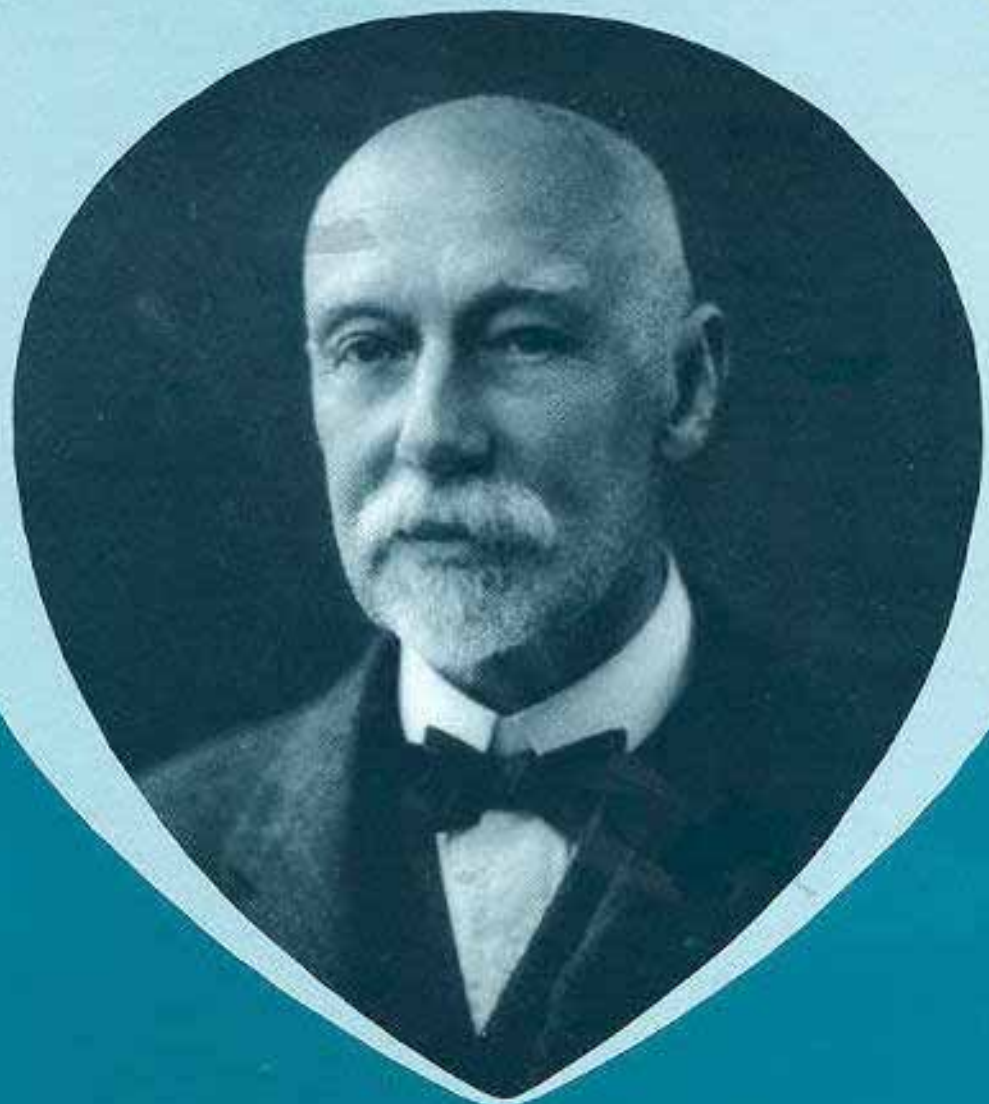
BAKER MEDICAL RESEARCH INSTITUTE

Annual Report

1993



The Baker Institute is a block funded institute of the National Health and Medical Research Council of Australia, and is also supported by the Victorian Government and the Baker Benefaction. The Institute is affiliated with Monash University and the Alfred Hospital, and Baker staff hold appointments in both of these institutions. In addition, it is a World Health Organisation collaborating centre for research and training in cardiovascular diseases, the only one in Australia.

CONTENTS

IN AUSTRALIA , 50% OF ALL DEATHS AND SERIOUS ILLNESS ARE DUE TO DISEASES OF THE HEART AND CIRCULATION.

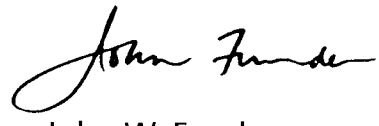
MOST OF THEM ARE DUE TO HYPERTENSION (HIGH BLOOD PRESSURE) AND ATHEROSCLEROSIS (CLOGGING OF ARTERIES WITH FATTY CHOLESTEROL-LADEN PLAQUES) WHICH CAUSE STROKE, HEART FAILURE AND KIDNEY FAILURE.

THE AIMS OF OUR RESEARCH ARE TO INCREASE UNDERSTANDING OF THE BASIC CAUSES OF HYPERTENSION AND ATHEROSCLEROSIS, TO USE THIS KNOWLEDGE TO HELP PREVENT HEART AND VASCULAR DISEASE IN THE COMMUNITY,AND TO IMPROVE MEDICAL AND SURGICAL TREATMENT.

There is a stereotype that medical research is inaccessible, and that research institutes like the Baker are ivory towers. This Annual Report is part of a campaign to demolish both those stereotypes. Medical research often involves a lot of technology - but so do computer graphics, or the remote control on your television set. Research Institutes contain a lot of dedicated people - but so do small businesses, and schools, and other community groups.

The reason why it is important that the community as a whole can access and appreciate what is being done at the Baker is that they are paying for it. Just over half of the funding it takes to keep the Institute going comes from the Commonwealth and Victorian Governments, your taxes and mine. The other half comes from a variety of sources - other granting bodies, corporations, private donors, bequests. One way or another, it is the community who supports all our efforts, and to whom we are thus ultimately accountable.

Because medical research is complicated, and requires a high level of training, nobody expects the non-scientist to tell us how to do experiments, or even what particular experiments to do. On the other hand, nothing is too complicated to explain if the people who are writing it really put in, and those who read it are then prepared to ask questions. If this report stimulates our non-scientific readers to ask questions - of themselves, of us, of others - then we will have succeeded beyond our wildest dreams. We will not only have given an intelligible account of what we do and why we do it, but will have infected our readers with the spirit of enquiry, the thing that makes research the fun it is.



John W. Funder

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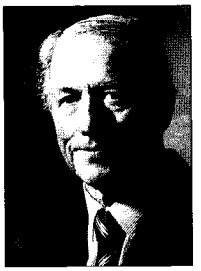

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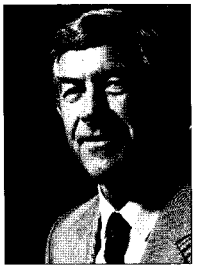

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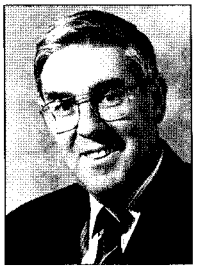


Dr P.G. Habersberger, RFD MBBS, FRACP Visiting Cardiologist at Alfred Hospital ,Director, Cardiac Services at St. Francis Xavier Cabrini Hospital

Mr D.J. Butler, BEc (Hons), FASA, CPA Honorary Treasurer of the Board and Chair of Finance/ Investment Subcommittee, Group General Manager (Finance), ANZ Banking Group

PRESIDENTS REPORT

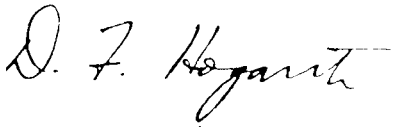
1993 was three years in one for the Baker. First, it was a year of consolidation. Our NHMRC funding base increased modestly, after our favourable Quinquennial Review in 1992; our industry funding decreased, with the departure of Professor James Angus and his team to Melbourne University. The theme of consolidation extended into the area of staff. Rather than embarking on new ventures, or exploring new directions, the Director has chosen to strengthen existing laboratories by a number of appointments at the senior postdoctoral level. Perhaps reflecting these appointments, the Institute published more scientific papers in 1993 than ever before, despite no increase in budget, one indication of increasing productivity.

1993 was, secondly, the year that Australia in general, and perhaps Victoria in particular, started to emerge from the recession. Throughout this period we have been fortunate in having the continuing contributions of both the Commonwealth (NHMRC) and the Victorian Governments. The State Government infrastructural funds to Institutes, including the Baker, were the only part of the Health Budget not cut in 1993. We have also been fortunate in having a very devoted band of loyal private donors, whose unwavering support has enabled us to maintain our level of operations despite the very understandable increase in calls from elsewhere in the community on the various Charitable Trusts and Benefactions. Finally, we were fortunate to have David Butler as Board Treasurer over this period, to guide the Director and the Institute executive in financial matters. Finding enough money, public and private, is always a problem; during David's stewardship, balancing what comes in and what goes out never has been.

Third, 1993, was a springboard year for the Institute's future expansion. The climate is right, in a number of ways. There is clearly a new spirit abroad in Federal circles, with the prospect of a doubling of NHMRC funds for medical research over the rest of the decade. The Royal Victorian Institute for the Blind are to resite their workshops, allowing the Baker to redevelop the eastern part of the current RVIB site through to Moubray Street. In both a fiscal and a physical sense, the news in 1993 was very bullish for the Institute in terms of development over the rest of the decade.

The support of government, and the generosity of our donors, are necessary for the Institute to prosper and grow, but not sufficient. What we also need are the people, and there is every indication that we are getting them. While staff numbers have remained essentially constant over the period of consolidation, in 1993 there were twice as many PhD students as three years before. Most of these will spend time overseas as postdoctoral fellows, and some will then return to strengthen the existing Institute programs, and spearhead new ones. They are our human capital, and the Institute is set fair to reap handsome dividends on this investment.

Finally, in terms of people, it would be remiss of me not to thank my fellow Board Members for their contributions in 1993 - in particular, Mr. Norman O'Bryan, Vice President and Chair of the Joint Committee of Management; Mrs. Margaret Ross, Chair of the Activities Committee; Mr. Bill Philip, Chair of the Finance Committee and Acting Treasurer; and our two new members, Dr. Peter Habersberger and Mr. Ross Barker. To the Board as a whole, and to the people who work tirelessly on a variety of Board subcommittees, the Institute owes a very genuine debt of thanks.



Don Hogarth
President, BMRI

A Director's Report deals with discoveries and developments, people and policies, funding and future directions. These are obviously artificial distinctions, and central to all of them are the people of the Institute. It seems fitting then, to begin with a tribute to the incoming Deputy Director for 1993, Dr. Warwick Anderson, a person of wide talents and enormous energy. First and foremost, he is internationally acknowledged as a front-rank physiologist, and in recognition of this was promoted to NHMRC Senior Principal Research Fellow, equivalent to a Personal Chair, from the beginning of the year. In addition, Warwick has guided the NHMRC Animal Ethics (Experimentation) Committee for many years, and 1993 has seen him as Editor of Clinical and Experimental Pharmacology and Physiology, and Secretary of the March 1994 International Society of Hypertension Congress in Melbourne. As Deputy Director, he has been tireless and effective: the Institute in general, and the Director in particular, owe him a debt of very sincere thanks.

The Baker (and the Alfred Hospital) also owe a debt of thanks to Professor Garry Jennings, Associate Director of the Institute and Director of the Alfred Baker Medical Unit. At the end of 1992 and in early 1993, there was enormous pressure on the hospital for change, and to venture into new fields in terms of structures and processes. In addition to his research, teaching and clinical responsibilities at the ABMU, Garry played a leadership role in the hospital, and a major part in steering its present much more auspicious course. There are few areas of human activity as Byzantine as hospital politics: through it all he has retained not only his equanimity and the ungrudging respect of his peers, but also his sense of humour.

In recognition of their academic contributions, Garry and Murray Esler were appointed (Honorary) Professors in the Faculty of Medicine at Monash University. Murray is Associate Director (Hypertension) of the ABMU, and head of the Human Autonomic Function Laboratory at the Baker. Dr. Ian Smith, head of the Peptide Biology Laboratory, was promoted from Research Fellow to Senior Research Fellow, and we welcomed Dr. Maarten van den Buuse as a Senior Research Officer in the Neuropharmacology Laboratory, and Ms Cathryn Speck as Librarian.

In many other ways 1993 was also a very good year. After many months of protracted negotiation, we appear to be on the brink of an agreement enabling us to utilise the Federal and State Governments' Capital Works allocation; our new building should be a major feature of next year's Annual Report. 1993 was also a very good year in that the Institute enjoyed a similar contribution from the State Government as in 1993. In a climate of cost-cutting, every area of expenditure by the new, mega-department of Health, Community and Aged Services was cut - except the vote for infrastructure for the almost twenty institutes supported by the Victorian Government. This is a relatively small amount of money in the totality of the Departmental budget - but its maintenance is a tribute to the foresight of the Minister and her advisers, and a very important factor in the continuing high morale within the Institute.

Still on the political side of things, the week before the Federal election in March was one of particular significance for the future of medical research in Australia. Both Opposition and Government pledged as part of their election campaigns to raise the amount devoted to medical research to 2% of the total health budget by the year 2000. There is some variation in assessments of what the current percentage is, depending on who is doing the counting: one figure commonly quoted is 1.3%. Of this figure, perhaps only a quarter is funding disbursed by NHMRC from the Medical Research Endowment Fund via its granting processes.

What this means is that if all the increase from 1.3% to 2% went to the MREF, then we would be looking at an MREF of over $300m per year, rather than the present figure of $115m. Now some of this increase will almost certainly come from private rather than Federal Government sources, reflecting the extension of the Factor F scheme until the end

of the century

On the other hand, what we are looking at is an effective doubling of the constant dollars being disbursed by MREF. To the delight of medical research community across Australia, in November 1993 the Federal Minister of Health, the Hon. Graeme Richardson, formally endorsed the proposal to double MREF funding by the year 2000.

Minister Richardson, shortly after taking up the portfolio, also set in train an external review of the NHMRC, with particular reference to the Medical Research Committee, as a basis on which to introduce the foreshadowed changes in medical research funding. The enquiry was carried out by Professor John Bienenstock, Dean of the Faculty of Health Science at McMaster University in Ontario. Professor Bienenstock toured Australia, interviewing and note-taking, on three separate visits. His comprehensive report was presented to the Minister just before Christmas, and early in the New Year (1994) released for public comment.

The report represents a thoroughgoing endorsement of medical research in Australia, and presents a blueprint for development over the next 6-7 years on the basis of the expected substantial increase in available funds. Salient recommendations are the establishment of a committee to weigh and consider priorities and directions in research; as an understandable consequence of the degree of commitment most research workers have, their own area is clearly the most important and deserving. Secondly, the current hardworking but clearly under-resourced secretariat is to be transformed and enlarged. At present it costs only fractionally over 1% of the total MREF funds, a level which almost certainly represents a false economy, and Bienenstock has recommended that this rise gradually to a (still modest) 4%. Most importantly, he has delivered a ringing endorsement of awards based on peer-review, on occasions the target of those who know better both inside and outside the scientific community. Like democracy, peer-review is far from perfect: like democracy, it looks pretty good when you think of the alternatives.

Although 1993 thus did not produce a substantial rise in medical research funding for 1994, what it did foreshadow was the prospect of such an increase over the rest of the decade. The Institute, however, derives only half of its annual income from state and federal government sources: what are the prospects for a parallel increase in private and corporate support for medical research over the next six years?

