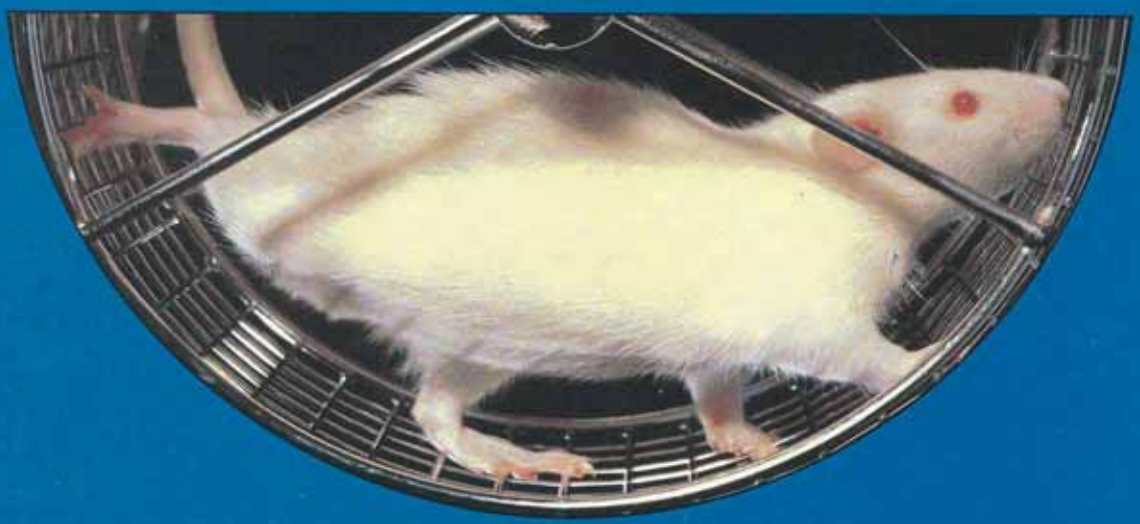
BAKER MEDICAL RESEARCH INSTITUTE



ANNUAL REPORT 1992

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 an training in cardiovascular diseases, the only one in Australia.

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 UP OF ARTERIES WITH FATTY CHOLESTEROL-LADEN PLAQUES) WHICH CAUSE STROKE, HEART ATTACK, 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.

Jamie Knight is currently Victorian Men's Aerobics Champion, and we can measure his cardiovascular performance by bicycle ergometry. Rats love exercise, almost certainly more than most people do. When we put a wheel in the cage, a rat will run up to 6 km a day, for fun. With an attachment like the pedometer on Jamie's bicycle, we can measure how many times the wheel turns - and thus how diet, and exercise, and drugs to lower cholesterol, for example, interact in terms of their effects on blood pressure.

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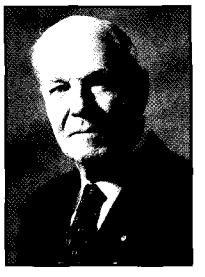

Mr J C Habersberger,AO,
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Mr N O'Bryan,
BA, LLB, BCL,
is a partner of
Minter Ellison
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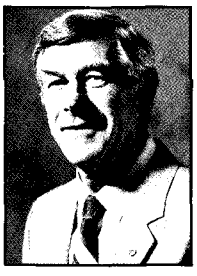


Mr W G Philip,
AM, BComm, FCA,
is currently
Vice-President of the Alfred
Group of Hospitals

Professor R Porter,
BMedSc, DSc , MA, BCh,
DM, FAA, FRACP, is Dean
of the Faculty of Medicine,
Monash University.

Professor G B Ryan,
MDBS, PhD (Melb), FRCPA,
FRACP, is Dean of the
Faculty of Medicine and
Dentistry, University of
Melbourne.

PRESIDENTS REPORT

Up until the 1950's Western societies were production-limited: essentially everything that was produced was snapped up, or at least very easily sold. Over the last four decades, however, we have seen a change from production to consumption as the limiting factor - think of the butter mountains in France, the wine lakes in Italy, the wool and wheat stockpiles in Australia. For the first time, for a large part of the world, we are producing more than we can consume - at least in terms of basic commodities and raw materials.

When there is surplus, the consumer has choice. When the consumer has a choice, she (more often than he) is open to persuasion, to being convinced that she needs Fab rather than Omo, Ford rather than Holden. The science and art of marketing is to tap into a demand where it exists, and to create one where it doesn't. We all know the old joke about trying to sell refrigerators to the Eskimos - but five years ago there were shops in Melbourne that actually succeeded in selling people pet rocks.....

Whereas the doctors and scientists at the Baker think that medical research is about organs and molecules and drugs and discoveries, I think it's about marketing. This reflects our very different backgrounds: they trained in biology, and I trained in business. They work in the laboratory and in the clinic: much of my work, in the public and private sector, was as a marketing man.

What the research workers at the Baker have got is a product. The community as a whole - and their elected representatives - don't know too much about it, and historically the scientists and doctors have been better at doing their research than translating it into terms that the man in the street can understand. But when the man (and woman) in the street do understand why we are doing our research - and particularly when they share the excitement and sense the dedication of those who are doing it - then we'll have no problem in marketing our product.

The Baker has been around for a long time, tucked in behind the Alfred Hospital. It is widely recognized among Melbourne's medical community, and has a very high national and international scientific profile. But in many ways, talking to the medical and scientific community is preaching to the converted; what the Baker needs is to throw off its detached air of scientific reticence, and get out into the community and tell it how it is.

In terms of marketing, the product is a dream. Half of our population will suffer from cardiovascular disease, and nearly everyone is affected by the occurrence of a coronary occlusion or stroke in a family member or close friend. Heart disease affects young and old, rich and poor, men and women. It's in part preventable, and if we knew more we may become even better at prevention. What we can't prevent we can treat, better and better as time goes on.

For better prevention, diagnosis and treatment we need to invest in research; for the community to make such an investment they need to be persuaded of its value. It is my hope that this Annual Report will go some of the way towards this goal.

Don Hogarth
President Baker Institute

DIRECTORS REPORT

There is an old story, almost certainly apocryphal, of a Scottish parson who announced that today's sermon would be on the topic of "God, Man and the World: Past, Present and Future", which would take ten minutes, including time for questions. In many ways, a Director's report is a Scottish sermon. There have been millions of words written in the Institute in 1992 - research protocols, results, draft papers, memos, order forms, fundraising letters; how can you say what 1992 felt like for the Baker in a thousand words?

The dominant factor for the first half of the year was our Quinquennial Review by the National Health and Medical Research Council (NHMRC). Originally scheduled for February-March, it proved impossible to align the committee members' periods of availability until the first week of June. The Committee comprised Professor Lawrie Beilin (UWA, Perth), in the chair, Professor Willa Hsueh (USC, Los Angeles), Dr. Rick Jackson (UQ, Brisbane), Professor Eugenie Lumbers (UNSW, Sydney) and Professor Alberto Zanchetti (IRC, Milan).

After an exhaustive (and exhausting) series of presentations and interviews, the visiting committee recommended a substantial increase to our base funding for the existing 46 NHMRC funded positions, and 4 new positions for 1993, with a fifth and sixth in 1994-95 subject to the availability of funds. These recommendations were endorsed later in the year by NHMRC, and put into place with a 2% across the board cut, as is the case for all NHMRC-grant holders, and of which more later.

The peer review system is like democracy - it may not be perfect, but it's the best we've got. We didn't get all that we asked for, but we wouldn't have it any other way. For their hard work, their patience, their collegiality - and perhaps most of all, their obvious excitement at much of the science that was presented to them - the Institute owes the Quinquennial Review committee an unqualified vote of thanks.

If the Quinquennial Review in early June was the theory, then the International Society of Hypertension (ISH) meeting in Madrid in mid-June was the prac. Madrid turned on changeable, Melbourne-in-December weather - but even if the sun didn't shine, Australia in general and the Institute in particular did. Twenty scientists from the Institute presented their work, the majority as the very rare (15%) oral (rather than poster) communications. Jim Angus was an invited symposiast, and Jane Black won a Demuth Award for an outstanding presentation by a young investigator. Warwick Anderson no doubt learned a lot about hypertension, but probably even more about running the next ISH meeting, in Melbourne in March 1994.

The first half of the year was also marked by two other important events. In April Mr. John Moir retired as President of the Board of Management, after just over four years in the chair, and decades of service to the Institute. The years of John's Presidency were scientifically highly productive but - as for many other institutes - financially unsettled. His steadfastness and judgement have been a key factor in the smoothness of the transition between Directors, and in his handing over to Mr. Don Hogarth, our current President, an Institute which is both scientifically highly productive and financially secure.

The second noteworthy event in this period was the publication of "Your Heart", written by staff members of the Institute and edited by Garry Jennings. A fuller description of the book, and our reasons for putting it out, are given in the Laboratory Report section (p 8-9).

DIRECTORS REPORT

In many ways the second half of the year mirrored the first - a period of 4-5 months beavering away in the laboratory, followed by it all happening in the month before Christmas. On November 26 in our library Sir Gustav Nossal (Director of the Walter and Eliza Hall Institute) launched "In Their Day", a collection of reminiscences by Baker alumni of working at the Institute at various time of its 67 year history. The anthology was compiled by Rod Andrew, Honourary Archivist to the Institute and editor of the quarterly Baker Institute News, and Alf Barnett, previously Director of the Clinical Research Unit (now ABMU). The two editors - and Gus Nossal - have a keen appreciation of the importance of books (and events) like this in the broader cultural life of Melbourne, as well as of their particular interest to Baker people: to them all, then, our sincere thanks are due.

