. My father was not of German origin. His parents were of a small Slavonic nation, the Wends, living in Lusatia, an area of Saxony bordering on Czechoslovakia and Poland. The Wends are still active in the city of Bautzen, though, after centuries of Germanisation, they now number only some 70,000.

My grandparents, like their ancestors, seem to have been bilingual, speaking Wendish in the home and German in church and community — in Lusatia the names of families, towns, etc. appear in both languages. The family name in Wendish is Byrgar, in German Burger; the passenger list of the Helene includes: B(e)urger, Peter, tailor, wife and three children from Hochkirchen, Saxony. In Australia, where the Wends and Germans tended to settle in close communities, Wendish was soon dropped. German became the common language and the uniting link in the Lutheran Church for some decades after settlement. English was adopted by the rising generation, in their business dealings.

Just out of Hamilton in Victoria's Western District, the Wends formed small settlements in close proximity to each other at Mt Rouse, Tabor, Penshurst and Gnadenthal (Valley of Grace or Gracedale in English) where the cemetery is still gazetted as the Gnadenthal Cemetery. Our family lived on a mixed farm at Tabor, between Penshurst and Hamilton. There were sheep, cattle and poultry, a pig, dogs and cats and a home garden of flowers and vegetables. We had an orchard of peaches, plums, apples, pears, apricots and cherries — cherry pie is a favourite dish of the Wends. There were horses — horses to ride, to draw vehicles and for general farm work.

All of us attended the local one-teacher, one-room, thirty-pupil Lutheran Primary School (registered No. 198). It was within walking distance, and overshadowed by the large bluestone church at Tabor, where my parents are buried. In the playground there were always horses and gigs and buggies, the only means of transport for the teacher and pupils from distant towns and properties. In Grade VIII, I rode my pony 20km to Hamilton to sit for the Merit Certificate. In those years, schools taught the fundamentals without any resources or libraries.

In 1925 my father, Johann, died of pernicious anaemia at the age of 45, in the very year when it was noted that raw liver was beneficial in these cases. But he could not face raw liver sandwiches. He died in a coma after days of gasping strenuously for air. At that time I was just over 13, my older brother, Rupert, was boarding at Concordia College in Adelaide, Linda was 11, Myrtle was nine and Gilbert, the youngest in the family, was four. My mother was left to carry on a small section of the farm and the rest was let to tenants. An industrious and capable woman, Ida worked hard and long in the home and the garden to maintain and raise her family. She died in 1976 at the age of 93, after 51 years of widowhood.

I left school the day I turned fourteen. There were no further courses available. My time was then occupied in helping at home and, as I grew older, I found employment in the district — hay-making, with teams of threshers and chaff-cutters and in the shearing sheds. I even learnt to use the shearing blades. Later, during the long university vacations, I worked at the same jobs, and never again felt as fit as I did during those ‘working holidays’.

My career began at the age of sixteen. I felt an overpowering need to put all my time and energy into work, and I knew that medicine was the only direction for me. How or why this came about I cannot say. Perhaps it was because
after an appendicectomy at fourteen I began to wonder about
the human body, how it functioned, how to deal with illness;
and for years I had been slaughtering sheep and rabbits for
the table, always noting their internal structure.

In our family there were no precedents, no connections,
for secondary education, or for a career away from the land.
How was I to obtain the Matriculation Certificate that would
enable me to enter medical school? Boarding school was out
of reach; work on the family farm, though on a reduced scale,
needed my efforts. There were no school buses to the nearest
High School, 20 km away in Hamilton. The answer was the
International Correspondence School, and so I enrolled in
four subjects to the required Leaving standard — English,
Latin (compulsory for medicine), geometry and European
history. The fifth subject, German, I could manage on my own —
we were bilingual, listening to readings, sermons and
singing hymns in German, and speaking it at home with
family and relatives.

I became a keen student. There were no distractions in
those days, and I worked systematically at the kitchen table.
In 1931 I passed all five subjects. Then came the deep
discussions about my desire to study, about my mother's
ability to support me. Recognizing my genuine desire to do
medicine, my mother and our relatives were totally
supportive throughout the years that followed.

In 1932, I set off alone by train, on my very first trip to
Melbourne — I knew I had arrived when I saw the sign
'Spencer Street'. I made my way to Balaclava by electric train,
to stay with relatives for a short time. I then went to the
University of Melbourne with the First Term fee of ten
guineas in my pocket, I signed the big book and enrolled in
the medical course.