At the end of 1994 such a question represents a challenge rather than an impossibility. Part of the response to meet this challenge will be the forging of strategic alliances not merely with pharmaceutical firms but with other sectors whose constituencies the Institute addresses in one way or another. In 1994, for example, National Mutual has undertaken to fund a Laboratory and Research Fellow for an initial three year period, on the molecular biology of the menopause. For the pharmaceutical companies, the extension of the Factor F provisions encouraging local investment in research and export make similar initiatives a real possibility.

The challenge for the rest of the decade is to persuade our supporters - private as well as public - that the Baker represents a wise investment vehicle. For this to happen, we need to give an account of ourselves and our work, in language that is accessible and as non-technical as possible. This Annual Report is an attempt to do just that. I commend it to our supporters as representing, in some small part and very much oversimplified, the fruit of our labour, and the context in which that labour took shape.

John Funder
Director, Baker Medical Research Institute

VALE ROD ANDREW

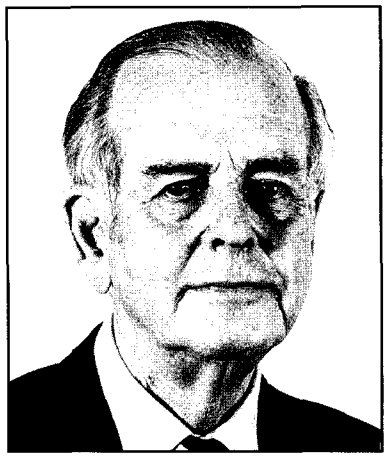
One of the founding fathers of Monash University, Professor Rod Andrew has died peacefully in hospital following an operation. Professor Andrew enjoyed a long association with Alfred Hospital and Baker Medical Research Institute as well as establishing the medical school for Monash University.

He was a foundation member of the Interim Council that planned the establishment of the university and became a member of its first council. He was appointed Dean of the Faculty of Medicine in 1960.

Professor Andrew was born in Perth, WA, the son of an ENT specialist. His paternal grandfather was foundation professor of Natural Philosophy at the University of Melbourne late last century.

The family moved to Melbourne when Professor Andrew was young. He was educated at Geelong Grammar and coxed the first eight in his early years. One of his close school friends was eminent Australian artist Russell Drysdale and they remained life-long friends.

Professor Andrew left school in 1929, entering Trinity College at the University of Melbourne to study medicine. During his course he developed a close friendship with Sydney Sunderland (later Sir Sydney) who became Professor of Anatomy at the University of Melbourne and a world authority on neuroanatomy. He was dean of Medicine at Melbourne for many years. Rod admired him greatly and was quick to acknowledge the great help he had received from Sir Sydney over the years, particularly during the development of the Monash Medical School.



Richard Roderick Andrew
Professor and founding Dean of Medicine, Monash University, 1960-76. Born Perth, February 26, 1911. Died Melbourne, February 12, aged 82.

Professor Andrew graduated in 1935 and after two years' residency at the Royal Melbourne Hospital, moved to the Children's Hospital in 1938 and the next year became Acting Medical Superintendent of the Princess Margaret Hospital for Children in Perth.

Soon after the outbreak of war, he enlisted in the AIF and sailed for the Middle East, being posted first to the 2/2 Australian General Hospital (AGH) at Kantara on the Suez Canal and later with the 2/7 Field Ambulance.

Close colleague, Dr Ted Kay remembered their return to Australia in 1942, originally destined for Java: "He and I were posted to ammunition ships. We were fortunate that Java fell soon after we left Port Said. Rod's little Dutch ship was rather slow. He had to go right down the African cost and half way to the South Pole before reaching Adelaide some four to five weeks after our ship - a new American cargo carrier. We really thought he had been lost at sea."

After his return he was posted to Milne Bay in New Guinea where the malarial casualties seriously impaired the strength of the Australian fighting force.

This experience prepared him for his appointment to command a Malarial Research Unit at Cairns under the direction of Brigadier Neil Fairley (later Sir Neil) who before the war was Director of the Hospital for Tropical Diseases in London. At that time research established that one Atebrin tablet per day would give complete protection from BT and MT malaria. This was one of the most valuable weapons in winning the war in the southwest Pacific.

Leaving Cairns, Professor Andrew joined the 2/2 AGH at Rocky Creek on the Atherton Tablelands. Dr Peter Parsons, a close friend, recalls his time there:

"I recall being admitted to the hospital under his care. When I was convalescing, he invited me to his tent for a drink. I noted a small bottle marked Liquor Arsenicalis. I asked what he used it for and he replied "For gin of course. It wouldn't last very long if I labelled it Angostura bitters!"

When the war ended, Professor Andrew was a Lt Colonel in charge of the medical division of the 2/7 AGH at Lae. He was also mentioned in dispatches. After his discharge he was awarded the Stawell prize for a wartime study of dysentery, prevalent on war service.

In 1946, Rod was awarded a Nuffield Travelling Fellowship to follow his special interest in gastroenterology. His mentor, Neil Fairley suggested he seek a post with Dr Avery Jones at the Central Middlesex Hospital in London. Avery had a wide experience in peptic ulcer disease and gastrointestinal haemorrhage and was later become doyen of gastroenterologists in the UK. Professor Andrew became the first Australian to work with him and the first of many Australians who subsequently joined his unit. In 1980 Avery received the honour of being chosen to give the Harveian Oration of the Royal College of Physicians. As expected, Professor Andrew wrote a warm congratulatory letter and arranged for all members of the Australian contingent to sign it.

In the UK, Professor Andrew passed his MRCP (London) examination and on his return to

Australia in 1947 resumed his post as Honourary Physician to Outpatients at Alfred Hospital. He also became Visiting Specialist to the Repatriation General Hospital at Heidelberg and established a consulting private practice with rooms at 14 Parliament Place.

Professor Andrew introduced new ideas to gastroenterology at Alfred in the immediate post-war years. He established gastroscopy sessions, a valuable adjunct to Radiology at that time. He also introduced gastric biopsy which had been pioneered at Royal Melbourne Hospital.

By 1949 all the new Honourary Outpatient Physician appointments had been completed. The team consisted of Professor Andrew and Drs T.H Steel, H.B Kay, D.S Duffy and P.J Parsons. Professor Andrew played a significant role in welding the team together. Initially they used to meet once a month for lunch on Thursday's to discuss current Hospital problems but as the demands of private practices grew, these meetings were no longer possible.

When Monash University received its charter in 1958, Professor Andrew was nominated as the medical member of the Interim Council, representing the Alfred Hospital Honourary Medical staff. He was later appointed to the permanent Council and full-time Dean of the Faculty of Medicine. As Dean he established an excellent medical school with Alfred and Prince Henry's Hospitals as the first teaching hospitals and others in due course.

He was also appointed to the Baker Institute's Board and developed an intense interest in its research facilities. Subsequently the institute, lead by Dr T.E Lowe and later by Professor Korner, formed a close association with the Monash University Medical School.

On retirement from the Deanship in 1976, Professor Andrew continued in medical education when he accepted an appointment as Director of Post graduate Medical education at Cabrini Hospital. One of his interests at this stage was the use of private patients for undergraduate teaching. Groups of Alfred students took part in this early trial, which was a great success.

Professor Andrew was also associated with the introduction of monthly lectures on common medical problems for members of staff and visiting practitioners, which were well-attended and continue today. He arranged medical review programs which helped the hospital gain accreditation in the early days and also played a main role in establishing its endoscopy unit.

His interests extended far. He was director of the Australian-American Educational Foundation from 1964-1976 and its chairman from 1970 to 1976, following the Fulbright scholars throughout their careers. His long-standing friendship with US Senator William Fulbright came from their joint disapproval of involvement in the Vietnam War. He was signatory to a published letter challenging a judicial hanging in 1962, and to another letter in 1972 calling for the end of the government of that day - although he battled with the new Labour Government on funding for research. He served on the board of the Australian National University and worked on plans for a new medical school in the ACT.

When he retired from Cabrini in 1986 he turned his energies to the Baker Institute. He initiated and edited the Baker Institute News (BIN), a quarterly publication of Baker Institute and alumni news.

He continued to be an avid reader not only of current medical literature but also wider scientific and arts subjects. In addition to his BIN editorial he regularly contributed two columns: Bower Bird (news snippets) and Books and Browsing (short book reviews).

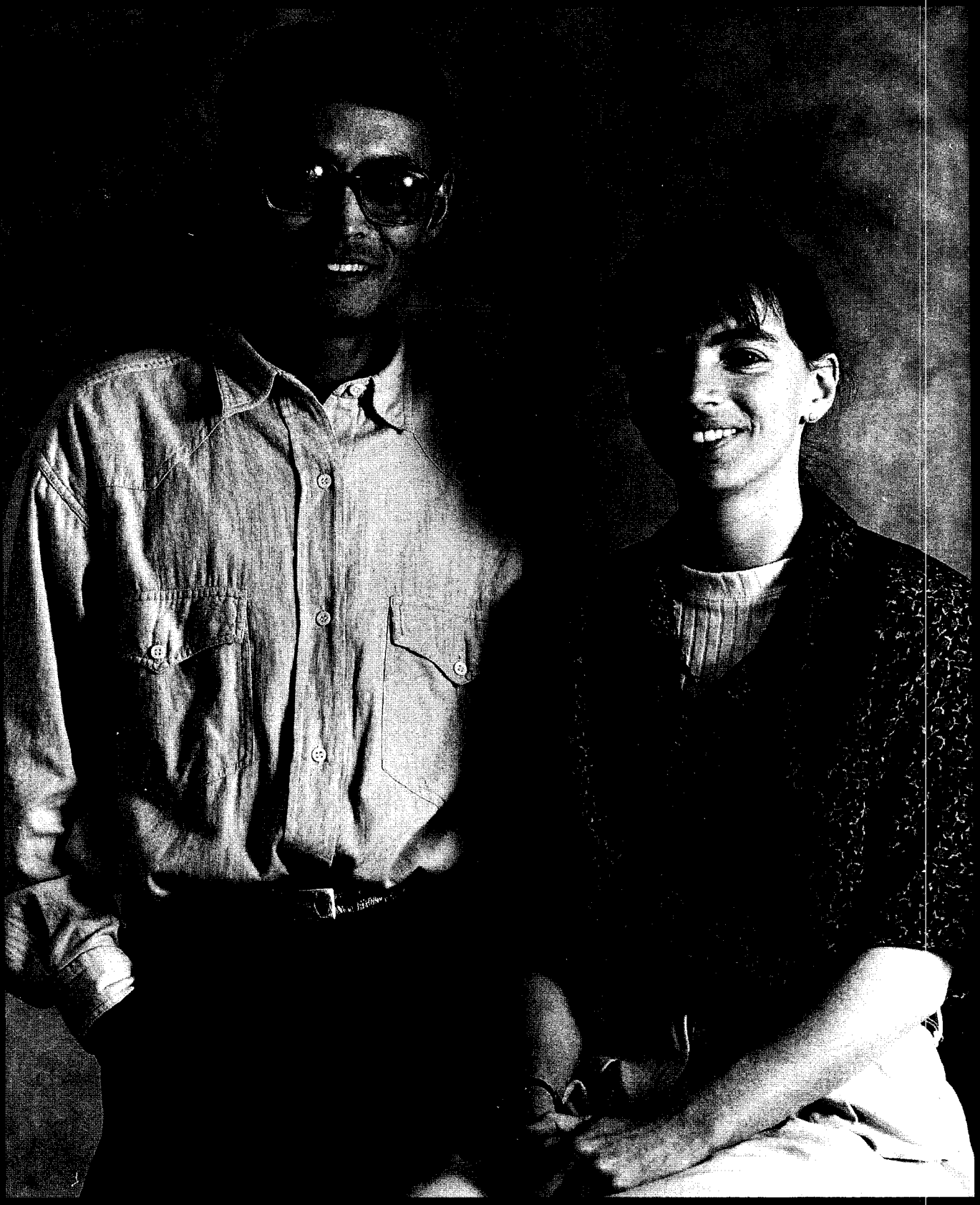
Professor Andrew was also the Baker archivist. In 1992, in collaboration with Dr Alf Barnett, he published *In Their Day*, a collection of memoirs of Baker alumni. In 1993 the Institute inaugurated the Rod Andrew prize in his honour.

His health slowly declined. He suffered two myocardial infarctions and was under treatment at Alfred. He made a good recovery and continued his interests although over the past three years, his cardiac function decreased. He declined an operation until January 1994 but in view of the severity of his arterial disease he died in the post-operative phase while still in Cabrini Hospital.

Professor Andrew's intense thirst for knowledge in the fields of medicine, research, art and literature was reflected in a prodigious intellect and comprehensive interest in all fields of endeavour.

As quoted in the Monash University Council tribute to him: Few such energetic, articulate, idealistic, stimulating and sophisticated gentlemen of medicine exist, Rod Andrew had all the personal qualities which are included within the term leadership.

The above obituary was written by Peter Parsons and Ted Kay, colleagues of Rod Andrew's at the Baker and elsewhere, and was first published in the Alfred Hospital Newsletter. We are grateful to Ted, Peter and the Hospital Public Relations Department for permission to reprint it in our Annual Report.



Dr. Xiao-Jun Du (universally just 'Du' it), came to the Baker via a medical degree in China and a PhD in Glasgow, with Karen Anderson, winner of the Rod Andrew Prize for the best student presentation of 1993.

If not enough blood can get down a coronary artery you get angina. Usually angina comes when the person makes demands on his or her heart, and the coronary artery is partially blocked. If the artery becomes more blocked (a coronary occlusion), so that there is not enough blood to supply even a resting heart (to the extent to which the heart can ever rest), you have a heart attack, with death of muscle tissue (a myocardial infarct).

Many people who have heart attacks survive, with the area of dead tissue scarring over. Others, unfortunately, die immediately, or in the first few days after their heart attack, not because there is not enough muscle left to pump, but because the normal rhythmicity of pumping is suddenly altered. Such people commonly have what is called ventricular fibrillation, so that instead of purposefully pumping 70 or 80 times a minute, the heart twitches rapidly and totally ineffectively, 300-400 times per minute.

To prevent the onset of ventricular fibrillation would thus be an enormous advantage of heart attack patients, allowing them time for a scar to form. Currently a number of drugs have been tried as anti-arrhythmic agents, with none being particularly useful. Very recently, a collaborative study done between Dr. Elizabeth Woodcock's Cellular Biochemistry Laboratory at the Baker, and Dr. Tony Dart's group at the ABMU, has pointed the way towards the development of an entirely new class of antiarrhythmic agents.