Four days later Bronwyn Kingwell, a postdoctoral fellow in the ABMU, was named as Channel 10's Young Achiever for 1992, in recognition of her work on exercise and blood pressure: a fuller description of what she does is given in the Laboratory Reports section (p10-11). On December 3 we welcomed the new State Minister for Health, the Hon. Marie Tehan, as Guest of Honour at the Seventh Annual Baker Dinner Dance. The Minister spoke of the importance of a research base to health care and to Victoria's post-industrial future, and reiterated the Government's commitment to its support.

The following ten days saw three scientific meetings at which Institute scientists presented their work for 1992 - the annual meeting of the High Blood Pressure Research Council of Australia, the Second Annual Baker Symposium (both in Melbourne), and the Australian Society for Medical Research in Brisbane.

The Institute has long contributed 25-30% of all the papers read at HBPRC, and an increasing number to ASMR. The Baker Symposia, however, are a relatively new initiative, and along slightly different lines to the traditional annual meetings. The Symposia each year consider a different theme or topic within the broad cardiovascular area: in 1991 it was Lipids and Lipoproteins, in 1992 Vascular Biology, and in 1993 it will be Signalling in the Cardiovascular System. To the non-specialist they may all sound like variations on a theme; to the scientists, however, they're as different as soccer and rugby and Australian Rules. The symposium attracts 3-4 overseas experts in the particular field each year, and 6-8 from interstate: to the major sponsors (Merck Sharp and Dohme, Parke Davis and Squibb) who cover the symposium costs, and thus allow us to present the cutting edge in a particular area each year, we are very grateful.

If from a diary point of view these were the major events in the Institute year, it is also important to make some comments on 1992 as a whole. In terms of Institute personnel we welcomed Michael Berndt in late 1991, as Principal Research Fellow and head of the Vascular Biology Laboratory: in 1993 this laboratory will be the Pip and Hazel Appel Vascular Biology Laboratory, in acknowledgement of their very generous support of the Institute, and Michael's colleague Robert Andrews will become the Pip and Hazel Appel Senior Research Officer. We also welcomed Adrian O'Brien, as Financial Controller, at the very end of 1991: his personal attributes, professional skills and wide experience of the health and research sectors have made him an invaluable addition to the Institute staff. Miss Bobbie Renard took over Community Relations early in 1992: her energy, enthusiasm and ability to bring out the best in the most reticent scientists have enabled her to work wonders in a remarkably short space of time.

In terms of farewells, the Deputy Director (1990-92) Jim Angus, Tom Cocks (Senior Research Fellow) and a total of ten postdocs, support staff and students move at the end of 1992 to the Department of Pharmacology at Melbourne University, where Jim will be Professor and Chairman. Despite their departure we retain many friendships and scientific collaborations: our loss is Melbourne University's gain.

On the broader scale, 1992 has been a year of difficulty for Victoria and Australia in a number of areas, and the medical and hospital sector has certainly been among those hardest hit. The National Heart Foundation in 1993 will distribute less than half as much for new grants as in 1992: we had seven of our eleven NHF projects finished at the end of 1992, and only 3 new projects were funded to join those continuing on till 1994. Though the Institute received the modest (but very welcome) increase recommended in our block grant, the NHMRC project grant success rate fell to 21%, 5% lower than the previous toughest year, and clear testimony to a lot of highly competitive research (arguably, the grants ranked 21-40% on the scale) not being supported. For the first time, the total number of grants (new, plus those continuing from 1990 and 1991) was down. In 1975 medical research attracted 0.4 cents of the health dollar, and in 1992 the NHMRC was hovering between 0.3 and 0.4 cents - not really the kind of progress you'd expect of the clever country.

To change this situation we are not talking about vast sums of money: we are talking about marginal changes in the global health budget, so that research finally reaches 2% - hardly a radical figure, in the global sense. Where the changes will need to be radical is in the public perception of what research is about, and why we do it. The annual report is written with the necessity for this in mind: the research reports are written to be understood, rather than to blind the reader with science. They cover only a small fraction of the work done at the Baker, and they focus more on the people who work in the laboratories, and why they do what they do, than on the results of pharmacological experiments or biochemical measurements. For those interested in the latter we have prepared a 100-page, typed account of the whole spectrum of projects undertaken for the year, as well as the list of publications in the present Report. What this Report is about is trying to change the culture - to take the fear and mystery out of medical research, and to show you, the community, the excitement and wonder of it all.

John Funder
Director, Baker Medical Research Institute

YOUR HEART

Garry Jennings is Director of the Alfred and Baker Medical Unit, and Associate Director of the Baker Institute. His appointment, and the work he does - in the ward, in the laboratory, and at his desk - underline the "benchtop to bedside" nature of the research we do.

"Publish or Perish" is a catchcry applied to academics in general, and research workers in particular. It's snappy, and it's true, even if sometimes the pressure to publish incomplete or half-digested findings goes over the top. The sort of research we do is a triad: hypothesis, testing, publication; and until it's published, you've had great fun testing your hypothesis, but you haven't done your research.

We publish in many ways. If there's a feeling that it might need something more, or benefit from other people's interpretation, then the work is presented internally, at Research in Progress (a.k.a. RIP) sessions each week. When it's judged to be complete, then it's submitted for presentation at national and international scientific meetings, and a written paper sent off to what are perhaps quaintly termed,' learned journals.'

Most of the audience at scientific meetings are specialists, and similarly the person in the street only occasionally dips into `Circulation Research' or `The Journal of Biological Chemistry'. If something is considered newsworthy (a good example is pet ownership and cardiovascular risk) then the media in Australia will run with it. On the other hand, there is a raft of world class research, at the Baker and elsewhere, which never gets any general recognition - because, it is said, even if the people could understand it they wouldn't be interested.

In fact, this is not true: when people in Australia were asked a couple of years ago what they were interested in reading about, advances in science and medicine topped the poll - well ahead of sport, for example. One thing that this tells us is that perhaps our media decisionmakers are confusing their own preferences with those of the public, and are not allowing themselves to be confused by the facts. Another thing it tells us is that if the jargon and shortcuts are dropped, and if people write simply and clearly, there is an enormous market for information on the sorts of things the Institute does.

A team from the Baker and the Alfred Baker Medical Unit, with Garry Jennings as editor, have recently plugged one gap with a book entitled `Your Heart'. It tells the intelligent lay reader how the heart works normally, and what can go wrong. It describes what you can do to avoid cardiovascular disease, and the treatment options open to those who are patients.

Doctors use the word `compliance' to describe patients staying on the medication prescribed for them. Nowadays, the involvement of the patient in decision making is being increasingly acknowledged: not just the possibility of `a second opinion', but recognition that if treatment is going to work both patient and doctor should be actively committed to it. It's much easier for an intelligent, educated patient to be part of that treatment team if the understanding is there, if shorthand like "beta blockers" and "ACE inhibitors" is explained simply and clearly.

We printed 7000 copies, a big first up print run. We're not doing it to make money, but for two reasons. The first is to empower people - patients, relatives - to play a more active part in the prevention and management of cardiovascular disease, on the basis of a new level of understanding. The other reason is to give an account of ourselves to the community which supports us.

The Institute relies for its existence on public funds - National Health and Medical Research Council, State Government - and the support of many generous private donors: individuals, corporations, trusts etc. Either way, it's the community which underwrites this research, and the triad of hypothesis/testing/publication is not research until it's published. We have to publish in Circ. Research and JBC (more abbreviations) for the scientists; equally, we have to publish `Your Heart' for the wider public. And at a recommended retail price of $9.95, it's not only more readable, but also a fifth the price of a `learned journal'.

You can do as many experiments as you like, but until they are presented and published they do not become research, because nobody else knows the score. Here Jaye Chin (top) shows Bronwyn Kingwell what she is doing on human hand vein segments.

Doing good research is not easy. It's often best to do experiments on the blackboard first; laboratory supplies are expensive, and chalk is cheap. Sometimes you know the results tomorrow, which can be exciting (or disappointing). Often you have to go months before the numbers are enough, and a pattern emerges (or even more disappointing, it doesn't).

Now if research in general is not easy, clinical research is doubly difficult. Part of this is the nature of the enterprise; doing experiments on people is not something done lightly, however safe they are. Taking a bit of vein from the back of your hand will leave a little scar; riding an exercise bike with catheters (tubes) coming out of various veins has a tiny, but nonetheless real, chance of causing a clot.

Why, then, do clinical research on normal people? The answer is that we have to know the baseline, `normative' data for a whole variety of cardiovascular functions. Some of these observations are noninvasive - for instance, establishing that normal blood pressure is 120/80, or that the resting heart rate is around 70 in men and 80 in women.

Others require bits of vein to be taken, or tubes and wires to be inserted. In the Alfred and Baker Medical Unit, Jaye Chin studies bits of blood vessel, and Bronwyn Kingwell studies people on exercise bicycles. Both have Ph.D.'s in Pharmacology, and are about as far away as you could possibly get from the stereotype middle aged male medical research worker.

It has been widely reported that eating fish - particularly oily fish - has a protective effect on the heart and blood vessels. Nobody really knows how fish oil works, and Jaye aims to find out. Some of the previous studies, from here and elsewhere, have been ambiguous, in that the whole body effect seems diametrically opposed to what happens to isolated pieces of blood vessel in an organ bath.