First year was difficult. Apart from adjusting to a new way
of life and surroundings, I had no knowledge whatever of
mathematics and chemistry. Consequently, I repeated first
year in 1933. I lived in 'digs' in Parkville, surviving well below
the poverty line throughout the years that followed.

After an average course at the Melbourne, I graduated
with Honours in 1938. (Graduating in Arts at the same
ceremony was Elva Dalitz. We married in 1941, and it was
only after thirty years that we discovered we originated from
the same stock, from the Wends of Lusatia.) I began work
immediately at the Geelong Hospital, where I spent the
hardest years of my life. It was during the Second World War
years, there were shortages of medical staff at the hospital
and in the community, and we worked an incredible number
of hours each week.

In 1940, I was appointed Medical Superintendent of the
Geelong Hospital and set about putting it on a war footing.
If there was a Japanese invasion, the rip forming the entrance
to Port Phillip Bay would be avoided, a landing would be
made at Torquay and the route to Melbourne would be
through Geelong. At that time there were large numbers of
American troops in Geelong, and General MacArthur had his
headquarters in Melbourne. We struggled through black-
outs, emergency drills, barricaded quarters, shortages of
medical supplies and rationing of mostly everything. I
assisted in the training of members of the St John of
Jerusalem Brigade. Senior staff were directed never to be
together in a group in case of bombing. The resident staff
attended to most of the routine work as well as emergencies;
and nearly all honoraries were also busy general
practitioners. Medical graduates in our day were trained
comprehensively in all fields.

As Superintendent of the Geelong Hospital, I was
responsible for the care of infectious diseases patients. In
1943, during the diphtheria epidemic, we treated 70 cases.
Five died in my arms while undergoing intubation or
tracheotomy — none of these cases had been immunised, nor
had they come from areas where immunisation was
available. Subsequently, I campaigned for general
immunisation, circulating information to all Councils in the
Chiron 1990/57
area and during my thirty-five years as Medical Officer of Health in the Geelong district I gave approximately 300,000 injections: for poliomyelitis, diphtheria, tetanus, whooping cough, measles and German measles. The old infectious diseases wards have now been abolished, and the smallpox virus has disappeared from the face of the earth. I also drew the attention of the Coroner to the hazards of the electricity poles in the centre of Geelong's main streets, where repeated crashes resulted in deaths and serious injuries. The poles were removed.

I began a private practice in Geelong in 1945 and during the early years performed major surgery — appendicectomies, cholecystectomies, herniotomies, Millin's prostatectomies, internal fixation of fractures, nailing of femoral necks and operations on boys with pyloric stenosis. I performed four Caesarean sections on each of two mothers. I introduced the use of intravenous anaesthetics, later the gases, and finally was instructed in the use of relaxants, which I administered regularly until my retirement in 1981.

After the War, the nature of medical practice changed rapidly and extensively with the arrival of specialists in all fields. Nevertheless I would support the claim that our group of 1938 practised during the most interesting and remarkable period in the history of medicine. When I consider the advances made in our time, I am left somewhat speechless; and the jargon of medical communication today is like a foreign language. We have lived to see the whole vista of anaesthetics from the earliest rag-and-bottle days to the refinements of today's procedures. There have been equally massive and momentous changes in all fields of medicine, giving rise to a new range of problems to resolve and difficult decisions to make, particularly ethical decisions. I am reminded of the observation made by the doctor in Macbeth, noting Lady Macbeth's disturbed behaviour after the King's murder: 'Unnatural deeds do breed unnatural troubles.'

Many of us have probably been beneficiaries of modern medical technology. I have survived three myocardial infarctions during the last fifteen years. Two of these led to cardiac arrest, but I responded to a single application of the defibrillator on both occasions, suffering no brain damage as I was fully oxygenated at both times (in the ambulance and at the hospital).

My family life has been richly rewarding. Elva and I had six children — two boys are in the ministry of the Lutheran Church, one is a finance controller in a large corporation, one girl is a librarian, the youngest son works in television and his twin sister did medicine and is married to an orthopaedic surgeon. There are fifteen grandchildren in five families.

*Postscript from Pauline Burger, Oliver's daughter

My father had been revising his memoirs at the time of his death, and I found this 'note' amongst the typewritten sheets.