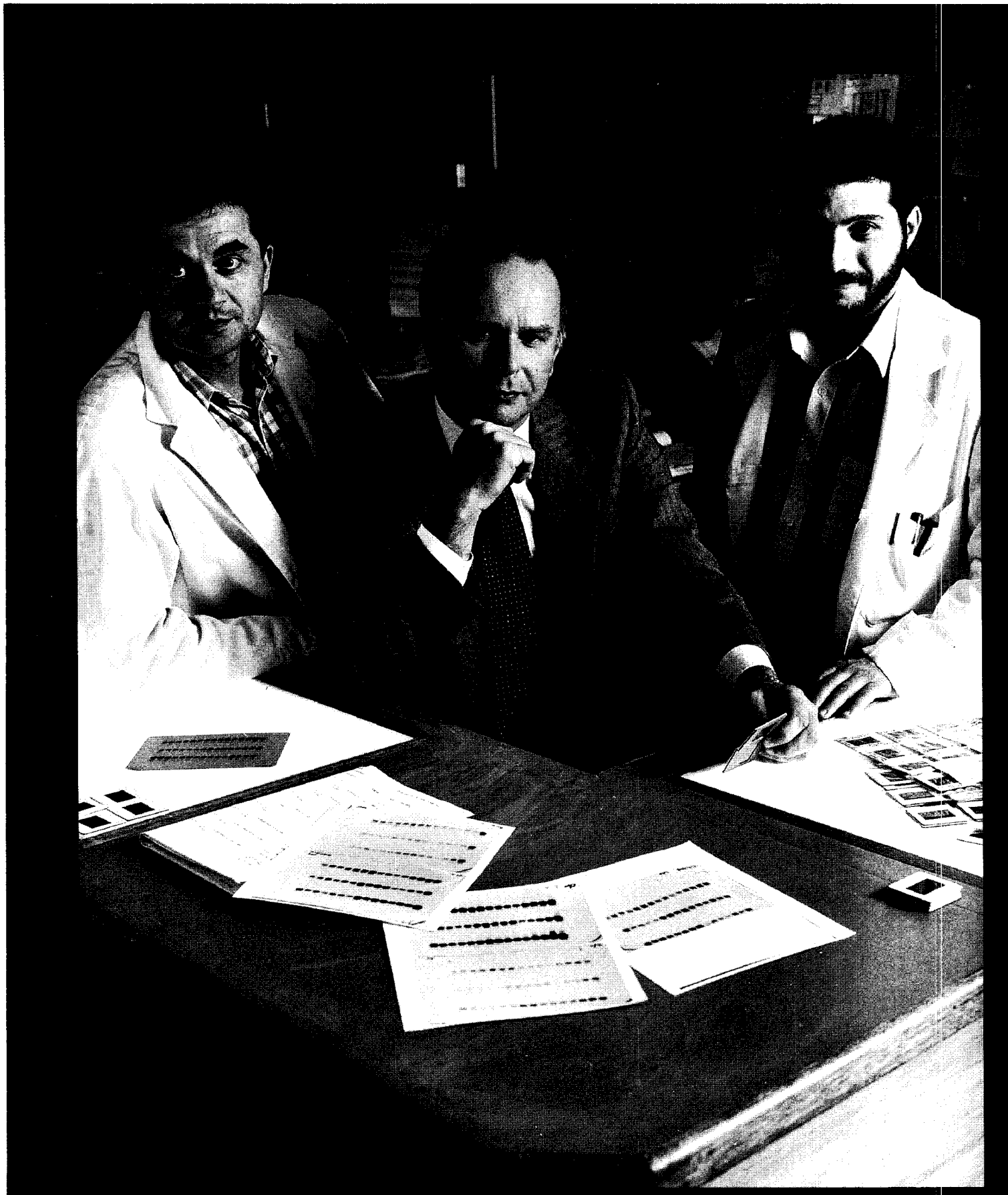
In heart muscle, as in other tissues, cellular responses (in the case of heart muscle, orderly contraction) occur in response to particular signals. Some of these signals are from outside the cell (like nerve impulses, or hormones); others are within the cell, and serve to get the various parts of the cellular machinery working in step. Among these intracellular signals is Inositol (1,4,5)trisphosphate (IP3). In many tissues IP3 acts to release calcium from intracellular stores, to propagate the activation signal; in the normal heart its physiological role is not entirely clear.

What does appear clear, however, is its role in what is called 'reperfusion injury', the genesis of arrhythmias. Karen Anderson and Xiao-Jun Du take rat hearts, connect them up to a miniature perfusion and oxygenation apparatus, and then tie off the left coronary artery for 20 minutes. When the tie is loosened, and oxygenated solution reperfuses the heart, there is a spike in IP3 release, and at the same time (1-2 minutes of reperfusion) most hearts develop arrhythmias.

The fact that two things occur at the same time does not prove that one is responsible for the other; correlation is not causation. It has long been known that neomycin, a venerable antibiotic, can block the generation of IP3. So Karen and Du repeated their studies, in hearts pretreated with neomycin at various concentrations before the artery is tied off. Now the answer is clear: a progressive reduction in IP3 release with increasing doses of neomycin, and with it the abolition of ventricular fibrillation.

Now neomycin is still used for topical (external) application, and sometimes given to patients before bowel surgery to sterilize the gut. It is not absorbed from the gut, which is just as well; if it does circulate the bloodstream, it can cause deafness, which nobody particularly likes as a side-effect. So if there is to be a new anti-arrhythmic drug, it probably won't be neomycin itself, a new use for an old drug.

Neomycin is one of a class of compounds called aminoglycosides, and the probability is that the synthetic chemists will be able to come up with another aminoglycoside, better than neomycin as an anti-arrhythmic agent, but which will not affect the ears. This is some distance down the track: but the foundations have been laid (and the concept patented) by this outstanding example of collaboration between basic and clinical research workers at the Institute.



Dr. Alex Agrotis (L) and Dr. John Saltis (R), with Dr. Alex Bobik, Head of the Cell Biology Laboratory at the Baker.

We tend to think of blood vessels as just being there, like the water supply - big pipes like the aorta, dividing into arteries supplying various organs, then arterioles - where most of the control of blood pressure takes place - and finally the capillaries. In the capillaries oxygen and nutrients diffuse out, and carbon dioxide and waste products diffuse in.

The whole process is very fast - a red blood cell will spend only a second or two in a capillary, and the next 50 seconds or so into the venous side of the circulation, back to the heart, into the lungs, and so on. This is one time-frame in the circulation, just like the immediate response when we turn a tap on.

But for the circulation, as for our water supply, there are other, longer time dimensions which are important. Neither system is static. New customers need to be connected to the water supply, and pipes clog up. In the circulatory system, vessels can be constricted in response to nerve or hormonal signals, or like pipes they can clog up.

In either case there is an obvious need for new pipes, new blood vessels. Alex Bobik's Cell Biology Laboratory in the Institute studies the way in which new blood vessels arise, in response to various stimuli, a process called angiogenesis.

In particular, they look at how various growth factors affect the smooth muscle cells of the walls of arterioles, the small arteries which are collectively the most important factor in determining blood pressure. They do this directly, by growing vascular smooth muscle cells in culture, and determining the ways in which they respond to a range of growth factors when these are added. They also do it indirectly, by taking different strains of rats as experimental animals, and again comparing the responses of cultured vascular smooth muscle cells.

In Japan almost thirty years ago Professor Okamoto bred rats for twenty generations, and systematically mated pairs of rats with blood pressures at the high end of normal. Gradually he developed a strain of rat called the Spontaneously Hypertensive Rat (SHR), which is both hyperactive and has elevated blood pressure. Subsequently an even more hypertensive version has been produced, the stroke-prone SHR; even more recently, by another selective breeding program, vascular the high blood pressure and hyperactive traits have been separated.

These SHR are widely used in the Cell Biology Laboratory, to dissect the differences between hypertensive and normotensive rats in terms of angiogenesis. Although the condition is a genetic one, SHR gradually develop high blood pressure as they mature: are there differences in growth factors, or growth factor receptors, in vascular smooth muscle cells even before the blood pressure rises? If the blood pressure is kept down, by giving the sort of drugs used clinically to lower blood pressure, do the differences in growth factors and receptors persist, or revert to normal?

The control of blood vessel development and size is important not only in long-term blood pressure control, but also in a host of other situations. The process is crucial in normal development: abnormalities in angiogenesis during development can range from 'birth marks' to aneurysms (weak, bulging areas of vessel wall). Angiogenesis is also part of the development of 'collaterals', where an artery is narrowed, and arterioles and capillaries from neighbouring arteries take over the local blood supply. Very importantly, angiogenesis is crucial to how cancers grow: like normal tissue, they have to have a blood supply.

Over the past two decades, various areas of medical research that seemed quite disparate have come together, largely reflecting the common techniques of cellular and molecular biology. Angiogenesis is a striking example of such a convergence. The work that Alex Bobik, John Saltis and Alex Agrotis are doing on SHR is directed towards high blood pressure; but eventually, it may also contribute to our understanding of normal development, how cancer spreads, or how collaterals can limit the damage after a heart attack.

Dr. Murray Esler, physician, teacher, Susman Medallist, Wellcome Medallist and clinical investigator par excellence.

In this increasingly ecologically conscious world we hear a lot about endangered species. Such species can be found in research, as well as on the reef or in the rain forest, and they are called clinical investigators. Professor Murray Esler is a clinical investigator.

More and more medical research is being done by people whose primary training is in the biological sciences, rather than in medicine. Most medical doctors are in practice: and of those who do research, an increasing number do basic research - on cell extracts, and sometimes whole cells, and even occasionally on mice and guinea-pigs.

The reasons are really pretty clear. Lawyer jokes aside, studies done on cells or mice are usually simpler, easier and 'cleaner' than studies on patients or normal volunteers. People go into research to find things out: and the further you are away from patients, the quicker (and less ambiguous) the results of your studies are likely to be.

There is, of course, a problem in this - that whereas we can get all sorts of clues and insights and feelings of high probability from cell extracts or guinea-pigs, we've really got to see how it stacks up in the human organism. This is what Murray Esler does - to take the work of the basic biochemists and physiologists and pharmacologists, and to study in real live people how their nerves work, in high blood pressure and (more recently) in psychiatric illnesses.

What Murray does is to put cannulae (tubes) into all sorts of arteries and veins, and very fine needle electrodes through the skin, into superficial nerves in the arm or leg. We knew that people with high blood pressure tend to have more noradrenaline in their bloodstream, released from overactive sympathetic nerves constricting the blood vessels; from Murray's work we now know the particular organs - kidney, heart, etc which contribute most to this vasoconstrictor (blood pressure raising) response.

And it's not confined to blood pressure. Murray studies people in heart failure, who sometimes have particular difficulty getting blood to various organs, and people who have undergone cardiac transplantation. He also looks at the 'spillover' of noradrenaline (and similar neurotransmitters) from the brain into the jugular veins on each side of the neck.

Just as people are right handed or left handed, in most of us one jugular vein tends to drain the cerebral cortex (the 'thinking' part of the brain) and the other mainly the deeper brain structures, the subconscious or autonomic control areas. In patients with depression, and some other psychiatric conditions, there is evidence for abnormalities in levels of neurotransmitters, and the ratio of the various chemical products of brain activity: and Murray, with his patients bristling with cannulae, and his high performance liquid chromatography systems for measuring neurotransmitters in blood, is ideally positioned to find out exactly what it means.

Some people think that all medical research can be done on computers or cells, which is just not true. You can do a lot, but you can't tell how the cells behave in tissues, how the tissues interact with one another, how the whole thing works as a healthy (or not so healthy) body. Some people think that if you add mice or guinea-pigs you can cover all those deficiencies. You can cover them, but only up to a point. People are different from mice or guinea-pigs, and if we are to prevent disease, and to treat it optimally when it does occur, we need to know how the human body works, both in health and disease. This is clinical investigation; and however endangered it may be, it is people like Murray Esler who will make sure it survives.

The Vascular Biology Laboratory in reflective mood. Dr. Michael Berndt, the Laboratory Head, is lower centre; from there, in clockwise fashion, are Miss Carmen Llerena, Ms Tanya Bysova, Dr. Robert Andrews, Dr. Simon Harris, Dr Alexey Mazuroz, Dr. Chris Ward and Mariagrazia De Luca.

If you asked people at the Baker how they would describe themselves, there would probably be several dozen different answers. Michael Berndt, head of the Vascular Biology laboratory, calls himself a protein chemist: and he will often add "trained in Brisbane by Burt Zerner, the best in the country".

The year that he came to the Baker, Michael was awarded the Boehringer Medal by the Australian Biochemical Society, and the R.T. Hall Prize by the Cardiac Society of Australia and New Zealand. These awards are not lightly won, testimony to the quality of his work: that they were awarded to the same person underlines just how interwined the various disciplines that contribute to cardiovascular research in fact are.

Michael's area of protein chemistry at that time was primarily the area of blood clotting. Clotting is an extraordinarily complicated system, for good reason: if we clot too readily, we will die of thromboses or emboli; if we don't clot when we should, we bleed to death.

To make sure that the system is well-regulated we have developed a cascade of reactions - A causes B, B causes C, and so on. Central to the process of forming a clot are the platelets, small suicide packets that circulate in the blood, which when alerted by an unfamiliar structure or surface release their contents and in various ways contribute to forming a plug or clot.

Similarly, there exists circulating in plasma a protein called fibrinogen, which as its name suggests is the precursor of fibrin, the protein responsible for the latticework scaffolding on which a clot forms. Fibrinogen is soluble, and thus can circulate in solution in the blood; when the alarm is raised, and a clot required, the end of the soluble protein is snipped off by an enzyme, and what is left becomes very insoluble and sticky, properties that enable it to form a dense mesh which traps cells, contracts and forms a clot.

This is the sort of protein chemistry that Michael and his team do - not just platelets and fibrin, but in addition some of the historically named factors - for instance, von Willebrand's factor - and receptors for such factors. How is this relevant to cardiovascular disease? Put simply, another phrase for heart attack is coronary thrombosis. People get heart attacks, or myocardial infarcts, because a clot forms in a coronary artery supplying the heart muscle.

It's thus perhaps not surprising that since coming to the Baker Michael and his team have also made a very substantial contribution in another area - that of inflammation, and in particular how white cells roll on the blood vessel lining.

At first sight, this might also seem improbable - isn't inflammation boils, and carbuncles, and infection? And cells rolling somehow a joke ("What does a billiard ball do when it stops rolling? "Looks round")? But it's no joke: the rolling white blood cell is an integral part of the process of atherosclerosis, and the clot that eventually kills someone who dies of a heart attack inevitably forms over a part of the vessel with atheroma in the wall - and very often, where the atheroma burst through into the vessel cavity.

So many aspects of the process of atherogenesis are in fact part of an inflammatory response - not to bacteria, but to the presence of inappropriate fat-laden cells in the vessel wall. Other laboratories in the Institute are also working on other aspects of the inflammatory response - for example, the laying down of fibrous tissue in the heart generally, and around coronary vessels.

In various ways, then, the processes of inflammation and blood clotting - which might have been thought the province of the infectious diseases physician, or the haematologist - are central to understanding many of the central processes in diseases of the heart and blood vessels. We are fortunate to have the Vascular Biology Laboratory to play a leadership role in this area.

Cathy Wallace (L) started working with John Funder as a school-leaver, almost fifteen years ago. Dr. Becky Lew (PhD, University of Virginia) came to Australia four years ago, and has been working with Ian Smith since then.

In the Peptide Biology Laboratory Dr. Ian Smith and his colleagues are interested in several enzymes, and the way that they can modify proteins that are important in the body. Some of these may be important in terms of the heart and blood vessels, and some in other ways. Around the blood vessels supplying the pituitary gland, for example, we have an enzyme called EC 24.15, for which we think we know at least one very important function. In the heart Dr. Rebecca Lew has found high levels of another enzyme, PAM - and we're still trying to find out what it does.

The pituitary gland, at the base of the skull, receives its messages from the brain in a very unusual way. Nerve fibres run from a variety of different cells in an area of the brain called the hypothalamus, down to a junctional area between the brain and the pituitary called the median eminence.