What Jaye does is to attach a tiny ultrasound device to the skin over one of the veins on the back of your hand, and then test the response of the vein to agents that contract blood vessels, like noradrenaline. She does this while you are on a normal diet, and then takes a tiny piece of the vein to study in vitro, in the organ bath. Onto the fish oil diet (capsules, actually, rather than five fish meals a day) and four weeks later the whole process is repeated. By this sort of design she can compare fish/oil and normal diets, in vivo and in vitro.

Bronwyn is a fitness freak - squash, running, triathlons. What she does at work is to preach what she practises. Whereas we traditionally associate preaching with taking things on faith, what Bronwyn is after is scientific evidence - that exercise is good for you. Most of us take this as an article of faith, although sometimes this faith is jolted by stories of anorexia and stress fractures and squash players leaving the court feet first.

So Bronwyn compares the coronary risk factors in people before, during and after exercise programs. She looks at blood pressure and lipids and various important hormones. She looks at different sorts of exercise at different intensities. She looks at exercise with and without calorie reduction and weight loss.

What she can now offer is proof, for the first time, that exercise is good in terms of a range of cardiovascular risk factors-not only for those with high blood pressure or elevated cholesterol, but also for the other eighty percent of us whose values are in the normal range.

When we know what is normal, then we have a baseline for treating the abnormal. Establishing what is normal and abnormal is the whole point of clinical research: and to the volunteers patients - and normal subjects - who take part, and to Jaye and Bronwyn who do it so well, we all owe a debt of thanks.

Terry Costello is a dedicated athlete - gymnasium, weights five hours a week, half marathons. He is also the first person in the world (the index case) for whom the syndrome of Pseudohypoaldosteronism, was described at the Royal Children's Hospital in Melbourne in 1958.

In 1958 two research workers at the Royal Children's Hospital in Melbourne published the first recorded case of Pseudohypoaldosteronism (Cheek and Perry, Archives of Diseases of Childhood, 33:252, 1958). Pseudohypoaldosteronism (hereafter PHA) is a long and complicated word, understandable only if we break it down into its component parts. Pseudo clearly means false or fake; hypo means low or under; and aldosterone is the salt retaining hormone secreted from the adrenal gland, which was discovered only five years earlier

Terry Costello was the first person in the world for whom this condition was described. As a newborn baby, he was a 'salt loser', suggesting that his aldosterone was low (hypo), whereas in fact it was very high (pseudohypo). What Terry doesn't have is normal aldosterone receptors, the intracellular locks into which aldosterone fits like a key, to turn on salt retention. Unless babies with PHA are given very strong salt solution every two hours, they become sick and die.

We not only have aldosterone receptors in the kidney, where they function to control salt loss, but also in white blood cells, where their role is less obvious. By 1985 Terry was a patient at the Alfred. In collaboration with colleagues in Munich (who studied a brother and sister with PHA) John Funder and Dr. Jim Stockigt (Director of the Ewen Downie Metabolic Unit at the Alfred) published the first study proving that people with PHA don't have aldosterone receptors, by examining their white blood cells - which are a lot more accessible than kidneys.

The science doesn't stop here. In 1992 Paul Komesaroff at the Baker, in collaboration with Dr. Peter Fuller of Prince Henry's Institute, cloned and sequenced the 'abnormal' aldosterone receptor in Terry's white blood cells. The surprise is that it is absolutely normal; the consolation is that parallel work at the College de France, in the laboratory of a long time friend of the Institute, Dr. Pierre Corvol, turned up exactly the same result from a different patient with PHA. Both patients tend to lose salt; both have very high aldosterone levels; both have receptors that seem absolutely normal - but the key doesn't fit into the lock.

Why is all this important? It's important for several reasons, the first of which is that if the condition is not recognized and treated appropriately babies die. Once or twice a year we get blood (not very much) from a sick baby to look for aldosterone receptors in the white cells, to confirm or exclude the diagnosis. It's also important because such experiments of nature often provide unique insights into normal physiology, how things are usually regulated in the cell and in the body. They can, on occasion, even tell us things about the way we have evolved, and the sort of society we live in.

For example, though people on a very low salt diet (like milk) clearly need aldosterone, on a normal Western diet we can relatively easily make do without it. In fact, it may be that not being able to turn off aldosterone sufficiently, given our high salt intake, is one of the factors in "essential" hypertension, 'Medispeak' for most cases of high blood pressure, cause unknown. What knowing about aldosterone does is to put some science behind the low salt diets that are increasingly used for the prevention and treatment of essential hypertension.

What it also underlines is the extent to which sharing is important to research. First, without Terry's unflagging interest and cooperation we would be nowhere; as a baby he needed us, but now the boot is on the other foot. Second, it underlines the joint efforts of the various scientific groups involved - the Royal Children's, the Alfred, Prince Henry's Institute, the Baker; Melbourne, Munich and Paris. And finally, it underlines the commonalities of medical research - so that finding out why babies lose salt may ultimately enable us to prevent high blood pressure.

If you want to know what affects the level of cholesterol - or triglycerides, or lipoproteins - in the blood, you have to be able to measure things. Here Alana Mitchell and Noel Fidge discuss separation of various nucleic acid fragments, part of the code for a lipoprotein receptor.

We hear a lot about cholesterol. Avocados and olive oil are labelled as cholesterol-free, as if somehow this made their 9 calories per gram a non-event. People think that 'trim' cuts of lamb or pork are cholesterol-free, which they're not. They may be low fat, like chicken fillets (skin off, no cheating) but they are full of cholesterol, because cholesterol is a major building block of all animal cell walls.

Where cholesterol does become important is not primarily how much of it we eat, but how we handle the cholesterol we actually make in our own bodies. Most of the cholesterol in the body is used as building blocks, although it does fill niche markets as the precursor of steroid hormones (like oestrogen or testosterone), and of vitamin D.

Parenthetically, unless you never get out into the sun, vitamin D is not actually a vitamin (required in the diet: remember that awful cod liver oil) but a hormone, made in the skin exposed to ultraviolet light. The reason that it was called a vitamin was that the original studies were done in Glasgow: enough said.

Back to cholesterol and cardiovascular disease. Pure cholesterol is like wax, and insoluble in water. It is carried round in the blood mixed with other lipids (fats), with a coating of protein: the whole ensemble is called a lipoprotein. These lipoproteins come in different sizes-high density lipoproteins (HDL) are small, low density lipoproteins (LDL) are large, and very low density lipoproteins larger still. The reason why the names seem somehow the wrong way round is that fat floats, and protein is heavy, and that the thickness of the protein coating is much the same for all sizes.

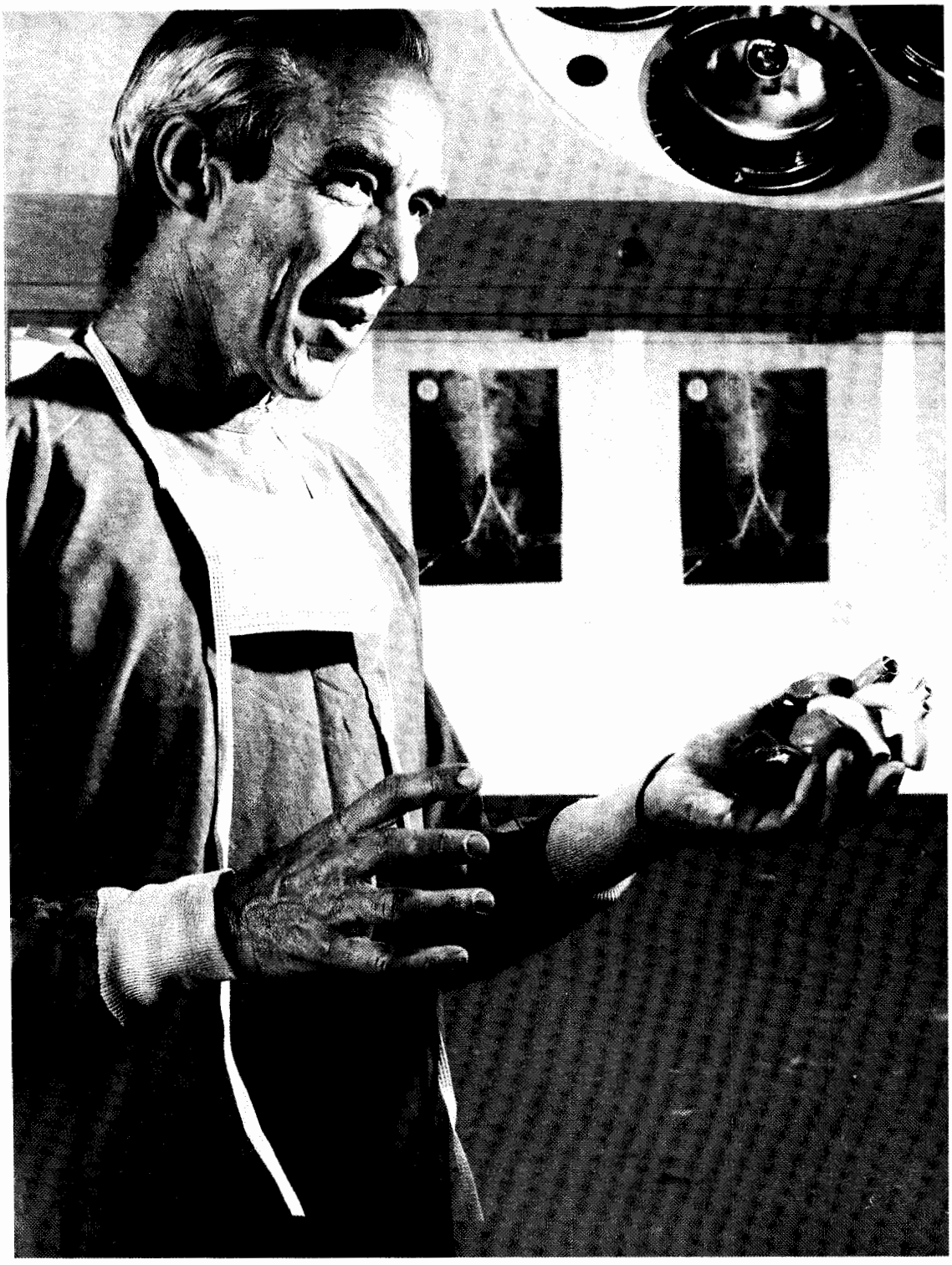
What Noel Fidge and Alana Mitchell do is study how the various lipoproteins are formed, and the ways in which the body can handle them once they are circulating in the blood. We know that a high ratio of LDL to HDL is a risk factor for heart attacks; are there any subtleties, in terms of the nature of the protein coating for example, that would tell us who is more likely to get atherosclerosis, the deposits of cholesterol and other lipids that block arteries?