Oliver and Elva had considered the isolated Gnadenhalt Cemetery for burial, but eventually decided on Dimboola. Gnadenhalt is really only the few small plots in an area fenced off from paddocks on the track leading to the original house of Peter Burger, my great great grandfather (pug hut still standing), near the current bluestone homestead which is occupied by my father's cousin, Ray Burger.

My mother died in 1981 after many illnesses. We buried her in Dimboola, where she was born, taught at high school and where she was married. It was a favourite family holiday spot. My father died on 8 September 1989. He had got up to say a few words at the memorial service for my brother, Pastor Roger Burger, at Knox Lutheran Church, and suffered a heart attack from which he never regained consciousness. After a service at St John's Lutheran Church, Geelong, he was buried at Dimboola, alongside Elva.
Diana Dyason
1919-1989

my youth i shall never forget
but there s nothing i really regret
wotthehell wotthehell
there s a dance in the old dame yet*  

‘Ding’ Dyason, the foundation vice-president of the Australian Society of the History of Medicine, died on Saturday, 30th September 1989.

Ding was born in Melbourne in July 1919 and educated at Melbourne Church of England Girls’ Grammar School. Between 1938 and 1945 she completed a BSc and MSc at The University of Melbourne, and was a demonstrator in physiology from 1943 to 1948. She thereupon undertook an abrupt change of career at the instigation of her supervisor, Professor R.D. Wright, and became a lecturer in a newly established course in General Science in the Arts Faculty of The University of Melbourne. Ding played a central role in the expansion of this course into the Department of History and Philosophy of Science, and was head of the Department from 1958 to 1974. She was a pivotal figure in the establishment of the discipline of history and philosophy of science, serving as foundation president of the Australasian Association of the History and Philosophy of Science, and as Australian representative at two international congresses. Deakin University awarded her an honorary doctorate of science in recognition of her contributions to the history and philosophy of science.

Ding will be remembered for her warmth and critical intelligence as well as for her professional accomplishments. She grew up in a family that had an equally high regard for books and the bush, and Ding carried on the tradition. Her personal library at the University became a treasured resource for students and colleagues in several disciplines, and under her guidance the University library established a major collection of primary and secondary works in the history of science and medicine. She was a dedicated skier, bushwalker and watercolourist, and shared her bushland property on the outskirts of Melbourne with her friends and colleagues. Ding was always willing to march for social and political causes, and considered it her duty to uproot humbug, pomposity and inequity whenever it crossed her path. She had an expansive and irreverent sense of humour; typically, she enjoyed academic processions because they seemed like inebriated centipedes.

Ding brought these qualities to her teaching and research in the history of medicine. One of her first teaching assignments was to lecture in history of science to medical students, a subject that had no examination but for which attendance at lectures was compulsory. Her pedagogical techniques were honed by that experience, and for many years she taught a course for arts and science students on the history of public health and germ theory. Each lecture was a unique performance, assembled before the students’ eyes from folders of overflowing notes, always incorporating the latest historical research, and always able to capture the spirit and complexities of scientific research and social reform. Ding was convinced that students should read the original works, in translation, and students soon discovered the fascination of reading Fracastoro, Paracelsus, Lind, Snow and Chadwick. Two of the alumni of Ding’s course, Margaret Pelling and Caroline Hannaway, have gone on to careers in the history of medicine in Britain and the United States. Ding’s teaching and administrative responsibilities made research difficult, but over the last decade she published several important articles on the medical profession and public health in colonial Victoria.

When Ding was elected foundation vice-president of the Australian Society of the History of Medicine in 1986, it had been anticipated that she would become president at the start of this year. Unhappily, she suffered a debilitating stroke last year that prevented her accepting the position, and in recognition of her contribution to the establishment of the history of medicine in Australia, the Society elected her its first Honorary Member. (RG)

*From ‘the song of mehitabel’ in archy & mehitabel by Don Marquis (Faber and Faber, London, 1949), quoted by Diana Dyason in The Half-open Door (Patricia Grimshaw & Lynne Strahan, Eds, Hale & Iremonger, Sydney, 1982).

John D. Livingston
1925-1989

We note with regret the death on 14 July 1989 of Dr John Livingston (MBBS 1948). He was Secretary of the Medical History Society, AMA (Victorian Branch) 1970-75 and President 1986-88. (HA)

John J. Nattrass
1922-1989

Dr John Nattrass (MBBS 1944), former Obstetrician and Honorary Historian to the Royal Women’s Hospital, Melbourne, was killed in a car accident on 14 November 1989. He was 67. John had also been Honorary Secretary/Treasurer to the Medical History Society, AMA (Victorian Branch), a task he carried through with his usual meticulous care. He had many accomplishments, including those of a skilled editor, a line organist and an excellent raconteur. (HA)
Report for 1989

This was a busy year made all the more enjoyable by having a B.Med.Sc. student working in the Unit.