In addition to the nerve endings, the median eminence has a whole leash of tiny blood vessels - capillaries - flowing through it. The nerves, when stimulated by signals from the brain, secrete into the space around the capillaries the particular 'releasing factor' that they make. The capillaries form into a vein, and then break up once again into capillaries to allow the releasing factors to diffuse out and bind to receptors on pituitary cells, and cause the release of pituitary hormones into the general blood stream.

Now it's a fact that releasing factors are not secreted continuously into the median eminence, but as regular very sharp spikes. Women with hypothalamic amenorrhoea (no periods because the hypothalamus does not work properly) can ovulate if they wear a pump that gives them a shot of luteinizing hormone releasing hormone (LHRH) every 90 minutes, but not if it is constant. LHRH is normally made in the hypothalamus, and stimulates the pituitary to release a hormone which causes the ovary to develop and release a mature egg.

What EC 24.15 does in the median eminence is to make sure that the burst of releasing factor produced by the nerves is seen by the pituitary as a spike, rather than as a broad curve. We need a 'swampy' median eminence to make sure that the capillaries can all take up the same amount of releasing factor; the EC 24.15 molecules outside the blood vessels are like alligators in a swamp, in that they gobble up anything that doesn't promptly get across to the other side. So in the median eminence, EC 24.15 acts to sharpen spikes - of LHRH, and probably of CRF (corticotropin releasing factor), produced in stress, and possibly GRF (growth hormone releasing factor) produced in response to exercise, and so on.

The heart is different: it has high levels of PAM, an enzyme which puts a 'stopper' amide group on the end of a peptide - but we don't know what peptide in the heart is the subject of its attention. This process of 'C-terminal amidation' has a number of implications. It very much protects a peptide from attack by enzymes in the blood stream, and degradation. A very large number of peptides-for-export (i.e. hormones) are C-terminally amidated, to protect them as they circulate, and to give them a long time of action as messengers.

A decade ago, the heart was shown to secrete a hormone called atrial natriuretic peptide, or ANP, which is not C-terminally amidated. PAM is at higher levels in the heart than anywhere else in the body: why? Dr. Becky Lew and Mrs. Cath Wallace believe that it may be there to amidate a second heart hormone. They have set out to find out what it might be, and then what it might do, and then how it affects the heart and circulation on health and disease.

From Moscow to Melbourne: Dr. Olga Korchazhkina and Dr. Steve Richards (PhD, University of Tasmania) bring the insights of biophysics and biochemistry to questions of how to protect the heart at surgery.

When we think of heart surgery, we tend to think of operating theatres, and gowned figures around the patient. We often forget the other things that make a successful outcome possible - prevention of spasm and arrhythmias in coronary artery graft surgery, preservation of the donor heart and prevention of rejection in cardiac transplantation.

What Olga Korchazhkina and Steve Richards do is to study cardiac metabolism, in health and more specifically in disease. Unlike the muscles in our arms and legs, heart muscle has to work all the time: there's no cardiac equivalent of 'putting your feet up'. What this means is that the heart has particular requirements in terms of the fuel it uses to sustain this activity.

It is now also clear that even more particular demands are made on the remaining cardiac muscle after part of the heart wall has died following a coronary artery occlusion. This makes surgery after such an episode much less routine than normal, but it is not currently clear what can be done to protect the remaining cardiac muscle.

Steve Richards is a postdoctoral fellow working with Bob Conyers, the Clinical Biochemist at the Alfred Hospital responsible for the biochemical tests done on all the patients. One of the strengths of our public hospital system is that the medical staff are encouraged to involve themselves in teaching and research, in addition to their clinical duties. Bob is an Associate Professor at Monash, recognition of his role as a teacher, and heads the Cardiac Metabolism research laboratory at the Baker.

Olga Korchazhkina spent 1993 working with Frank Rosenfeldt in the Cardiac Surgery laboratory at the Institute. Her laboratory chief in Moscow, Dr. Oleg Pisarenko, spent three months at the Baker in 1991 working with Frank on optimising conditions for maintaining donor hearts before transplantation. On his return, he and Frank arranged for Olga to come for a year's postdoctoral training, to maintain 'the Russian connection'.

Olga's first degree was in physics, pure and simple. She then proceeded to studies in biophysics, and finally to do her PhD in physical biochemistry, asking questions about the chemistry of energy utilization in heart muscle cells, using the techniques of modern physics. We're not physicists at the Baker, so that someone with Olga's background brings a very new and very useful perspective to the area of cardiac metabolism.

There are a number of reports - largely from the Eastern European literature - that providing added amino acids, particularly one called aspartic acid, can be of considerable benefit to patients undergoing cardiac surgery, especially if the heart has been compromised in some way, for instance by a previous heart attack. There seems to be quite good evidence that it may work - but nobody knows how it is 'cardioprotective', and what particular features of the battle-scarred heart aspartic acid is good for.

And so Olga and Steve operate on rats, and tie off one of their coronary arteries to simulate a human heart attack. They then feed them ordinary diets, or diets supplemented with aspartic acid or other candidate cardioprotective agents. After different recovery times, they take the hearts, and test them in various ways - by establishing out how well they pump, how well they can stand a repeat episode of oxygen deprivation, and how the protected and unprotected groups differ in terms of biochemical analysis.

Not surprisingly, very few people have surgery on healthy hearts. Normally, there is a history of severe angina, and often of a heart attack. Such hearts tend to do poorly at surgery, for reasons that are still unclear. At the end of Olga and Steve's studies is the prospect of being able to provide a safe and effective cardioprotective agent, given at an optimal dose for the optimal time, both before and after surgery. Aspartatic acid may be a useful lead, but there are almost certainly better agents waiting to be found. Finding them needs painstaking, methodical work; and it's people like Steve and Olga who eventually are going to provide the answers.

New Faces of 1993, and some older ones. One of the facts of student life is that it is impossible to get all of them together at the same time, even for a party, let alone a collage. Shown here are 18 of the 34 students enrolled in 1993 for BSc Hons, BMedSci, MSc or PhD degrees.....

The Baker is a medical research institute, as its name very clearly states. Not unreasonably, its prime responsibility is research, but as an institute it also has other concerns. Some of the staff are very much involved in patient care, and others in bioethics or animal welfare; a number hold positions of responsibility in professional organisations at the national or international level.

But what is clearly second only to research for all the senior investigators in the Institute is teaching. Most of the senior staff - and some of the more junior staff - give undergraduate lectures, at Monash and elsewhere; the bulk of the teaching, however, is not lectures but hands-on apprenticeships, of developing graduates into trained, questioning research workers.

The students are the life blood of a research institute. From BSc, usually with a good proportion of credits and distinctions, they do a preliminary BSc (Honours) year. There are some lectures and seminars, here and on campus, one day a week, and four (or five, or sometimes even six) days in the laboratory. There are essays and reviews to write, and a 'minor thesis' (15,000 words) to write. At the end, the BSc Honours student knows whether or not he or she wants to go on to do a PhD.

Usually the students get a scholarship - Commonwealth, National Heart Foundation, Monash or Baker - to support them for the three years a PhD takes. It really is an apprenticeship: you have to learn how to do research, just as you have to learn how to do brain surgery or ballet. You have to have the aptitude, true: but there's no substitute for practice, and training, and repetition.

When medical graduates do a PhD in some ways it can be harder. They are often considerably older, which is usually an advantage; on the other hand, they usually are ten years or so from their undergraduate basic science studies, and a lot of things have happened in the last decade. They are also usually highly clinically competent, and having to start right back at scratch in the laboratory is sometimes initially a frustrating experience.

In summer each year the Institute seems to swell, with the student numbers almost doubling. Come the end of undergraduate exams, and twenty or so vacation scholars come for six or eight weeks work experience in the laboratory. The National Heart Foundation and the Anti-Cancer Council of Victoria offer a limited number of vacation scholarships: most of our scholars are supported by the Institute as an investment in our future, and that of medical research in Australia.

Whereas a vacation scholar in a sense only gets a taste of research, for the honours and PhD students it's increasingly the real thing. It used to be that a student would be given a project, would write a thesis presenting and discussing the results, and then the supervisor would decide whether or not some part of the work should be written up for publication in a quaintly termed 'learned journal'.

This is the case no more. The work that an honours student does is normally presented at a scientific conference, and preferably in addition published in an international journal. For a student doing a PhD, publications are more or less mandatory. If the student is to proceed in research, potential employers need to be able to see what he or she has achieved: the days of "So and so is really a very talented chap, and wrote an excellent thesis" are mercifully gone.

So even though this essay opened with the statement that research is the primary aim of the Baker, and teaching the next most important thing we do, on a day to day level the distinction is blurred. The students are our hope for the future, and without their presence the Institute would a be far lesser place.

Top Left to Bottom Right: Ms Bobbie Renard, Mrs Gwen Mueller, Mrs Beverlie Asprey, Mr Colin Lawson, Mr Falk Hannenmann, Mr Damian Lee, Mr Jim Kirkas, Ms Cathryn Speck, Ms Juile Simpson, Mr Dwayne Sutton, Mr Chris Lewis, Mrs Clara Chan, Mrs Sue Smith, Ms Jan Morrison, Mr Jim Ricketts, Ms Carolyn Voight, Mrs Judy Segal, Ms Montse Barber, Mr Adrian O'Brien, Mr Bryan Quinn, Mr Chris Lekos, Ms Raewyn Laing (seated), Ms Debra Ramsey, Ms Corina Backhouse, Mrs Judyann Hocking, Mr Paul Karis, Ms Liz Langskail, Ms Joedy Driscoll, Ms Kim Hauser, Mr Neil Potter, Mrs Rachel Ritano.

When we think of research, we think of laboratories, and scientists and technicians in white coats. Without laboratories and scientists you can't have medical research; on the other hand, they can't stand alone. When people can't stand alone, they need support. At the Baker our support staff keep the scientists and laboratories going.

The institutional memory of the Baker is Chris Lewis, who started over twenty years ago as a laboratory technician, and has variously progressed through photography, accounting and storeman to his present very appropriate designation as Site Manager. Chris is responsible for ordering, for supplies, for stores....and for the myriad of other things that are nobody else's particular job. Debbie Ramsey heads a team of nine young people responsible for the Biological Research Unit, the animal house for the Institute and the Alfred Hospital. It's not a nine to five job; people there work seven days a week, fifty-two weeks a year, with Deb or her deputy Kim Hauser on call on alternate nights. It's a labour of love, and the Institute is well served by the commitment and dedication of the BRU staff.

Any institution of 150 people needs a Financial Controller, and we are fortunate to have Adrian O'Brien in this position, assisted by Bryan Quinn as Accountant, with our Accounts Payable Clerk Montserrat (Montse) Barber lending a flavour of Catalonia to an otherwise all-Irish cast. If this trio watches how we spend your money, the innocently named Community Relations Department, headed by Bobbie Renard, is perhaps even more concerned with how we raise it, particularly from our private and corporate supporters. Bobbie, Gwen Mueller and Beverlie Asprey work tirelessly and very effectively for the Institute, and have formed a very successful team despite the difficult economic times.

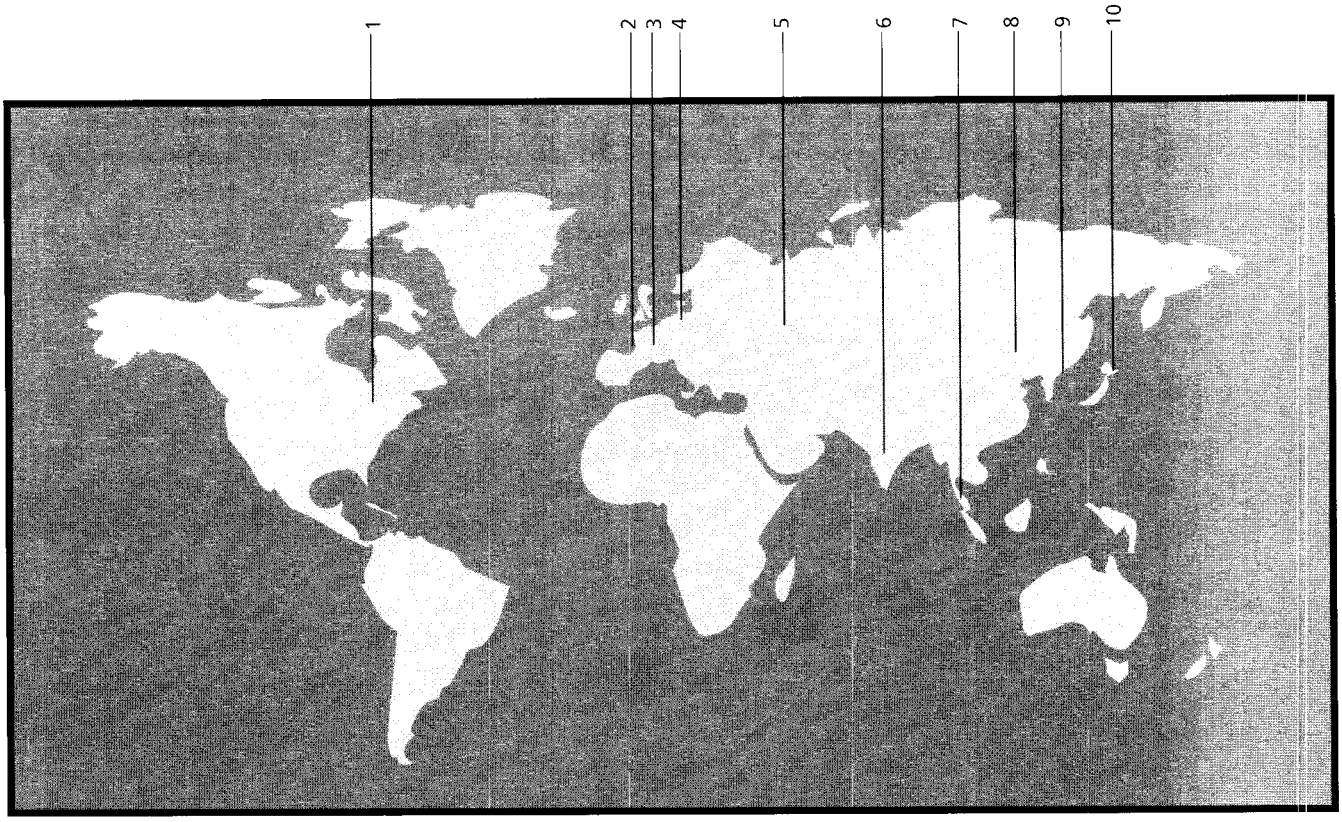
Throughout its history the Baker has been at the forefront of instrumentation: for example, the first cardiac catheters in Australia were done over forty years ago at the Institute. Currently the workshop is the domain of Falk Hanneman and Colin Lawson, who design and fabricate specialist equipment, and repair whatever goes wrong in the place. Much of the instrumentation is increasingly dependent on computers, as are many of the other activities of the Institute: responsibile for the fifty computers, hardware and software, is Jim Ricketts.

Front of house are Julie Simpson and Rachel Hickey, who greet visitors, run the switchboard, and juggle demands for typing. Sue Smith is a model of quiet efficiency as the Director's secretary, as is Jan Morrison as secretary to the Deputy Director. The job description of the Institute's photographer, Neil Potter, has become increasingly complex over the years, a challenge he has accepted with relish. Cathryn Speck has transformed the library, physically and in terms of recognition of its central role in the Institute.

Judy Segal watches over it all, as Administrator. Her primary responsibility is for staff matters, from advertising for vacant positions to arranging accommodation for overseas visitors, from writing the Institute employment manual to chivvying recalcitrants who overaccumulate annual leave. In her spare time, she acts as minutes secretary to the Board of the Institute.