Why are the enzymes that put together and package the lipoproteins so different in the rabbit and rat? They're different by a factor of 10: it's almost impossible to give a rat atherosclerosis (death by chocolate is not a rat problem). Rabbits are much more like people, at least in this regard: what is this telling us for human medicine?

Some years ago Brown and Goldstein in Dallas (it's not just soap operas: Southwestern is arguably among the top five medical schools in the world) won the Nobel Prize for isolating and characterizing the LDL receptor. LDL receptors are like docking bays on the liver cell membranes, that shunt LDL from the blood into the liver to be broken down and reused.

For many years people were uncertain whether there were HDL receptors, and now it's pretty clear there are, thanks to Noel and Alana. They have fragments of the HDL receptor, but not its complete sequence. It's a bit like having every fourth line of the Dead Sea Scrolls: enough to know that you're on to something very different and exciting, but not enough for the whole story.

And so it's full steam ahead with the protein chemistry and molecular biology, to come up with the characterization and entire story on the HDL receptor. Why? There are two answers. The first is obvious - because it's the ratio of LDL to HDL that seems important, so that how HDL is captured may be important in heart disease. The second is also obvious : like Everest, because it is there - and who knows what lies on the other side?



In this shot Frank Rosenfeldt is holding a plastic heart - but most days of the week it's a real one. As a member of the Alfred Cardiac Surgery team he brings the latest in technical advances into the operating theatre.

Stereotypes are often misleading, none more so than in the case of surgery. Perhaps it's the influence of M.A.S.H., but for most of us the stereotype of surgery is that of high drama, endlessly re run; helicopters, green gowns, lights, camera, action.

In real life, the thing that the "surgical' team least needs is additional drama. The best surgery is that which has been thoroughly planned, meticulously carried out, and is rapidly and quietly successful. In this regard it is interesting how we sanitise military operations as surgical strikes, done with surgical precision.

The fact of the matter, as our politicians are wont to say, is that cardiac surgery is intrinsically dramatic, however well planned, precise and routine. The chest is opened. The heart is stopped. The patient's blood is oxygenated and circulates thanks to a heart lung machine. The leaky valves are replaced, or the blocked arteries bypassed with bits of vein. Nowadays, when the heart muscle is too far gone, the patient receives a heart transplant.

For most people this is pretty dramatic stuff. What the patients don't need is further drama, bleeding or clotting, spasm of grafted veins, erratic function of the transplanted heart. What Frank Rosenfeldt does, in the Cardiac Surgery Laboratory at the Baker, is to make sure that the drama is confined to the conceptual level, and that none of these untoward events occur.

For example, the heart surgeons use either the internal mammary artery, that runs down inside the chest wall, or sections of saphenous vein from the thigh, to bypass blocked coronary arteries. With Jim Angus and Tom Cocks, Frank has worked out a cocktail for treating these vessels, during the course of the operation, to minimize the risk of their going into spasm.

There is inevitably a time lapse between the heart being taken from the dead donor and its being attached to all the appropriate arteries and veins in the recipient's chest. During this time it doesn't beat, and thus needs less oxygen and energy. What it does need is the most supportive environment possible, to minimize the effects of being outside the body.

From experiments over several years Frank has worked out a mixture of salts and sugars and amino acids which, at just above 0°C, can sustain a heart for up to eight hours outside the body. It used to be four hours, and now there's twice as long and hearts are in much better shape

Cardiac transplantation is expensive, and there's no shortage of recipients. In 1993 the Alfred team can use donor hearts from anywhere in Australia, confident that they can be restarted and will keep on beating once the surgeons have done their job.

What Frank does illustrates the way in which best practice depends on research. Some of his days are spent at the Alfred operating theatres, others in the theatre at the Baker, and the rest in the laboratory. What he does is to make blood vessels dependable, hearts predictable, surgeons confident, patients reassured. What he does is to reduce the drama to an irreducible minimum.- which, in the case of something as extraordinary as heart surgery, is drama enough.

Frederic Sannajust (left) and Geoff Head read a polygraph ("lie detector") tracing of nervous activity. In this case, it's the nerves supplying the kidney, and the activity changes in response to alterations in blood pressure.

Like most things, doing medical research has its ups and downs. The hours are long, the training longer, and the pay only fair. On the other hand, most medical research workers enormously enjoy what they do, asking questions and then setting about answering them. Although in many ways people are their own boss, in other very important ways research is increasingly a team effort. This feeling of collegiality is not strictly institutional: the Baker would rejoice, for example, if someone from the Hall Institute won the Nobel Prize - and with a significantly higher decibel level than that from GMH when the Falcon was named Car of the Year.....

This collegiality is not merely national, but very importantly international. Nowhere is this better exemplified than in Geoff Head's Neuropharmacology Laboratory. As the name implies, the area of research that Geoff and his colleagues work in is the effect of drugs on the brain and peripheral nervous system, in particular as these effects can help us unravel the normal ways in which the brain affects blood pressure.

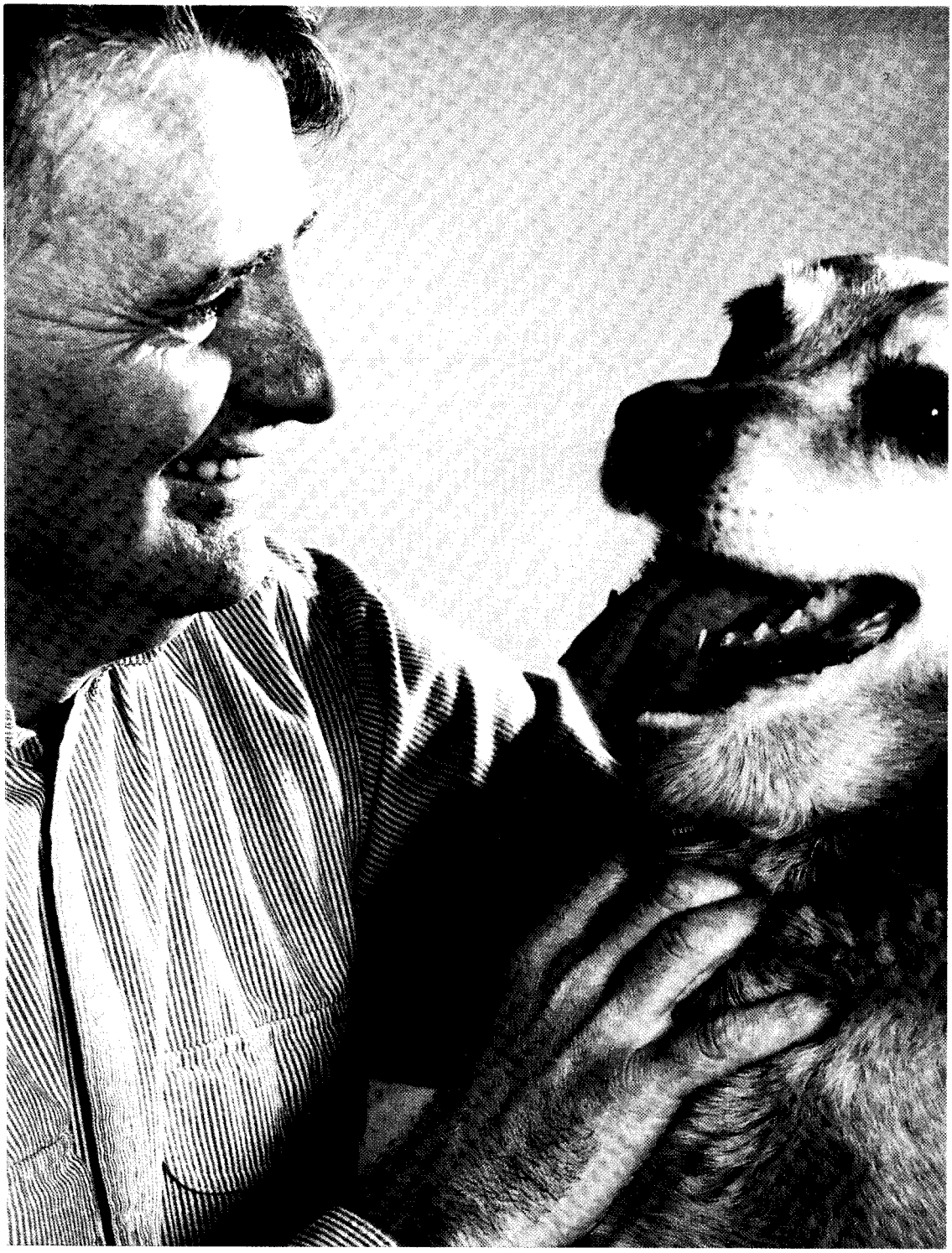
As visiting scientists Geoff has had Maarten van den Buuse, from Holland, and two Japanese postdoctoral fellows, Takeshi Saigusa and Naoyoshi Minami, over the past four years. Currently, Frederic Sannajust from Lyon is spending two years in the laboratory, applying techniques he developed during his doctoral studies in France to studies on the interrelationship between the brain, the nerves to the kidney, and blood pressure.