B.Med.Sc. Project
Dr Carolyn De Poi was the top medical graduate for 1988 and she undertook a study of the life and works of Mary Clementina De Garis (1881-1963) who graduated MBBS in 1905. Starting with only a set of Mary De Garis' lecture notes, Carolyn De Poi was able to build up a fine biographical account of this very unusual woman who, although best known as an obstetrician in Geelong, had also commanded the Scottish Medical Women's Hospital in Serbia during the 1914-18 war. As there is no obituary of Mary De Garis in any medical journal, the archives of the Medical History Unit have been greatly enriched by the historical material and photographs collected.

Visits and Discovery Day
• On March 16th members of Faculty after their first meeting of the year, visited the Medical History Museum to view a display 'From our Collection' which enabled local and general items of medical history interest to be seen.
• The museum was open on Discovery Day when, as usual, the Savory & Moore Pharmacy provided much interest.
• The Curator conducted tours for the Baillieu librarians and, by request, for several small groups from within and without the University.
• Among the visitors during the year was the great grand-daughter of A.C. Brownless. She brought several interesting memorabilia of the founding father of this medical school and some of these may be donated to the collection.

Lectures
During the year, in collaboration with staff from the Departments of Anatomy, Community Medicine, and History and Philosophy of Science, eight lectures in medical history have been given to medical students (years one and three) and the material presented was examinable. This is a major step forward.

The subject of Samuel Johnson's lung has aroused sufficient interest for the Curator to be asked to talk about it to the Hawthorn Historical Society and to ladies at the Lyceum Club.

The Curator also gave the first paper at the first meeting of the Section of History of Surgery and Anaesthesia of the Royal Australasian College of Surgeons, Melbourne.

Australian Society of the History of Medicine
This society was formed in 1986 and since then the Medical History Unit has acted as the Secretariat.

A very successful First National Conference of the Society was held in Sydney from 15 to 18 February 1989 with some 140 registrants and a number of overseas speakers. Many papers of wide ranging interests were read and a symposium was held on the Teaching of the History of Medicine. Bryan Gandevia, the first President of the Society, retired and the second President was to have been the late Ding Dyason. Because of Ding Dyason's illness the Curator was elected to the President's position.

The second National Conference of the Society will be held in Perth, Western Australia, in 1991.

Recent Acquisitions
During the year several donations of instruments, books and a microscope were received. From the estate of the late Dr Lempriere, noted skin specialist, came some very unusual French lithotrites, instruments for crushing stones in the urinary bladder. The donor, his grandson, did not know how such unusual instruments had come into the possession of Dr Lempriere.

As Faculty has granted a small sum to employ a part-time cataloguer, some of the new material was catalogued, but much remains to be done.

Grants
By means of a grant from the Potter Foundation about half of the important archival material collected by Ann Tovell and presently housed in the AMA Library has been microfilmed. The Potter Foundation has generously given an additional sum to complete this important project. The microfilm will be housed in the Brownless Medical Library and the duplication not only will make the material available to more researchers, but will ensure the preservation of the records.

The Future
The Unit is an integral part of Faculty and is becoming increasingly important to alumni. At present it is staffed by a curator (one half day a week), a secretary (two days a week) and a cataloguer (six weeks a year). Such an arrangement is very dependent on the good will and loyalty of the people engaged and, as in so many other areas of university activity, there is at present much of both attributes. However, the long-term future will require a more stable budgetary arrangement and it is obvious outside funds will have to be found. These will be sought vigorously.

A must for Medical Libraries
An Essay on Fever
by John Huxham
Introduction by Saul Jarcho
Science History Publications, USA, 1989
US$19.95, cloth bound, xxi + pp.191, from Science History Publications, Box 493, Canton MA 02021, USA.