An institution like the Baker can only thrive if it does good science. It can only do good science if the people in the laboratories have good ideas, and the wherewithal to follow them up. Making sure the wherewithal is there is the province of the support staff, and it is a job they do supremely well. It is clearly not possible to give an account of every job, and of each person in the team. Suffice it to say that the Baker is fortunate to have people of such dedication and commitment, as an integral part of the total Institute team in 1993.

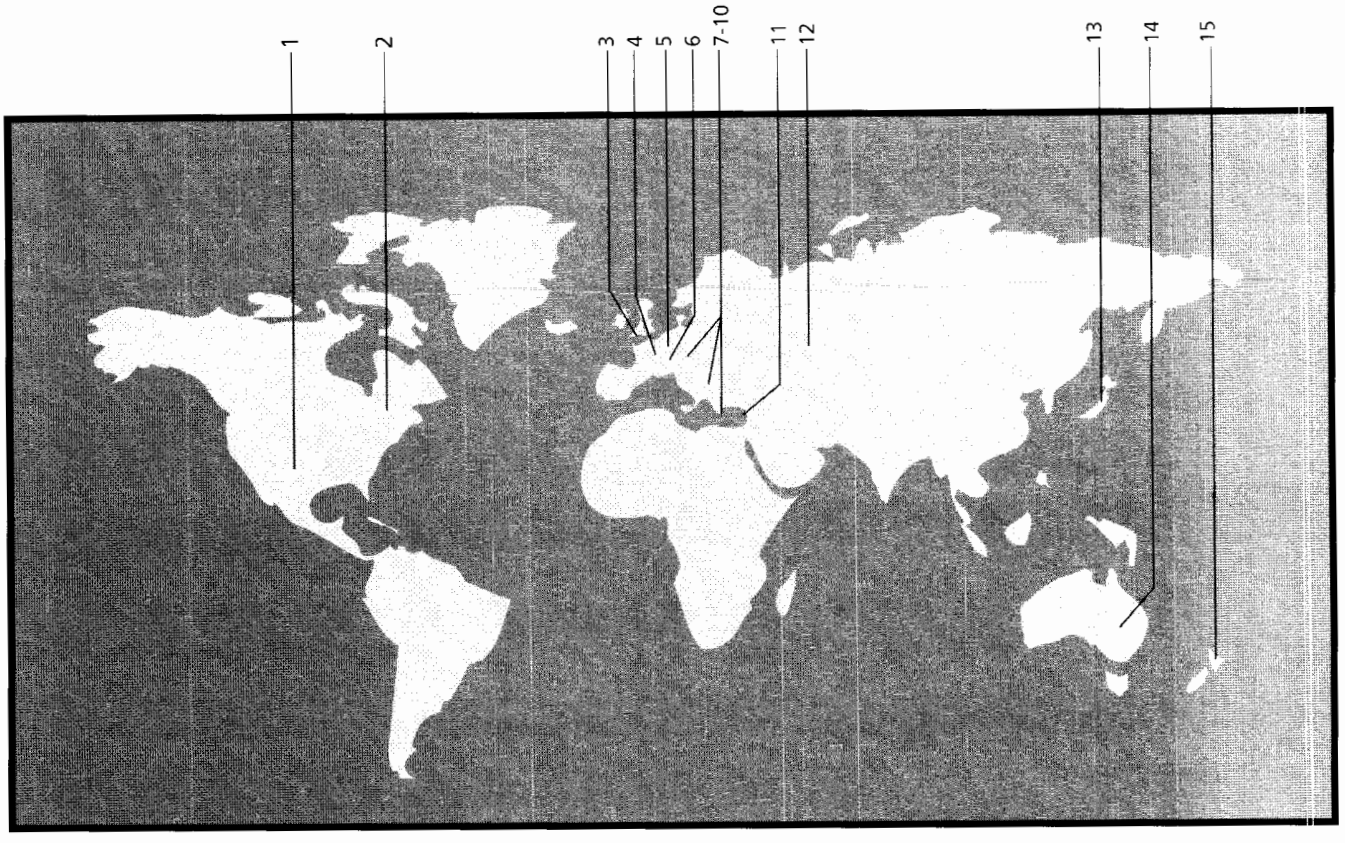
Our World Health role...



1993 - Visiting scientists at the Baker Institute

1.	Dr. Patricia Provencher	Quebec, Canada
2.	Prof. Claude Lutton	Orsay, France
	Dr. Frederic Sannajust	Tours, France
3.	Dr. Martin Wehling	Munich, Germany
	Dr. Roland Schmieder	Nurenberg, Germany
4.	Prof. W.Henry Trzeciak	Poznan, Poland
5.	Dr. Anatoly Krushinsky	Moscow, Russia
	Dr. Ivan Cheglakov	Moscow, Russia
	Dr. Dimitry Vinogradov	Moscow, Russia
	Dr. Olga Korchazhkina	Moscow, Russia
	Dr. Dmitri Sviridov	Moscow, Russia
6.	Dr. Mario Vaz	Bangalore, India
	Dr. Sudhir Wahi	Chandigarh, India
7.	Mr. Kamaruzaman Hasan	Kuala Lumpur, Malaysia
	Dr. Zainuddin Wazir	Kuala Lumpur, Malaysia
8.	Dr. Xiao-Jun Du	Beijing, China
9.	Mr. Joung Han-Duck	Kyunggi-Do, Korea
	Dr. Il Suk	Seoul, Korea
10.	Asst. Prof. Keizo Ohmori	Saga, Japan
	Dr. Tsutomu Kaetsu	Tokyo, Japan

and where we went to tell the news



1993 - Seminars, meetings and lab visits by Baker staff

1. Anaheim, Atlanta, Bethesda, Boston, Chicago,Cleveland, Gainesville , Las Vegas, Los Angeles, Memphis, New Orleans, New York, Palo Alto, Philadelphia, San Diego, San Francisco, Seattle, St. Louis, Washington D.C.
2. Edmonton, Montreal, Quebec City, Sherbrooke
3 Birmingham, Bristol, Cambridge, Edinburgh, Glasgow,London,Manchester Newcastle, Oxford
4. Orsay, Paris, Strasbourg, Toulouse
5 Amsterdam
6. Lausanne, Appenburg, Basel, Bern
7 Berlin, Darmstadt, Frankfurt
8. Milan
9. Vienna
10. Athens
11. Haifa, Jerusalem
12. Moscow
13. Fukuoka, Tokyo
14. Adelaide, Brisbane, Cairns, Caloundra, Canberra, Coolum, Hobart, Lorne, Melbourne, Noosa Heads, Sydney
15. Auckland, Christchurch, Dunedin, Queenstown

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Deputy Director
Dr W.P. Anderson, BSc (Hons) (UNE), PhD (Adel)

Associate Director,and Director, ABMU
Professor G.L. Jennings, MD (Mon), MBBS (Mon), FRCP, FRACP

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Ms C.J. Thomas, BAppSc (RMIT)
Mr S.Fitzpatrick, Assoc Dip (Animal Technology)

Visiting Scientist
Dr A.J. Rankin, BSc (Hons) (Cardiff), PhD (Leeds)

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CARDIAC SURGICAL RESEARCH UNIT

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Dr M. Rabinov , MBBS (Mon), PhD (Mon), FRCS, FRACS

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Mr S. Britnell, BSc (Hons) (Mon)

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Visiting Scientist
Ms O. Korchazhkina, BSc (Moscow), PhD (Moscow)

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Dr J. Wong, MBBS (Melb), FRACP
Miss A.L. Niklaus, BAppSc (RMIT)

Visiting Scientists
Dr I.B. Cheglakov, MS, PhD (Cardiology Research Centre, Moscow)

CELLULAR BIOCHEMISTRY LABORATORY

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Dr M. Fitzgerald, PhD (UWA)
Miss S. Land, BSc (Mon)

Research Student
Miss K. Anderson, BSc (Hons) (Melb)

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Miss H.S. Cox, BSc (Melb)
Miss A.G. Turner

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Dr D. Sviridov, MD (Moscow)

Mr P. Griffith, BSc (UWA)
Miss A. Verhagen, BSc (Mon)
Miss L. Pyle, MSc (Melb)
Miss C. Davis, BSc (Melb)

Research Students
Ms F. Hall, BSc (Hons) (Mon)

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Dr H. Hidaka, BSc (Shinsu), PhD (Shinsu)
Professor C. Lutton (Paris)

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Miss V. Obeyesekere, BSc (Hons) (Mon)

Research Students
Dr B. Hickey, MBBS (Mon), FRACP
Visiting Scientists
Professor H. Trzeciak, MD, PhD (Poznan)

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Dr K. Sheppard, BSc (Hons) (Mon), PhD (Mon)
Dr P.A. Komesaroff, BSC (Hons) (Mon), PhD (La Trobe), MBBS (Melb), FRACP

Mrs M. Fullerton, BSc (Melb)
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PUBLICATIONS

1. Agrotis A, Little PJ, Saltis J, Bobik A. Dihydropyridine Calcium antagonists inhibit the salvage pathway for DNA synthesis in human vascular smooth muscle cells. Eur J Pharmacol (Mol Pharmacol) 1993;244:269-275.
2. Agrotis A, Bray PJ, Saltis J, Bobik A. Vascular smooth muscle cell proliferation in SHR and WKY rats: evidence for specific differences in growth inhibitory regulatory mechanisms. Clin Exp Pharmacol Physiol 1993;20:327-330.
3. Allan CM, Fidge N, Morrison JR, Kandlos J. Monoclonal antibodies to human apoAI: Probing the putative receptor binding domain of apoAI. Biochem J 1993;290:449-455.
4. Anderson K, Meyers D, Woodcock E. Stimulation of phosphatidylinositol turnover in adult rat left atria does not involve release of inositol(1,4,5)trisphosphate. Clin Exp Pharmacol Physiol 1993;20:335-338.
5. Anderson WP, Denton KM, Fennessey PA, Alcorn D. Morphometric and micropuncture analysis of the actions of angiotensin II on renal arterioles and glomeruli. In: MacGregor GA, Sever PS, ed. Proceedings of the 3rd International Symposium on Ace inhibition, 1993.
6. Anderson WP, Lomdahl A. NHMRC Support for Centralised Non-Human Primate Breeding Colonies - Problems and Challenges. In: Johnston NE, ed. Proceedings of the Animal Welfare Conference, Animal Ethics Unit, Monash University, May 1993.
7. Anderson RL, Naylor DJ, Gabriel T, Tetaz T, Hoj PB. Characterization of a novel heat shock protein 70 in mammalian cells. Internat J Hyperthermia (in press) 1993.
8. Angus JA, Ferrier CP, Sudhir K, Kaye DM, Jennings G. Impaired contraction and relaxation in skin resistance arteries. Cardiovascular Research 1993;27:204-210.
9. Angus JA, Wright C, Chin JPF, Jennings GL. Methodology: In vivo techniques. In: Pharmacology of Vascular Smooth Muscle, ed. Angus JA, Garland C, Oxford Press, 1993
10. Autelitano DJ, Sheppard KE. Corticotrope responsiveness to glucocorticoids is modulated via rapid induction of the proto-oncogene c-fos. Mol Cell Endocrinology 1993;94:111-119.
11. Autelitano DJ. CRF modulates corticotroph responsiveness to glucocorticoids via rapid induction of the proto-oncogene c-fos. In: New Perspectives in Endocrinology, Serono Symposia Publications, ed. De Bellis A, Marschke KB, New York: Raven Press, 1993, pp 73-81.
12. Berger G, Caen JP, Berndt MC, Cramer EM. Ultrastructural demonstration of CD36 in the a-granule membrane of human platelets and megakaryocytes. Blood 1993;82:3034-3044.
13. Berndt MC, Mazurov AV, Vinogradov DV, Burns GF, Chesterman CN. Topographical association of the platelet Fc-receptor with the glycoportein IIb-IIIa complex. Platelets 1993;4:190-196.
14. Black MJ, Campbell JH, Campbell GR. Effect of perindopril on cardiovascular hypertrophy of the SHR: respective roles of reduced blood pressure and reduced angiotensin II levels. Am J Cardiol 1993;71:17E-21E.
15. Blake DW, Evans RG, Ludbrook J, Petring OU. Interactions between the circulatory effects of central hypovolaemia and arterial hypoxia in conscious rabbits. Clin Exp Pharmacol Physiol, (in press) 1993.
16. Bobik A, Campbell JH. Vascular derived growth factors: Cell biology, pathophysiology and pharmacology. Pharmacol Revs 1993;45:1-43.
17. Bobik A. Pharmacological considerations in digoxin therapy. Med J Australia 1993;159:678-681.
18. Buisson-Defferier S, Hibert M, Van den Buuse M. Differential effects of 8-hydroxy-2-(di-n-propylamino)tetralin (8-OH-DPAT), flesinoxan, 5-methyl-urapidil and MDL 75,608A in conscious spontaneously hypertensive rats. Fundam Clin Pharmacol 1993;7:499-511
19. Cameron JD, Dart AM. Exercise training increases whole body arterial compliance in man. Am J Physiol (in press) 1993.
20. Cavero PG, Sudhir K, Galli F, DeMarco T, Chatterjee K. Exaggerated response to reflex sympathetic activation in the peripheral vasculature in women with primary pulmonary hypertension. Am J Cardiol, (in press) 1993.
21. Cavero PG, Sudhir K, Galli F, DeMarco T, Chatterjee K. Effect of orthotopic cardiac transplantation on peripheral vascular responsiveness in patients with heart failure: influence of cyclosporine therapy. Am Heart J (in press) 1993.
22. Challinor JL, McPherson GA. Evidence that imidazol(id)ine and sulphonyurea-based antagonists of cromakalim act at different sites. Clinical and Experimental Pharmacology and Physiology 1993;20:465-475.
23. Chertow BS, Blaner WS, Rajan N, Primerano D, Meda P, Giordiano E, Cirulli V, Krozowski ZS, Smith R, Cordle MB. Retinoic acid receptor and cytosolic retinol- and retinoic acid-binding protein transcripts and proteins in rat insulin-secreting cells. Diabetes 1993;42:1109-1114.
24. Chin JPF, Gust AP, Nestel PJ, Dart AM. Marine oils dose-dependently inhibit vasoconstriction of forearm resistance vessels in humans. Hypertension 1993;21:22-28.
25. Chin JPF, Hurlston RM, Dart AM. Inhibition of prostaglandin synthesis does not affect contractile responses to noradrenaline, serotonin, angiotensin II nor endothelin in human forearm isolated veins. Clin Pharmacol 1993;36:303-307.
26. Chin JPF, Gust AP, Dart AM. Indomethacin inhibits the effects of dietary supllementation with marine oils on vascocndtriction in human forearm resistance vessels in vivo. J Hypertens 1993;11:1229-1234.
27. Chin JPF, Dart AM. Hypertension. In: Pharmacology of Vascular Smooth Muscle, ed. Angus JA, Garland C, Oxford Press, 1993.
28. Chin JPF. Fish Oils and the Cardiovascular System. Review in Prostaglandins, Leukotrienes and Essential Fatty Acids (in press) 1993.
29. Chou T, Sudhir K, Iwanaga S, Chatterjee K, Yock PG. Measurement of volumetric coronary flow using simultaneous intravascular two-dimensional and Doppler ultrasound: validation in an animal model. Am Heart J, (in press) 1993.
30. Christy IJ, Denton KM, Anderson WP. Renal denervation potentiates the natriuretic and diuretic effects of atrial natriuretic peptide in rabbits. Clin Exp Pharmacol Physiol, (in press) 1993.
31. Christy IJ, Woods RL, Anderson WP. Mediators of the hypotensive response to increased renal perfusion in rabbits. Hypertension 1993;21:149-154.
32. Clarke IJ, Jessop OS, Millar RP, Morris M, Bloom SR, Lightman SL, Coen C, Lew RA, Smith AI. Many peptides in the external zone of the median eminence are not secreted into the hypophysial portal blood of sheep. Neuroendocrinology 1993;57:765-775.
33. Cochrane AD, Siddins M, Rosenfeldt FL, Salamonsen R, McConaghy, Marasco S, Davis BB. A comparison of amiodarone and digoxin for treatment of supraventricular arrhythmias after cardiac surgery. European Journal of Cardiothoracic Surgery (in press) 1993.
34. Coughlan AF, Berndt MC, Dunlop LC, Hancock WW. In vivo studies of P-selectin and platelet-activating factor during endotoxemia, accelerated allograft rejection and discordant xenograft rejection. Transplant Proc 1993;25:2930-2931.