The National Health and Medical Research Council of Australia (NHMRC), and its French equivalent (Institut National de la Sante et de la Recherche Medicale: INSERM) have a reciprocal arrangement, to fund an Australian postdoctoral fellow in France and vice versa. Frederic came to Australia and worked under this scheme at the Austin Hospital for a year. He has extended his time in Australia, thanks to a grant to Geoff Head from I.R.I. Servier France, and is now a major player in the research program in Geoff's laboratory.

What Frederic can do is to implant, under anaesthesia, tiny electrodes into the nerves supplying the kidneys, and then when the rabbits wake up he and Geoff measure the nerve traffic to the kidneys in response to various stimuli. The kidneys, which regulate how much salt and water we have on board, are a crucial part of blood pressure control. To imagine how this happens, think of the humble sausage. Salt and water are the sausage meat, and the blood vessels the casings: too much sausage meat, or too tight a casing, and the pressure rises.

The kidney not only controls the amount of filling, but also how tight the casing is, by releasing a variety of hormones. Some of these contract blood vessels, others dilate them. Measuring how nerve impulses to the kidney modify and regulate all of these responses is a very exciting way to try to work out how the brain regulates-blood flow distribution according to demand - for example, when we stand up, or exercise - and how it can go wrong in hypertension.

In March 1993 Maarten van den Buuse will return, this time for a longer stay, and in August Frederic will go back to Lyon to a position in the Department of Physiology there. Frederic comes from Thiers, the Sheffield of France, where his family for generations has made the traditional `Laguiole' knives. Frederic has certainly brought cutting edge science to the Baker, as well as an enormous capacity for hard work. In turn, he will return to France with a keen appreciation of the breadth of enquiry into hypertension in the Institute as a whole, and an Australian fiancee. The differences between countries like Australia and France and Holland and Japan are trivial, at least in terms of health issues; and one of the ties that binds them, in the area of hypertension, is the network that Geoff Head has provided in his Neuropharmacology Laboratory.



Associate Director Warwick Anderson (left) wrote the book (literally) called the Code of Practice for the use of Animals in Medical Research. He also watches his own blood pressure, as owner of a dog called Charlie (right).

If you don't have ideas, don't do research. In practice, this is rarely a problem: most of us have ten times more questions than the resources to answer them. Most of the questions we ask are born in the ward or in the laboratory. Occasionally one pops up from outside, like that posed by Sir Laurence Muir to the scientists and clinicians at the Baker

Sir Laurence, longtime Board member, President of the Institute, and now its Patron, had a hunch that pet ownership is good for people. Sir Laurence is very shrewd, very experienced: but an hypothesis is just an hypothesis, until it can be tested.

Enter the Risk Reduction Clinic at the Institute. Each year between four and five thousand people come through the clinic, fill in a questionnaire, have their blood pressure and lipids measured, and so on. A normal volunteer population: some will have blood pressure or cholesterol that is too high, but most will not. So what Garry Jennings, Warwick Anderson and Chris Reid did was to add another item to the questionnaire, exploring whether or not the hundred or so people examined each week had a pet. In this way, of course, you can generate big numbers, so that even a relatively small advantage (or disadvantage) in terms of risk factors can be picked up. In addition, the sample can be broken down by age and sex, as the statisticians are fond of saying.

And so, when the data from almost six thousand people were examined, and the pet owners (and the control, non pet-owning-group) divided into men and women, in various ten year age spans, the overall conclusion was clear: those who own a pet have lower cardiovascular risk status than those who don't.

Of course pets can include dogs and cats, rabbits and fish, and even snakes and rats. The numbers for the more unusual pets are understandably small, and so you can't really compare snake charmers and fish fanciers. For the group as a whole (pet versus non pet), or for the major categories (dog owner versus control) you can make statistical statements, about the extent of the differences in blood pressure and cholesterol.

When the three investigators from the Baker published their results in the Medical Journal of Australia in June 1992 it really caught the attention of the media. Warwick Anderson, who more than anybody else in Australia has been responsible for the current widely accepted "Code of Practice for the use of Animals in Research", was suddenly on the television screen, in the newspapers, on talk-back radio. There was even a cartoon on the subject in one of the Sydney papers.

What this study has shown, of course, is correlation: that pet ownership and lower risk status go together. The data do not show causation; that one variable determines or causes the other. There are a number of ways to try and prove causation, perhaps most easily by a longitudinal study, comparing the same person with and without a pet.

In the meantime, though the findings have been interpreted as pet ownership reduces cardiovascular risk, this is intuition rather than fact. So what we have is the first plank in Sir Laurence's hypothesis established. There is a difference, and in the direction he thought; whether you should buy a pet to reduce your blood pressure is the next cab off the rank.

Catherine Black (left) Virginia Cable (centre) quiz Meryl Fullerton about how she plans to measure bone breakdown products in urine. Currently it takes repeated bone density measurements (with very expensive machinery); what we want to do in the lab is to make it easier, faster and cheaper.

When we think of cardiovascular disease, it tends to be in terms of heart attacks and cholesterol and blood pressure. When we think of how to prevent cardiovascular disease, it's things like diet and exercise and giving up cigarettes. And historically, we've thought about men and heart attacks; eighty five percent of heart transplants, for example, have had male recipients.

The fact is that women are relatively protected, in terms of their cardiovascular status, by having oestrogens (female hormones). It's relative because it's true as long as they have oestrogens. After the menopause, however, the incidence of heart disease rises rapidly, parallel to that in men; and as everybody knows, women live on average 7 years longer. While men may have a head start, women have a higher chance of living widowed and with serious cardiovascular disease.

The question then arises of what, if anything, can be done about this situation. For many years the menopause was not really a subject of polite conversation; now it is clearly an area of very appropriate concern, directly for 15% of our population and indirectly for us all. What most people know is that after the menopause many women suffer thinning and weakening of their bones (osteoporosis), so that on a population basis their frequency of fractures rises sharply. What people tend not to know is that osteoporosis accounts for perhaps a tenth of the increased postmenopausal increase in disability and death, and that the increase in cardiovascular disease following oestrogen withdrawal accounts for as much as ninety percent.

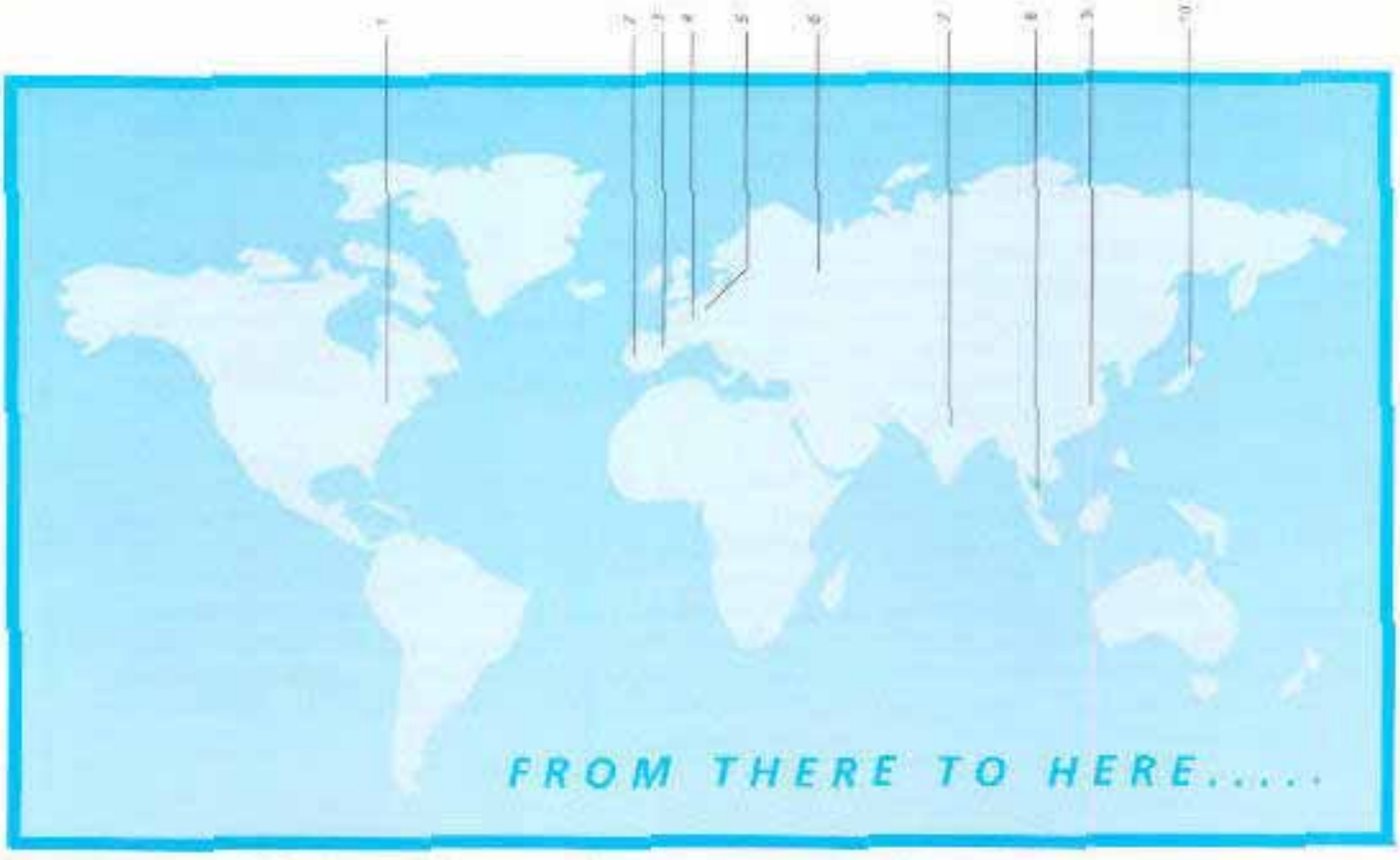
The reason, then, for starting a Menopause Clinic at the Baker is fairly obvious. The menopause is a natural occurrence, like puberty. It is clearly not a disease, even though it increases the risks of cardiovascular disease, just as being male is not normally considered to be a disease. The acute symptoms of the menopause, for example the hot flushes and sweats, can be very effectively treated by oestrogen ("back on the pill") in those women for whom they prove troublesome. The chronic effects of the menopause vary between individuals, just as susceptibility to cardiovascular disease does in men; there is, however, little doubt that taking oestrogens considerably reduces the risks of cardiovascular disease and osteoporosis in a population of postmenopausal women.