This reprinting of John Huxham's 1757 text of his famous book on fevers forms part of the series, Resources in Medical History, selected, edited and published in cooperation with the American Association for the History of Medicine and the National Library of Medicine, Bethesda, Maryland. The 1757 edition is almost identical to the first edition of 1750, but is greatly enhanced by the addition of what is itself a classic - 'Dissertation on the Malignant, Ulcerous Sore-Throat'. The introduction by Saul Jarcho is admirable in setting the problems in the context of their time. This should be bought by all interested in the evolution of ideas on disease and is a must for all medical libraries. (HA)
Continuing Medical Education

These continuing professional education courses are designed for medical practitioners, and will also be of interest to biological scientists, dental practitioners, those working in associated health professions and others concerned with health care. The School also offers a continuing medical education program in Diagnostic Radiology. Enquiries to: Continuing Medical Education, School of Medicine, The University of Melbourne, Parkville, 3052. Telephone (03) 344 5888.

Thursday and Friday 8-9 March
Visual impairment in childhood and its effects on education
Venue: Lecture Theatre, Mercy Maternity Hospital
Director: Associate Professor Hector Maclean

Friday 9 March
Molecular biology — an update for clinicians
Venue: Michael Chamberlin Theatre, St Vincent’s Hospital
Directors: Dr Katrina Watson and Dr Kong Wah Ng

Saturday 10 March
Molecular Biology Workshop
Venue: St Vincent’s Hospital
Directors: Dr Katrina Watson, Dr Matthew Gillespie and Dr David Findlay

Friday and Saturday 23-24 March
Update in gallstone lithotripsy and pancreatic diseases
Venue: Michael Chamberlin Theatre, St Vincent’s Hospital
Director: Mr Michael A. Henderson

Wednesday to Friday 2-4 May
Radiography for general practitioners
Venue: Essendon and District Memorial Hospital
Director: Professor Emeritus W.S.C. Hare

Friday and Saturday 11-12 May
What every doctor and dentist should know about HIV and AIDS
Venue: Lecture Theatre N10, The Royal Melbourne Hospital
Director: Dr Peter Greenberg

Wednesday evenings, 6 June-11 July
Computer software tools for molecular biology
Venue: Department of Microbiology
Director: Dr David Tribe

Friday and Saturday 29-30 June
Surgically-related problems in general practice: new approaches to common conditions
Venue: Lecture Theatre N10, The Royal Melbourne Hospital
Director: Mr Rodney Judson (in association with Dr Paul Nisselle)

Friday and Saturday 10-11 August
Common problems in paediatrics — with an emphasis on recent advances
Venue: Royal Children’s Hospital
Director: Dr Max Robinson

Friday and Saturday 12-13 October
Early breast cancer and mammography
Venue: Lecture Theatre N10, The Royal Melbourne Hospital
Directors: Mr Peter Gregory and Mr Ian Russell

Friday and Saturday 26-27 October
Back pain and its management
Venue: Essendon and District Memorial Hospital
Director: Professor Hugh Burry

Dean’s Lecture Series

Tuesdays at 5.30 pm
Sunderland Theatre
Ground Floor, Medical Building
The University of Melbourne

The Dean’s Lecture Series is designed to illustrate current research and topics of interest in the fields of Medicine and Dentistry. All medical and dental students and graduates, and interested biological scientists are invited to attend.

20 March
Changes in oral health: causes and consequences
Professor Clive Wright, Head, School of Dental Science.

10 April — 56th Beattie Smith Lecture
Children who light fires
Professor Robert Adler, Director, Department of Child and Family Psychiatry, Royal Children’s Hospital.

24 April
Future directions in restorative dentistry
Professor Harold Messer, Chair of Restorative Dentistry, School of Dental Science.

8 May
Tuning in on the brain: brain imaging from Roentgen to magnetic resonance
Professor Brian Tress, University Department of Radiology, Royal Melbourne Hospital
This will be followed at 6.30 pm by the 1990 Annual General Meeting of the University of Melbourne Medical Society.

22 May
Child dental health: today’s accomplishments and tomorrow’s challenges
Professor Louise Brearley, Elsdon Storey Chair of Child Dental Health, School of Dental Science.

5 June
Prometheus unbound: the liver into the 1990’s
Professor Richard Smallwood, University Department of Medicine, Repatriation General Hospital, Heidelberg.

19 June
The challenges for public health in Australia
Professor Hedley Peach, Department of Community Medicine.

10 July — Halford Oration
The molecular control of blood cells: from basic science to clinical medicine
Professor Donald Metcalf, Walter and Eliza Hall Institute of Medical Research.

Seminar: Dean’s Lecture Series
Friday 27 July — 2.00 pm to 5.00 pm
Privacy in medicine: issues old and new
Convener: Professor Emeritus Richard Lovell