35. Coughlin P, Tetaz T, H S. Identification and purification of a novel serine protease inhibitor. J Biol Chem 1993;268:9541-9547.
36. Dart AM, Chin JPF, Esler ME. Effects of dietary supplementation with n-3 polyunsaturated fatty acids on sympathetic and hemodynamic responses to stress in man. Nutrition, Metabolism and Cardiovascular Disease 1993;3:105-111.
37. Dart AM, Du XJ. Unexpected drug effects on autonomic function during myocardial ischaemia. Cardiovasc Res 1993;27:906-914.
38. Dart AM, Cameron J. Effects of coronary risk factors on aortic and arterial properties in man. Proc Athens Symposium 1993.
39. Denton KM, Anderson WP. Intrarenal haemodynamic and glomerular responses to inhibition of nitric oxide formation in rabbits. J Physiol, (in press) 1993.
40. Donohoe JA, Rosenfeldt FL, Munsch CM, Williams JF. The effect of orotic acid treatment on the energy and carbohydrate metabolism of the hypertrophying rat heart. International Journal of Biochemistry 1993;25:163-182.
41. Du XJ, Dart AM, Riemersma RA. Sympathetic activation and elevated extracellular potassium: synergistic effects on cardiac potassium uptake and arrhythmias. J Cardiovasc Pharmacol 1993;21:977-982.
42. Du XJ, Dart AM, Riemersma RA. Lack of modulation by dietary unsaturated fats on sympathetic neurotransmission in rat hearts. Am J Physiol 1993;265:H886-H892.
43. Du XJ, Riemersma RA, Fox KAA, Dart AM. Propranolol and lidocaine inhibit neural norepinephrine release in hearts with increased extracellular potassium and ischemia. Circulation 1993;88:1885-1892.
44. Du XJ, Dart AM. Mechanisms of noradrenaline release in the anoxic heart of the rat. Cardiovasc Res (in press) 1993.
45. Du XJ, Dart AM. Atherosclerosis. In: Pharmacology of Vascular Smooth Muscle, ed. Angus JA, Garland C, Oxford Press, 1993.
46. Elnatan J, Molenaar P, Rosenfeldt FL. Autoradiographic localization and quantitation of beta1- and beta2-adrenoceptors in the human atrioventricular conducting system: a comparison of patients with idiopathic dilated cardiomyopathy and ischemic heart disease. Journal of Molecular and Cellular Cardiology (in press) 1993.
47. Esler M. Catecholamines and Essential Hypertension. In: Bailliere's Clinical Endocrinology and Metabolism, ed. Saunders WB, Bouloux P-M, 1993, pp 415-438.
48. Esler M, Ludbrook J, Wallin BG. Cardiovascular regulation: Efferent pathways and mechanisms. In: Blood Loss and Shock (in press), ed. Arnold E, 1993.
49. Esler M. Hyperadrenergic and "labile" hypertension. In: Textbook of Hypertension, ed. Swales J, London: Blackwell Scientific Publications, 1993.
50. Esler M. Clinical application of noradrenaline spillover methodology: Delineation of regional human sympathetic nervous responses. Pharmacology and Toxicology 1993;73:243-253.
51. Esler M. The sympathetic nervous system and catecholamine release and plasma clearance in normal blood pressure control, in aging and in hypertension. In: Hypertension: Pathology, Diagnosis and Management, ed. Laragh JH, Brenner BM, New York: Raven Press, 1993.
52. Evans RG, Hayes IP, Ludbrook J, Ventura S. Factors confounding blockade of cardiac afferents by intrapericardial procaine in conscious rabbits. Am J Physiol 1993;264:H1861-H1870.
53. Evans RG, Haynes JM, Ludbrook J. Effects of 5-HT-receptor and a2-adrenoceptor ligands on the haemodynamic response to acute central hypovolaemia in unanaesthetized rabbits. Br J Pharmacol 1993;109:37-47.
54. Evans RG, Anderson WP. Effects of NG-nitro-L-arginine on sodium excretion in conscious rabbits. Pharmacol Comm 1993;3:1-7.
55. Evans RG, Ludbrook J, Ventura S. Bilateral cervical vagotomy does not abolish the decompensatory phase of acute central hypovolaemia in unanaesthetized rabbits. J Autonom Nerv Syst, (in press) 1993.
56. Favaloro EJ, Grispo L, Dinale A, Berndt MC, Koutts J. von Willebrand's disease: laboratory investigation using an improved functional assay for von Willebrand Factor. Pathology 1993;25:152-158.
57. Ferrier C, Jennings GL, Eisenhofer G, Lambert GW, Cox HS, Kalff V, Kelly M, Esler MD. Evidence for increased noradrenaline release from subcortical brain regions in essential hypertension. J Hypertension 1993;11:1217-1227.
58. Ferrier C, Cox H, Esler M. Elevated total body noradrenaline spillover in normotensive members of hypertensive families. Clinical Science 1993;84:225-230.
59. Ferrier C, Jennings GL, Eisenhofer G, Lambert G, Cox HS, Kalff V, Kelly M, Esler MD. Evidence for increased noradrenaline release from subcortical brain regions in essential hypertension. Journal of Hypertension 1993;11:1217-1227.
60. Fidge N. Fighting high cholesterol levels - lipid lowering drugs. Medical Journal of Australia 1993;159:815-819.
61. Fidge N. Immunochemical methods for the quantification of apoAIV methods in enzymology. Plasma lipoproteins, Part C. (in press) 1993.
62. Funder JW. Mineralocorticoids, glucocorticoids, receptors and response elements. Science 1993;259:1132-1133.
63. Funder JW. Aldosterone Action. In: Annual Review of Physiology, ed. Hoffaman JF, De Weer P, Palo Alto: Annual Reviews Inc, 1993;55:115-130.
64. Funder JW. Steroid Action. Clin. Biochem. Revs. 1993;14:77-82.
65. Funder JW, Smith AI. Isolated ACTH deficiency: enzyme defect or chimaeric enzyme? Clinical Endocrinology 1993;39:385-386.
66. Funder JW. Technology, professional ethics and the cloning of the odorant receptors. Today's Life Science 1993;5:50-51.
67. Funder JW. Importance of steroidogenesis in specific hormone action. In: Steroid Hormone Action: Frontiers in Molecular Biology, ed. Parker MG, London: Oxford University Press, 1993, pp 26-44.
68. Funder JW, Marver D. Aldosterone action. In: Annual Review of Physiology, ed. Loriaux DL, Philadelphia: W B Saunders and Company, 1993, pp 115-130.
69. Gamble JR, Matthias LJ, Meyer G, Kaur P, Russ G, Faull R, Berndt MC, Vadas MA. Regulation of in vitro capillary tub formation by anti-integrin antibodies. J Cell Biol 1993;121:931-943.
70. Gibson PR, Fraser JRE, Colman JC, Jones PA, Jennings G, Dudley FJ. Change in serum hyaluronan: A simple index of short term drug-induced changes in hepatic simsoidal perfusion. Gastroenterology 1993;105:470-474.
71. Hausman D, Sudhir K, Mullen W, Fitzgerald PJ, Ports TA, Daniel WG, Yock PG. Contrast enhanced intravascular ultrasound: validation of a new technique for delineation of the vessel wall boundary. J Am Coll Cardiol, (in press) 1993.
72. He GW, Rosenfeldt FL, Angus JA. Pharmacological approach to relaxing the saphenous vein during harvesting

for coronary bypass grafting. The Annals of Thoracic Surgery 1993;55:1210-1217.
73. He GW, Rosenfeldt FL, Buxton BF, Angus JA, Tatoulis J. Pharmacological dilatation of the internal mammary artery during coronary bypass surgery. Journal of Thoracic and Cardiovascular Surgery (in press) 1993.
74. Head GA, Godwin SJ, Sannajust F. Differential receptors involved in the cardiovascular effects of clonidine and rilmenidine in conscious rabbits. J Hypertens 1993;11:S322-S323.
75. Howl J, Filer ADJ, Parslow RA, Kirk CJ, Jurzak M, Smith AI, Wheatley M. Pharmacological characterization of linear analogues of vasopressin generated by the systematic substitution of positions 1 and 6 by L-amino acids. Biochemical Pharmacology, (in press) 1993.
76. Jefferys D, Funder JW. The thyroadrenal axis, food deprivation and retention of a behavioural response. European Journal of Pharmacology 1993;239:189-193.
77. Jennings GL. The impact of exercise on hypertension. In: Modern Medicine of Australia, ed. 1993, pp 103-106.
78. Jennings GL, Kingwell BA. Exercise. In: Textbook of Hypertension, ed. Swales J, London: Blackwell Scientific Publications, 1993.
79. Jennings GL. Regional blood flow distribution in acute and chronic heart failure - the effect of drug therapy. Medicographica Issue 1993;15:15-17.
80. Jennings GL, Kingwell BA. Exercise and hypertension: Mechanisms of effects on cardiovascular risk. In: Proc of the 9th Biennial Conference. Exercise: Metabolism and Nutrition, ed. Sutton JR, Balnave R, University of Sydney 1993.
81. Kaye DM, Lefkovits JL, Lambert G, Jennings G, Morris M, Esler M. Hemodynamic, Etiologic and Central Nervous System Correlates of Cardiac Sympathetic Activity in Severe Heart Failure. J Am Coll Cardiol (in press) 1993.
82. Kaye DM, Bergin P, Buckland M, Esmore D. Transophageal echocardiography in the assessment of cardiac allograft function perioperatively. J Heart Lung Transplant (in press) 1993.
83. Kaye D, Esler M, Kingwell B, Jennings G, McPherson G, Esmore D. Functional and neurochemical evidence for partial cardiacsympathetic reinnervation after cardiac transplantation in humans. Circulation 1993;88:1101-1109.
84. Kaye D, Thompson J, Jennings G, Esler M. Cyclosporine therapy after cardiac transplantation causes hypertension and renal vasoconstriction without sympathetic activation. Circulation 1993;88:1110-1118.
85. Kaye DM, Lambert GW, Lefkovits J, Morris M, Jennings GL, Esler MD. Neurochemical evidence of cardiac sympathetic activation and increased central nervous system norepinephrine turnover in severe congestive heart failure. Journal of the American College of Cardiology; (in press) 1993.
86. Khaspekova SG, Vlasik TN, Byxove TV, Vinogradov DV, Berndt MC, Mazurov AV. Detection of the epitope specific for the dissociated form of glycoprotein IIIa of platelet membrane glycoprotein IIb-IIIa complex and its expression on the surface of adherent platelets. Brit J Haematol 1993;85:332-340.
87. Kingwell BA, Jennings GL. A comparison of the effects of walking and other exercise programs upon blood pressure in normal subjects. Med J Aust 1993;158:2384-2389.
88. Kingwell BA, Krause L, Julius S. The effect of hypertensive episodes and cardiac hypertrophy on the blood pressure-heart rate baroreflex. Clin Exp Physiol Pharmacol (in press) 1993.
89. Kingwell BA, Thompson JM, McPherson GA, Kaye DM, Jennings GL, Esler MD. Comparison of heart rate spectral analysis with cardiac noradrenaline spillover and muscle sympathetic activity in human subjects. Proceedings of a workshop on Computer Analysis of Cardiovascular Signals, Milan, June 1993;(in press).
90. Kirby DA, Boublik JH, Rivier JE. Neuropeptide Y: Y1 and Y2 affinities of a complete series of analogues with single D-residue substitution. Journal of Medicinal Chemistry 1993;36:3802-3808.
91. Klemm MF, Van Helden DF, Luff SE. Ultrastructural Analysis of Sympathetic Neuromuscular Junctions on Mesenteric Veins of the Guinea Pig. J Comp Neurol 1993;334:159-167.
92. Komesaroff PA. Ethics and clinical medicine (Editorial). Aust NZ J Med 1993;23:3-5.
93. Komesaroff PA. Clinical Ethics. Aust NZ J Med 1993.
94. Komesaroff PA. Medical ethics and the menopause. Okham's Razor (ABC Radio), April 1993.
95. Korner P, Bobik A, Oddie C, Friberg P. Sympatho-adrenal system is critical for cardiovascular hypertrophy in SHR. Hypertension 1993;22:248-252.
96. Krozowski ZS. Methods for estimating 11*-Hydroxysteroid dehydrogenase. In "Methods in Neurosciences". (in press) 1993.
97. Krozowski ZS, Provencher PH, Smith RE, Obeyesekere VR, Mercer WR, Albiston AL. Isozymes of 11*-Hydroxysteroid dehydrogenase: which enzyme endows mineralocorticoid specificity? Steroids. (in press) 1993.
98. Lambert GW, Eisenhofer G, Jennings GL, Esler MD. Regional homovanillic acid production in humans. Life Sciences 1993;53:63-75.
99. Lambert GW, Eisenhofer G, Esler MD. The influence of aging on the plasma concentration and renal clearance of homovanillic acid. Psychoneuroendocrinology; (in press) 1993.
100. Lambert GW, Ferrier C, Kaye D, Cox HS, Turner AG, Jennings GL, Esler MD. Monoaminergic neuronal activity in subcortical brain regions in essential hypertension. Blood Pressure; (in press) 1993.
101. Levin N, Wallace C, Bengani N, Blum M, Farnworth P, Smith AI, Roberts JL. Ovine Pro=opiomelanocortin gene expression in the anterior pituitary is not regulated by the protein kinase A or C second messenger pathways. Endocrinology 1993;132:1692-1700.
102. Lew RA, Smith AI. Measurement, distribution and subcellular localization of peptide amidating activity. In: Peptidases and Neuropeptide Processing, ed. Smith AI, Methods in Neurosciences, 1993.
103. Lew RA, Smith AI. Identification and characterization of an amidating enzyme in ovine heart. Clinical and Experimental Physiology and Pharmacology 1993;20:231-238.
104. Lovick TA, Malpas SC, Mahony MT. Paraventriculo-spinal lesions attenuate renal vasodilation in response to acute volume load in rats. J Autonom Nerv Syst 1993;43:247-256.
105. Mai Q, Wilson E, Sudhir K, Weiss RH, Ives HE. Mechanical strain induces growth of vascular smooth muscle cells via autocrine action of PDGF. J Cell Biol 1993;123:741-747.
106. Malpas SC, Coote JH. The role of vasopressin in the sympathetic response to paraventricular nucleus stimulation in the anesthetized rat. Am J Physiol; (in press) 1993.
107. McPherson G. Current trends in the pharmacology of K+ channel openers. Gen Pharmacol 1993;24:275-281.
108. Mercer WR, Obeyesekere V, Smith R, Krozowski ZS. Characterization of 11*-HSD1B gene expression and enzymatic activity. Mol. Cell.Endo. 1993;92:247-251.