The menopause is a time of transition for many women, of taking stock, of change: an intimation of mortality which on the male side too commonly comes with the first, fatal heart attack. Some women don't want HRT (hormone replacement therapy: in itself not a great term), and others don't need it. There are no prizes for frightening people, for blinding them with 'science', for pre-empting what is ultimately their decision. The challenge of a good menopause clinic is to try and work out with the patients the pros and cons of taking oestrogen, and with the research laboratories how to distinguish those who need it from those who don't.

Catherine Black is a medical practitioner who, with a team of other doctors and nurses, sees women with concerns about the menopause each week in our clinic. Virginia Cable is on the nursing side, providing support, advice, reading, a contact point for the patients. Meryl Fullerton is in the laboratory, working on a new way to gauge bone breakdown as an index of oestrogen loss, by measuring breakdown products of the fibrous scaffolding of bone in patients' urine.

Recognising that the menopause existed was the first step; sensitive and nonpatronising advice the second. The third - and this is where the research comes in - is to be able to give advice to individuals, rather than only on a population basis: The economists may cost health on a population basis: so many hip replacements, so many heart attacks and strokes. Most of us, mercifully, think of individuals as well: as patients and doctors, nurses and laboratory workers. The economics is important; but medicine, and the research that underpins it, is at base about people. And in the year 2000 almost 20% of the Australian population will be individual postmenopausal women.

Our World Health role....



1992-Visiting scientists at the Baker Institute

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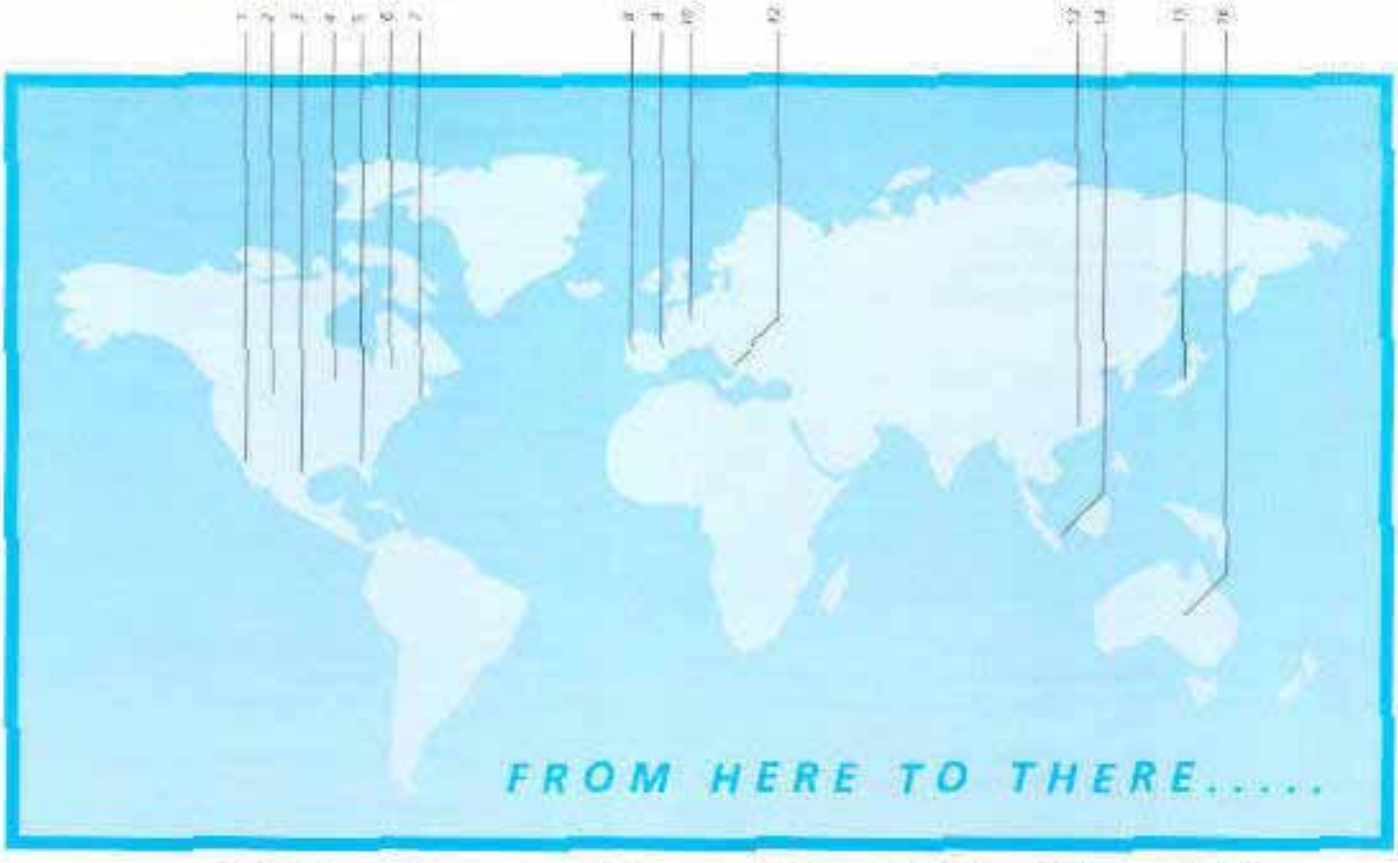
2.	Dr F Sannajust Dr P Taboulet	Lyon, France Paris, France
3.	Dr C Ferrier Dr Y Gao	Lugano, Switzerland Heidelberg, Germany
4.	Ms T Fredricksen	Aarhus, Denmark
5.	Dr G Szenasi	Budapest, Hungary
6.	Dr P A Avdonin Dr I Cheglakov Dr A Krushinsky Dr O Pisarenko Dr D Vinogradov	Moscow, Russia
7.	Dr S Wahi	Chandigarh, India
8.	Dr Z Wazir	Kuala Lumpur, Malaysia
9.	Dr X Du Ms. P Shen Dr X-L Qi	Chong Qing, China Shanghai, China Jilin, China
10.	Dr H Hidaka Dr T Kaetsu	Matsumoto, Japan Tokyo, Japan

and where we went to tell the news



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1. *Anaheim, San Diego, San Francisco, Stanford*
2. *Boulder*
3. *New Orleans, San Antonio*
4. *Cleveland, Cincinatti*
5. *Tampa*
6. *Montreal, Rochester*
7. *Baltimore, Boston, New York, Philadelphia,*
8. *Madrid, Salamanca*
9. *Avignon, Nice, Strasbourg*
10. *Amsterdam, Basel, Liege*
11. *Berlin, Heidelberg, Leipzig, Munich*
12. *Bari, Milan, Rapallo*
13. *Beijing, Guangzhou*
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15. *Kobe, Osaka, Tokyo*
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BAKER MEDICAL RESEARCH INSTITUTE
CONSOLIDATED INCOME AND EXPENDITURE STATEMENT
YEAR ENDED 31 DECEMBER 1992

	NOTE	**1992 $**	1991 $
INCOME			
Government and Statutory Bodies	3	**4,545,334**	4,157,870
Baker Benefaction		**898,036**	1,021,340
Alfred Hospital		**284,620**	168,312
Fundraising, Corporate & Private Support		**1,452,874**	1,599,892
Investment Income		**378,727**	426,672
Clinical Services		**196,583**	195,243
General Income		**256,607**	24,113
TOTAL INCOME		**8,012,781**	7,593,442
EXPENDITURE			
Salaries and Wages		**5,466,662**	4,849,640
Consumable Supplies		**1,006,337**	1,302,109
Scientific Equipment		**353,737**	376,181
Laboratory Support Costs		**556,930**	703,145
Administration and General Overheads		**565,020**	411,169
Public Relations/Fundraising		**75,493**	70,729
TOTAL EXPENDITURE		**8,024,179**	7,712,973
DEFICIT FROM OPERATIONS		**(11,398)**	(119,531)
Income from Bequests, Donations and Legacies	4	**1,828,793**	200,509
SURPLUS FOR YEAR	6	**1,817,395**	80,978

The accompanying notes form an integral part of these financial statements

BAKER MEDICAL RESEARCH INSTITUTE
CONSOLIDATED BALANCE SHEET AS AT 31 DECEMBER 1992

	NOTE	1992 $	1991 $
ASSETS			
Current Assets			
Cash at bank and in hand		**289,067**	91,063
Debtors		**243,869**	192,328
Prepayments		**95,946**	68,564
Investments (at cost)	7(a)	**2,256,817**	2,507,915
Total Current Assets		**2,885,699**	2,859,870
NON-Current Assets			
Investments (at cost)	7(b)	**3,089,943**	1,787,301
Total Non-Current Assets		**3,089,943**	1,787,301
TOTAL ASSETS		**5,975,642**	4,647,171
LIABILITIES			
Current Liabilities			
Creditors		**469,826**	326,417
Prepaid Income		**0**	693,405
Total Current Liabilities		**469,826**	1,019,822
Non-Current Liabilities			
Provisions	8	**798,933**	737,861
Total Non-Current Liabilities		**798,933**	737,861
TOTAL LIABILITIES		**1,268,759**	1,757,683
NET ASSETS		**4,706,883**	2,889,488
FUNDS			
Accumulated Funds			
Operating Fund		**(1,185,891)**	(1,171,721)
Capital Fund		**4,117,542**	2,288,749
Specific Purpose Funds	5	**1,775,232**	1,772,460
TOTAL FUNDS	6	**4,706,883**	2,889,488

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 1992. These policies have been consistently applied unless otherwise indicated. The accounts have been prepared using the historical cost convention and on a normal accrual basis.

(a) Institute Funds, Income and Expenditure

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, is carried forward to the next financial year. 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 and unless otherwise specified are applied to the Institute's capital fund. The Institute's accounts have been prepared on a consolidated basis. The results of particular funds in relation to the consolidated surplus are set out in note 6.

(b) Fixed Assets and Depreciation

(1) Fixed assets are not shown in the accounts. Grants are provided or allocated for the purchase of items of equipment. It is Institute policy that all such capital expenditure is written off in the year of purchase through the income and expenditure account consequently no depreciation is charged in the accounts. The amount written off in the year ended 31 December 1992 amounted to $353,737.

To date the Institute has acquired and purchased out of grant income, assets which at balance date have an estimated cost of approximately $4.3m. The building occupied by the Institute is not included as an asset as the Institute does not have title to the property. The estimated replacement cost of these assets and the building is $16.8m.

(ii) The writing-off of assets in the year of purchase is contrary to australian accounting standards. The Board believes that the policy adopted is appropriate to a research institute where grants are provided or allocated for the purchase of assets.

(c) 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.

(d) 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. Donations of $2 or more made to the Institute are income tax deductible.

(e) Employee Entitlements

The Institute has fully provided for accrued leave for all staff as at 31 December 1992. Long service leave entitlements are provided for staff with ten or more years of service.

(f) 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.

3. INCOME

	1992 $	1991 $
Goverment and statutory bodies		
National Health & Medical Research Council	**3,093,603**	2,795,267
Victorian State Government	**662,680**	640,060
National Heart Foundation	**485,139**	400,783
Victorian Health Promotion Foundation	**303,912**	321,760
	4,545,334	4,157,870

4. BEQUESTS, DONATIONS AND LEGACIES

This represents monies from bequests, donations and legacies given to the Institute other than through normal fundraising activities. These funds, unless otherwise specified, are applied to the Institute's capital fund. The amounts shown as income in the Income and Expenditure Statement represents the amounts applicable for the operating year.

Income from Bequests, Donations and Legacies	**1,828,793**	200,509

5. SPECIFIC PURPOSE FUNDS

Specific purpose funds comprise funds provided to the Institute for special purposes other than through normal fundraising activities. The funds are used in accordance with the wishes of the donors. Institute 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. General Restricted Funds include major contributions from Glaxo Australia Pty. Ltd. and I.R.I.Servier & Compagnie - Developpement.

General Restricted Funds	**1,181,208**	1,186,785
Ethel Mary Baillieu Fund	**136,377**	134,180
Bertalli Family Research Fund	**120,166**	117,279
William Buckland Research Fund	**41,027**	41,418
Lang Research Scholarship Fund	**107,825**	105,357
Laura Nyulasy Scholarship Fund	**4,233**	4,108
Edgar Rouse Memorial Scholarship Fund	**95,098**	93,897
Ruby Wallace Travel Scholarship Fund	**88,965**	89,103
Integrity Fund	**333**	333
	1,775,232	1,772,460

6. FUND MOVEMENTS

Balance at 1 January 1992	**2,889,488**	2,808,510
Surplus/(Deficit) for year -		
operating fund	**(14,170)**	30,516
capital fund - refer note 4	**1,828,793**	200,509
specific purpose funds	**2,772**	(150,047)
Balance at 31 December 1992	**4,706,883**	2,889,488

7. INVESTMENTS (at cost)

	1992 $	1991 $
(a) Current		
Short term deposits	**2,256,817**	2,507,915
Total Current Investments	**2,256,817**	2,507,915
(b) Non - Current Investments		
Shares and Debentures	**3,018,504**	1,511,914
Trust units	**65,032**	65,032
Government and Semi-Government Stock	**2,600**	202,600
Mortgage Loan	**3,807**	7,755
Total Non - Current Investments	**3,089,943**	1,787,301
TOTAL INVESTMENTS	**5,346,760**	4,295,216

8. PROVISIONS

Employee entitlements		
Annual leave	**278,401**	230,425
Long service leave	**230,040**	216,944
Deferred maintenance	**290,492**	290,492
TOTAL PROVISIONS	**798,933**	737,861

9. REMUNERATION OF BOARD MEMBERS

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

D.F.Hogarth	M.Ross	J.W. Funder
D.J.Butler	W.A.Kricker	J.C.Habersberger
G.P.Johnston	J.Loy	N.O'Bryan
W.G.Philip	R.Porter	G.B.Ryan
F.S.Grimwade (retired 13/4/92)	J.R.Barcham (retired 13/4/92)	J.D.Moir (retired 13/4/92)

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.

10. SUPERANNUATION

The Institute operates a 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 employer 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.

11. STATEMENT OF CASH FLOWS

	1992 $
Cash Flows from Operating Activities	
Receipts from Granting Bodies	**4,107,963**
Donations and Bequests	**4,182,653**
Payments to Suppliers & Employees	**(7,846,227)**
Dividends Received	**97,742**
Interest Received	**262,547**
General Income	**445,723**
Net Cash from Operating Activities	**1,250,401**
Cash Flows from Investing Activities	
Payment for Investment Securities	**(1,336,387)**
Proceeds from sale of Investment Securities	**33,745**
Net Cash from Investing Activities	**(1,302,642)**
Net Cash Increase (Decrease) in cash held	**(52,241)**
Cash at beginning of the financial year	**2,598,978**
Effects of Exchange rate changes on cash held in foreign currencies	**(853)**
Cash at the end of the financial year	**2,545,884**

(a) Comparative Figures
Comparative information has not been provided in respect of the preceeding corresponding year as provision of such information in the first year that the accounting standard is applicable would be impractical.

(b) Reconciliation of Cash
For the purpose of the statement of cash flows, cash includes cash on hand and in the bank and investments in 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	**289,067**
Deposits at call	**2,256,817**
Total as per Balance Sheet	**2,545,884**

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

Operating Surplus from Operating Activities	**1,817,395**
Effects of Exchange rate changes on cash held in foreign currencies	**853**
Changes in net assets and liabilities	
Increase in debtors	**(51,541)**
Increase in prepayments	**(27,382)**
Increase in creditors	**143,409**
Decrease in prepaid income	**(693,405)**
Increase in provisions	**61,072**
Net cash used in operating activities	**1,250,401**

AUDITORS' REPORT TO THE BOARD OF MANAGEMENT BAKER MEDICAL RESEARCH INSTITUTE

We have audited the accounts set out on pages 34 to 39 in accordance with Australian Auditing Standards.

As indicated in note 2(b) and 2(c), it is the Institute's policy to write off all capital expenditure and expenditure on stocks, as incurred.

In our opinion, with the exception of the effect of the omission of these assets and the related depreciation charge, the attached accounts are drawn up so as to give a true and fair view of the Income and Expenditure Statement of the Institute for the year ended 31st December 1992, and of the Consolidated Balance Sheet as at 31 December 1992 and have been made out in accordance with Australian Accounting Standards applicable to non business entities.