109. Meredith IT, Lambert GW, Eisenhofer G, Dewar EM, Jennings GL, Esler M. Common daily life stressors and cardiac sympathetic activation. The effects of mental stress, cigarette smoking and coffee consumption. Circulation (in press) 1993.
110. Meredith IT, Eisenhofer G, Lambert GW, Dewar EM, Jennings GL, Esler MD. Cardiac sympathetic nervous activity in congestive heart failure: Evidence for increased neuronal norepinephrine release and preserved neuronal uptake. Circulation 1993;88:136-145.
111. Meredith IT. Common daily life stressors and cardiac sympathetic activation. The effects of mental stress, cigarette smoking and coffee consumption. Circulation (in press) 1993.
112. Minami N, Head GA. Relationship between cardiovascular hypertrophy and cardiac baroreflex function in spontaneously hypertensive and stroke prone rats. J Hypertension 1993;11:523-533.
113. Mitchell A. A Method for Quantitative Recovery of DNA from Plate Lysates of Bacteriophage lamba-Derived Clones. Analytical Biochemistry 1993;214:517-520.
114. Mitchell A, Fidge N, Griffiths P. The effect of the HMG-CoA reductase inhibitor simvastatin and of cholestyramine on heptatic apolipoprotein mRNA levels in the rat. Biochimica et Biophysica Acta 1993;1167:9-14.
115. Mooser V, Trinder D, Stephenson JM, Shen PJ, Smith AI, Phillips PA, Casley D, Johnson CI. Monoclonal antibodies to AVP receptor bind to liver, kidney and pituitary membrances. Clinical and Experiment Physiology and Pharmacology 1993;20:443-450.
116. Mougos S, Boublik JH, Rivier JE, Hearn MTW, Aguilar MI. High Performance Liquid Chromatography of Amino Acids, Peptides and Proteins, Part CXXVII: The effect of D-amino acid substitutions on the reversed-phase high-performance liquid chromatography retention behaviour of Neuropeptide Y-[18-36] analogues. Journal of Chromatography 1993;646:53-65.
117. Ninomiya I, Malpas SC, Matsukawa K, Shindo T, Akiyama T. The amplitude of synchronized cardiac sympathetic nerve activity reflects the number of activated pre- and post ganglionic fibers in anesthetized cats. J Autonom Nerv Syst 1993;45:139-147.
118. Oddie C, Dilley RJ, Kanellakis P, Bobik A. Chronic angiotensin II type I receptor antagonism in genetic hypertension: Effects on vascular structure and reactivity. J Hypertens 1993;11:717-724.
119. Pearce PT, Myles KM, Funder JW. Estrogen and progesterone receptor assays in breast tumours: the Prince Henry's Hospital experience, 1983-90. Medical Journal of Australia 1993;159:227-231.
120. Pirpiris M, Yeung S, Dewar E, Jennings G, Whitworth J. Hydrocortisone induced hypertension in man. The role of cardiac output. American J Hypertension 1993;6:287-294:
121. Pirpiris M, Cox H, Esler M, Jennings G, Whitworth JA. Mineralcorticoid induced hypertension and noradrenaline spillover in man. Clin Exp Hyper (in press) 1993.
122. Reid CM, Murphy B, Ruth D, Maher T, Charlwood R, Lynch M, Jennings G. Lifestyle management of hypertension in general practice: Findings from year 1 of the HEART project. Health Promotion Journal of Australia 1993;3:20-24.
123. Rosenfeldt FL, Angus JA, Davis BB. A new technique for relaxing the saphenous vein during harvesting for coronary bypass grafting. Australasian Journal of Cardiac and Thoracic Surgery 1993;2:136-9.
124. Rosenfeldt FL. Metabolic Interventions in Myocardial Preservation. Australasian Journal of Cardiac and Thoracic Surgery 1993;2:80-82.
125. Rosenfeldt FL, Wong J. Current expectations for survival and complications in coronary bypass grafting. Current Opinion in Cardiology 1993;8:910-918.
126. Ryan J, Sudhir K, Jennings G, Esler M, Dudley F. Impaired reactivity of the peripheral vasculature to pressor agents in alcoholic cirrhosis. Gastroenterology 1993;105:1167-1172.
127. Saigusa T, Head GA. Renal sympathetic baroreflex effects of angiotensin II infusions into the rostral ventrolateral medulla of the rabbit. Clin Exp Pharmacol Physiol 1993;20:351-354.
128. Saltis J, Agrotis A, Bobik A. Age-dependent alterations in vascular smooth muscle cell responsiveness to platelet-derived growth factor in genetic hypertension. Clin Exp Pharmacol Physiol 1993;20:324-326.
129. Saltis J, Agrotis A, Bobik A. Differences in growth characteristics of vascular smooth muscle from SHR and WKY are growth factor dependent. J Hypertension 1993;11:629-637.
130. Sannajust F, Head GA. Effect of rilmenidine on the baroreflex control of renal nerve activity. J Hypertens 1993;11:S328-S329.
131. Shah VZ, Rosenfeldt FL, Parkin GW, Ugoni AM, Habersberger PG, Cooper E. Cardiac surgery in the very elderly. Medical Journal of Australia (in press) 1993.
132. Shen PJ, Clarke IJ, Funder JW, Smith AI. Characterization of immunoreactive AVP in the ovine hypothalamo-pituitary axis. Peptides 1993;14:815-820.
133. Sheppard KE, Autelitano DJ, Roberts JL, Blum M. Glucocorticoid receptor function in rat pituitary intermediate lobe is inhibited by an endogenous protein. J Neuroendocrinology 1993;5:195-200.
134. Sheppard KE. Molecular and cellular mechanisms involved in modulating the corticosteroid response. In: New Perspectives in Endocrinology, Serono Symposia Publications, ed. De Bellis A, Marschke KB, New York: Raven Press, 1993, pp 73-81.
135. Sheppard KE. Calcium and protein kinase C regulation of the glucocorticoid receptor in mouse corticotrope tumor cells. J Steroid Biochem Mol Biol; (in press) 1993.
136. Smith AI. The role of HPLC in peptide purification and characterization. In: Methods in Neurosciences, ed. Conn PM, Academic Press, 1993, pp 91-106.
137. Smith AI, Levin N, Wallace CA, Roberts JL. The role of vasopressin on ACTH secretion and biosynthesis in the ovine pituitary gland. Regulatory Peptides 1993;45:237-241.
138. Stewart PM, Krozowski ZS. Lessons from Appenberg:11*-Hydroxysteroid dehydrogenase 1B or 2? J Endo.(in press) 1993.
139. Sudhir K, MacGregor JS, Barbant SD, Foster E, Fitzgerald PJ, Chatterjee K, Yock PG. Assessment of coronary conductance and resistance vessel reactivity in response to nitroglycerin, ergonovine and adenosine: in vivo studies with simultaneous intravascular two-dimensional and Doppler ultrasound. J Am Coll Cardiol 1993;21:1261-1268.
140. Sudhir K, MacGregor JS, Gupta M, Barbant SD, Redberg R, Yock PG, Chatterjee K. Effect of selective angiotensin II receptor antagonism and ACE inhibition on the coronary vasculature in vivo: intravascular two-dimensional and Doppler ultrasound studies. Circulation 1993;87:931-938.
141. Sudhir K, Kurtz T, Yock PG, Connolly A, Morris RCJ. Potassium preserves endothelial function and enhances aortic

compliance in Dahl rats. Hypertension 1993;22:315-322.
142. Sudhir K, Fitzgerald P, Yock PG. Intravascular Ultrasound. Administrative Radiology 1993;XII:64-73.
143. Sudhir K, Wilson E, Chatterjee K, Ives HE. Mechanical strain and extracellular matrix proteins potentiate angiotensin II induced mitogenesis in cultured vascular smooth muscle cells. Clinical Investigation, (in press) 1993.
144. Sudhir K, MacGregor JS, Gupta M, Amidon TA, Yock PG, Chatterjee K. Differential role of nitric oxide in the regulation of epicardial and microvascular coronary tone: in vivo studies with simultaneous intravascular two-dimensional and Doppler ultrasound. Am Heart J, (in press) 1993.
145. Tetaz T, Bozas E, Kanellos J, Walker I, Smith AI. In situ tryptic digestion of proteins separated by SDS-PAGE: Improved procedures for extraction of peptides prior to microsequencing. Techniques in Protein Chemistry 1993;IV:389-397.
146. Vadas MA, Lucas CM, Gamble JR, Lopez AF, Skinner MP, Berndt MC. Regulation of eosinophil function by P-selectin. In: Eosinophils in Allergy and Inflamation, ed. Kay GJG&AB, New York: Marcel Decker, 1993, pp 69-80.
147. Vadiveloo P, Fidge N. The interaction of apoAII with the putative HDL receptor. Biochemistry 1993;32:9480-9485.
148. Van den Buuse M, Head GA, Korner PI. Differential roles of brain ascending noradrenergic bundles in the circulatory effects of alpha-methyldopa and clonidine. J Cardiovasc Pharmacol 1993;21:112-119.
149. Van den Buuse M, Itoh S. Central effects of endothelin on baroreflex of spontaneously hypertensive rats. J Hypertension 1993;11:379-387.
150. Van den Buuse M. Effects of 7-hydroxy-N,N-di-n-propylaminotetralin on behaviour and blood pressure of spontaneously hypertensive rats. Eur J Pharmacol 1993;243:169-177.
151. Woodcock E, Anderson K. Inositol phosphates in rat atria and the importance of the extraction procedure. J Mol Cell Cardiol 1993;25:215-227.
152. Woodcock E, Anderson K, Land S. Lyophilization can generate artifacts in chromatographic profiles of inositol phosphates. J Chromatogr - Biomed Appl 1993;619:121-126.
153. Woodcock E, Schoenwalder S, Anderson K. The isolation of adult rat cardiomyocytes activates inosital(1,4,5)trisphosphate 3'kinase activity. J Mol Cell Cardiol 1993;25:215-227.
154. Woodcock E, Land S. Functional endothelin-B receptors on rat renal papillary tubules. Eur J Pharmacol - Mol Pharmacol Section 1993;247:93-95.
155. Woodcock E, Land S, Andrews R. A low affinity, low molecular weight endothelin-A receptor present in neonatal rat heart. Clin Exp Pharmacol Physiol 1993;20:331-334.
156. Yen T, Walsh DJ, Pejler G, Berndt MC, Gezcy CL. Cisplatin-induced platelet activation requires mononuclear cells: role of GMP-140 and modulation of procoagulant activity. Brit J Haematol 1993;83:259-269.

For the non-scientific reader, the titles of the papers published from the Institute must often appear a little strange. The scientific reader will more often skip the title, and look at the journal in which the paper appeared. Either way, 1993 has been a bumper year for the Baker, with a series of high quality contributions to the fields of physiology and pharmacology, biochemistry and medicine.

Our publications are the most significant way in which the Institute can communicate with an international audience. They are also an excellent form of audit: from scanning the list, our colleagues can see who is burning, who is being invited to write state-of-the-art reviews, who are the acknowledged leaders in their fields.

Research consists of three stages: having an hypothesis, testing it vigorously, and publishing the results. Most of us love framing hypotheses and doing experiments, but are often rather less keen on 'writing them up'. What has to be said is that if it has not been published the research has not been done. The publications listed thus represent our achievements for 1993, the base on which hypotheses can be erected for 1994, and the point of departure for the experiments to test them.

BAKER MEDICAL RESEARCH INSTITUTE
CONSOLIDATED INCOME AND EXPENDITURE STATEMENT
YEAR ENDED 31 DECEMBER 1993

	Note	1993 $	1992 $
INCOME			
Government and Statutory Bodies	3	**4,835,109**	4,545,334
Baker Benefaction		**843,399**	898,036
Alfred Hospital		**169,750**	284,620
Fundraising, Corporate & Private Support		**1,164,793**	3,281,667
Investment Income		**291,630**	378,727
Clinical Services		**258,122**	196,583
General Income		**345,763**	256,607
Total Income		**7,908,566**	9,841,574
EXPENDITURE			
Salaries and Wages		**5,280,864**	5,466,662
Consumable Supplies		**1,112,718**	1,006,337
Scientific Equipment		**12,926**	353,737
Depreciation		**522,386**	0
Laboratory Support Costs		**610,748**	556,930
General Overheads		**623,855**	397,918
Administration		**243,317**	167,102
Public Relations/Fundraising		**47,899**	75,493
Total Expenditure		**8,454,713**	8,024,179
CONSOLIDATED SURPLUS / (DEFICIT) FOR YEAR	6	**(546,147)**	1,817,395
Represented by:			
Deficit from Operations		**(31,062)**	(14,170)
Surplus from Capital Fund	4	**40,204**	1,828,793
Surplus / (Deficit) from Specific Purpose Fund		**(555,289)**	2,772
Consolidated Surplus / (Deficit) for Year		**(546,147)**	1,817,395

The accompanying notes form an integral part of these financial statements

BAKER MEDICAL RESEARCH INSTITUTE
CONSOLIDATED BALANCE SHEET AS AT 31 DECEMBER 1993

		1993	1992
ASSETS	Note	$	$
Current Assets			
Cash at bank and in hand		111,685	289,067
Debtors		346,603	243,869
Prepayments		134,303	95,946
Investments (at cost)	7(a)	1,295,634	2,256,817
Total Current Assets		1,888,225	2,885,699
Non-Current Assets			
Property , Plant & Equipment	8	2,006,572	0
Investments (at cost)	7(b)	3,157,066	3,089,943
Total Non-Current Assets		5,163,638	3,089,943
TOTAL ASSETS		7,051,863	5,975,642
LIABILITIES			
Current Liabilities			
Creditors		123,335	469,826
Total Current Liabilities		123,335	469,826
Non-Current Liabilities			
Provisions	9	766,304	798,933
Total Non-Current Liabilities		766,304	798,933
TOTAL LIABILITIES		889,639	1,268,759
NET ASSETS		6,162,224	4,706,883
FUNDS			
Accumulated Funds			
Operating Fund		(1,216,953)	(1,185,891)
Capital Fund		4,157,746	4,117,542
Specific Purpose Fund	5	1,219,943	1,775,232
Asset Revaluation Reserve		2,001,488	0
TOTAL FUNDS	6	6,162,224	4,706,883

The accompanying notes form an integral part of these financial statements

BAKER MEDICAL RESEARCH INSTITUTE
NOTES TO AND FORMING PART OF THE ACCOUNTS

1. INCORPORATION
The Thomas Baker, Alice Baker and Eleanor Shaw Medical Research Institute was incorporated as the 'Baker Medical Research Institute' ("the Institute") under the Baker Medical Research Act 1980.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES
Set out hereunder are the significant accounting policies adopted by the Institute in the preparation of its accounts for the year ended 31 December 1993. These policies have been consistently applied unless otherwise indicated.

(a) Accrual Basis
The accrual basis of accounting has been used with revenues and expenses being recognised as they are incurred, and brought to account in the period to which they relate.
(b) Historical Cost
The financial statements have been prepared on a historical cost basis and except where stated do not take into account current valuations of non-current assets.
(c) Fund Accounting
The Institute operates on a fund accounting basis and maintains three funds;Operating,Specific Purpose and Capital Funds. The work of the Institute is financed from grants,investment income and donations of both general and specific natures. Income of a specific nature is used in accordance with the terms of any relevant covenants. The amount of grants received for specific purposes during the year but unspent at year end, will be expended in the next financial year. The Institute's capital fund comprises the unspent capital donations,bequests and receipts from fundraising activities.
(d) Principles of Consolidation
The Institute's accounts have been prepared on a consolidated basis. All inter-fund transactions have been eliminated on consolidation.
(e) Change in Accounting Method
In previous years it was Institute policy that items of property, plant and equipment were written off in the year of purchase through the income and expenditure account and consequently no depreciation was charged in the accounts. Commencing this year the Institute has adopted the policy of capitalising assets in order to comply with accounting standards. As a result of this change in accounting policy a net adjustment of $2,001,488 was made directly to Asset Revaluation Reserve at the beginning of the financial year as shown in note 6.
(f) Property, Plant and Equipment
Items of property, plant and equipment are recorded at cost and are depreciated over their expected useful lives using the straight line method.
(g) Building
The land on which the building is situated is not included as an asset as the Institute does not have title to the property. The estimated replacement cost of the building is $11m.
(h) Stocks
Stocks of consumable scientific and administrative items purchased in the course of normal operations out of grant income are not taken into account at the balance date as assets but are written off at the time of purchase.
(i) Tax Status
The income of the Institute is exempt from income tax pursuant to the provisions of section 23(e) of the Income Tax Assessment Act. The Institute is also exempt from other government levies such as payroll tax and sales tax but not fringe benefits tax. Donations of $2 or more made to the Institute are income tax deductible to the donor.
(j) Employee Entitlements
The Institute has provided for accrued leave for all staff as at 31 December 1993. Long service leave entitlements are provided for staff with ten or more years of service.
(k) Foreign Exchange Transactions
The Institute maintains bank accounts in the USA and UK for the purpose of receiving donations and for the purchase of equipment and supplies. Foreign currency at balance date is translated at

exchange rates at balance date. Exchange gains and losses are brought to account in determining the surplus or deficit for the year.
(l) Comparative Figures.
Where necessary comparative figures have been adjusted to conform with changes in presentation in the current year,

3.Government and Statutory Bodies	1993 $	1992 $
National Health & Medical Research Council	3,840,852	3,093,603
Victorian State Government	672,735	662,680
National Heart Foundation	221,522	485,139
Victorian Health Promotion Foundation	100,000	303,912
	4,835,109	4,545,334

4. Capital Fund
The Institute's capital fund comprises the unspent capital donations, bequests and receipts from fundraising activities. Each year the Board allocates a proportion of this income to supplement the research operations of the Institute. From time to time the Institute is the beneficiary under various wills and trust agreements. Such bequests and legacies are an unpredictable source of income each year. The amounts shown in the Income and Expenditure Statement represents the net result applicable for the operating year

Surplus from Capital Fund	40,204	1,828,793

5. Specific Purpose Fund
Specific purpose funds comprise funds provided to the Institute from various sources including specific bequests, donations and grants for specified restricted purposes.Grants received for specific purposes during the year but unspent at year end, will be expended in the next financial year. Separate accounting records are kept as to identify expenditure charged against income from these funds. All such income and expenditure is incorporated in the consolidated Income and Expenditure Statement. The current balances are:

General Restricted	619,667	1,181,208
Ethel Mary Baillieu	137,866	136,377
Bertalli Family Research	121,408	120,166
William Buckland Research	41,027	41,027
Lang Research Scholarship	108,901	107,825
Laura Nyulasy Scholarship	4,233	4,233
Edgar Rouse Memorial Scholarship	96,008	95,098
Ruby Wallace Travel Scholarship	90,500	88,965
Integrity	333	333
	1,219,943	1,775,232

6. Fund Balances

Balance at 1 January 1993	4,706,883	2,889,488
Asset Revaluation Reserve at 1.1.93 - refer note 2(e)	2,001,488	
Surplus/(Deficit) for year -		
operating fund	(31,062)	(14,170)
capital fund	40,204	1,828,793
specific purpose fund	(555,289)	2,772
	(546,147)	1,817,395
Balance at 31 December 1993	6,162,224	4,706,883

7. Investments (at cost)	1993 $	1992 $
(a) Current		
Short Term Deposits	1,295,634	2,256,817
Total Current Investments	1,295,634	2,256,817
(b) Non - Current Investments		
Shares and Debentures	3,089,434	3,018,504
Trust Units	65,032	65,032
Government and Semi - Government Stock	2,600	2,600
Mortgage Loan	0	3,807
Total Non - Current Investments	3,157,066	3,089,943
Total Investments	4,452,700	5,346,760

As at the 31 December 1993 the market value of the Institute's non-current investments was $4,855,242 (1992 : $3,663,615)

8. Property, Plant and Equipment	
Property, Plant and Equipment (Board's valuation)	2,528,958
Less: Accumulated Depreciation	522,386
Total Property, Plant & Equipment - net book value	2,006,572

9. PROVISIONS		
Employee Entitlements		
Annual Leave	261,873	278,401
Long Service Leave	237,972	230,040
Deferred Maintenance	266,459	290,492
Total Provisions	766,304	798,933

10 REMUNERATION OF BOARD MEMBERS

The Board Members of the Baker Medical Research Institute during the year were:

D.F.Hogarth	J.W.Funder	G.B.Ryan
N.O'Bryan	W.A. Kricker	D. Butler (resigned Sept '93)
G.P.Johnston	J.Loy	R. E. Barker (from Oct '93)
W.G.Philip	R.Porter	J. C. Habersberger
M. Ross	P.G. Habersberger (from March '93)	

No Board Member has received or become entitled to receive a benefit other than the Director of the Institute, Professor J.W. Funder, who receives a salary.

11. SUPERANNUATION

The Institute operates a cumulative type superannuation plan under which all employees are entitled to benefits on retirement, disability or death. Employees contribute to the plan at various percentages of their salaries. The Institute also contributes to the plan at rates related to employee contributions and pursuant to an award set down under a national wage case.Funds are available to satisfy all benefits that have been vested under the plan in the event of termination of the plan or voluntary or compulsory termination of employment of each employee.

12. STATEMENT OF CASH FLOWS

	1993 $	1992 $
Cash Flows from Operating Activities		
Receipts from Granting Bodies	4,857,434	4,107,963
Donations and Bequests	1,987,865	4,182,653
Payments to Suppliers & Employees	(8,349,804)	(7,846,227)
Dividends Received	134,987	97,742
Interest Received	173,681	262,547
General Income	628,920	445,723
Net Cash from Operating Activities	**(566,917)**	1,250,401
Cash Flows from Investing Activities		
Payment for Investment Securities	(67,123)	(1,336,387)
Proceeds from sale of Investment Securities	20,328	33,745
Payment for Property, Plant & Equipment	(527,470)	0
Net Cash from Investing Activities	(574,265)	(1,302,642)
Net Cash Increase (Decrease) in cash held	(1,141,182)	(52,241)
Cash at beginning of the financial year	2,545,884	2,598,978
Effects of Exchange rate changes on cash held in foreign currencies	2,617	(853)
Cash at the end of the financial year	**1,407,319**	2,545,884

(a) Reconciliation of Cash

For the purpose of the statement of cash flows, cash includes cash on hand and in the bank and investments in the money market instruments, net of outstanding bank overdrafts. Cash at the end of the financial year as shown in the statement of cash flows is reconciled to the related items in the balance sheet as follows:

Cash	111,685	289,067
Deposits at call	1,295,634	2,256,817
Total as above	**1,407,319**	2,545,884

(b) Reconciliation of Net Cash provided by Operating Activities to Surplus (Deficit)

Operating Surplus (Deficit) from Operating Activities	(546,147)	1,817,395
Effects of Exchange rate changes on cash held in foreign currencies	(2,617)	853
Depreciation	522,386	
(Profit) Loss on sale of investment	(20,328)	
Changes in net assets and liabilities		
Increase in debtors	(102,734)	(51,541)
Increase in prepayments	(38,357)	(27,382)
Increase (Decrease) in creditors	(346,491)	143,409
Decrease in prepaid income	0	(693,405)
Increase in provisions	(32,629)	61,072
Net cash used in operating activities	**(566,917)**	1,250,401

TO THE BOARD OF MANAGEMENT
BAKER MEDICAL RESEARCH INSTITUTE

Scope

We have audited the financial statements of the Institute for the year ended 31 December 1993 as set out on pages 36 to 41. The Directors are responsible for the preparation and presentation of the financial statements and the information contained therein. We have conducted an independent audit of the financial statements in order to express an opinion on them to the Board of the Institute.

Our audit has been conducted in accordance with Australian Auditing Standards to provide reasonable assurance as to whether the financial statements are free of material misstatement. Our procedures included examination, on a test basis, of evidence supporting the amounts and other disclosures in the financial statements, and the evaluation of accounting policies and significant accounting estimates. These procedures have been undertaken to form an opinion as to whether, in all material respects, the financial statements are presented fairly in accordance with Australian accounting standards so as to present a view which is consistent with our understanding of the Institute's state of affairs, the results of its operations and its cash flows.

The audit opinion expressed in this report has been formed on the above basis.

Audit Opinion

As indicated in Note 2(h) to the financial statements it is the Institute's policy to write off all expenditure on stock as incurred.

In our opinion, with the exception of the effect of the omission of these assets, which we are unable to quantify, the financial statements of the Institute are properly drawn up:

(a) so as to give a true and fair view of the state of affairs of the Institute as at 31 December 1993 and its results and cash flows for the financial year ended on that date; and

(b) in accordance with Australian Accounting Standards.

Price Waterhouse
Chartered Accountants

Melbourne
15th March 1994

E A Alexander
Partner

BAKER MEDICAL RESEARCH INSTITUTE
STATEMENT BY BOARD MEMBERS

In the opinion of the Board Members of the Baker Medical Research Institute:

(a) The financial statements and notes to the accounts set out on pages 36 to 41 are drawn up so as to present a true and fair view of the state of the Institute's affairs as at 31st December, 1993 and of its results for the year ended on that date;

(b) As at the date of this statement there are reasonable grounds to believe that the Institute will be able to pay its debts as and when they fall due; and

(c) The consolidated financial statements have been made out in accordance with applicable Accounting Standards, except in relation to the treatment of stocks as set out in Note 2(h) to the accounts and referred to in the report of the Auditor. Signed at Melbourne this 15th day of March 1994 in accordance with a resolution of the Board.

Don Hogarth
President

John W Funder
Director

Donors 1993

Major Donors 1993

The Institute is grateful for major contributions to its work from:

National Health & Medical Research Council of Australia
Victorian Government
National Heart Foundation
National Institutes of Health (USA)
Australian Kidney Foundation

Major Corporate Sponsors

Glaxo Australia Pty Ltd
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Petcare Information & Advisory Service
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Tag Instruments
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Wiretainers Pty Ltd

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Estate of D H Walker
Estate of Edward Wilson
Feilman Foundation, The
Fink, Mr & Mrs L & M
Fitzgerald, Mr L J
Freshwater, Mrs B

Donors 1993

Funder, Professor JW & Dr KR
George Thomas & Lockyer Potter Trust
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Glasgodine, Miss H D
Greenfield, Mr H
Greenfield, Mrs M
Gurry, Mr W P
H A Appel Family Trust
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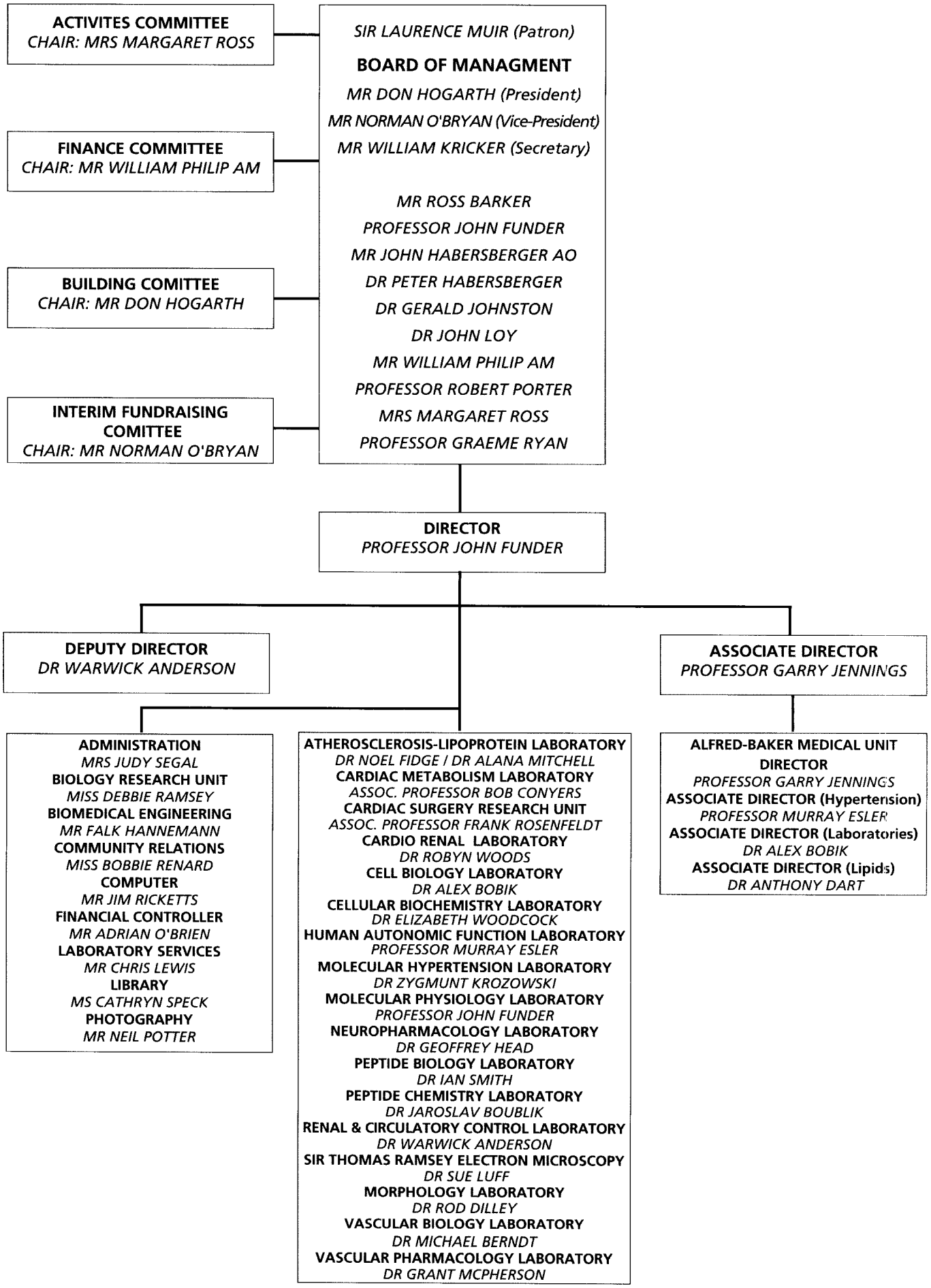

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ANNUAL GENERAL MEETING
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