Price Waterhouse

Melbourne 17th March 1993

EA Alexander
A member of the firm
Chartered Accountants

BAKER MEDICAL RESEARCH INSTITUTE STATEMENT BY BOARD MEMBERS

In the opinion of the Board Members:

(a) the accounts set out on pages 34 to 39 are drawn up so as to present a true and fair view of the state of the Institute's affairs as at 31st December 1992 and of its results for the year ended on that date;

(b) 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;

(c) the accounts have been compiled in accordance with Australian Accounting Standards, except in relation to the treatment of capital expenditure and depreciation of scientific assets as set out in the notes to the accounts and referred to in the report of the Auditors. Signed at Melbourne this 17th day of March 1993 in accordance with a resolution of the board.

Don Hogarth
President

John Funder
Director

The Baker Institute is indebted to the work of LifeSpan, a small group of supporters who hold various functions during the year to raise funds for the Institute. Convened by Pam Jarvis, with Janine Clark, Ros Leslie, Kathryn Kerr, Marilyn Smith, Lyn Carter & Ann Goodrich.

Special thanks are also due to our many other donors including anonymous benefactors who through their regular support are equally important to the ultimate success of our research programme.

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MAJOR DONORS 1992

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My life long friend, Jenny	Mrs D M Blanch
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My father, S J A Kemp	Mrs V Heath
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Our friend Terry	Reg Simpson
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Our dear son, Ian & friend,Reggie	Mrs Joyce Duncan
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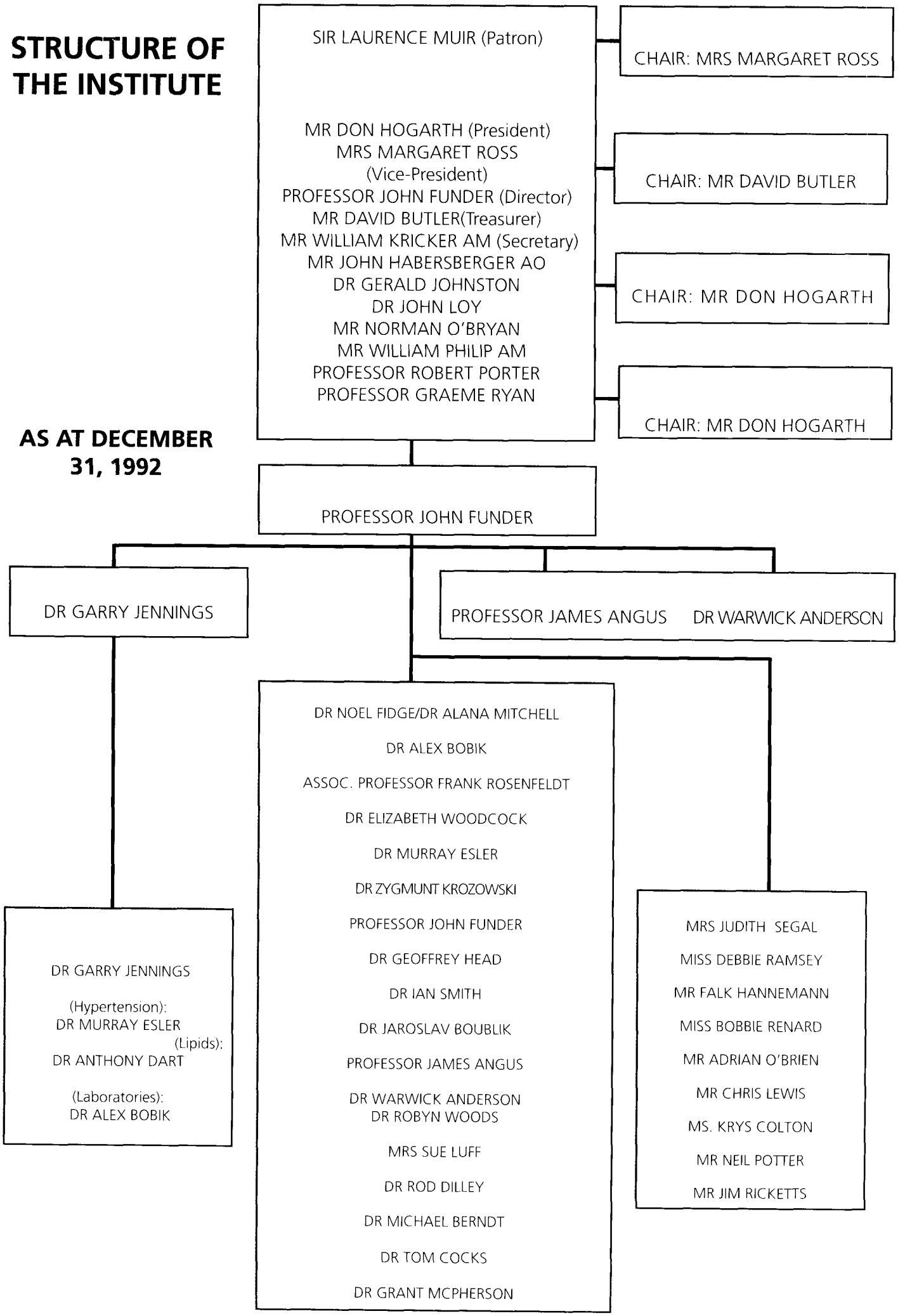
STRUCTURE OF THE INSTITUTE

AS AT DECEMBER 31, 1992

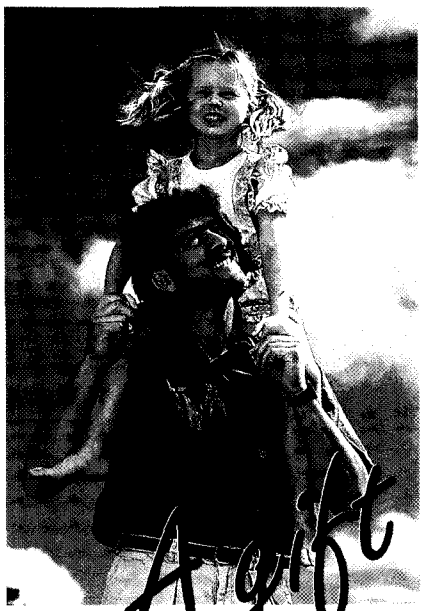


Price Waterhouse
215 Spring Street, Melbourne, Vic 3000

Blake Dawson Waldron
140 Williams Street, Melbourne, Vic 3000

Monday 5th April, 1993
Baker Medical Research Institute
5.00 pm

Commercial Road, Prahran
P.O. Box 348, Prahran, Victoria 3181 Australia
Telephone (03) 522-4333
Fax (03) 521-1362
Telex ALFHOSP AA 31371



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if you would like to discuss or receive information about bequests, please do not hesitate to contact Bobbie Renard of our Community Relations Department on 522 4333.

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INSTITUTE
Commercial Road
Prahran, Victoria 3181
Telephone (03) 522 4333
Community Relations

My tax deductible contribution towards Heart Research at the Baker Medical Research Institute is:

$ _____

or please debit that amount to my

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Expiry date / /

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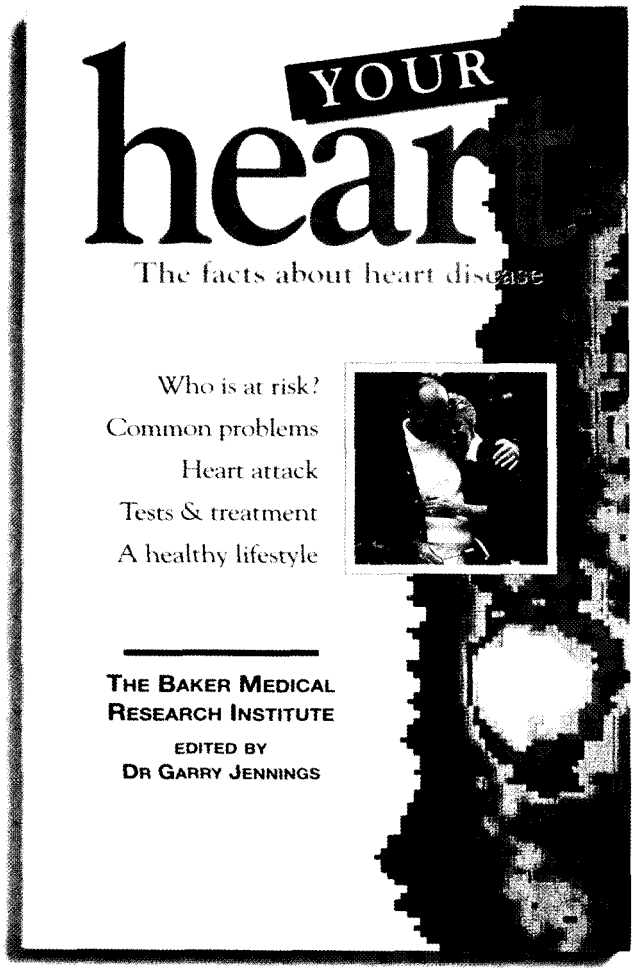
- ☐ I have/would like to make a Bequest to the Baker Institute



The Alfred and Baker Medical Unit has recently produced a book entitled "Your Heart", which has been edited by the ABMU Director, Dr Garry Jennings.

The book is designed to provide factual information for the lay public on many topics related to heart health and disease.

The areas covered include "Who is at risk?"' "Tests and Treatment" and health lifestyle information for people to lower their individual risk.

The book aims to bridge the gap between technical jargon and factual information about heart disease, and to dispel some of the myths surrounding heart attacks. A brief Account is on Pages 8 - 9 of this Annual Report.

The book is available in leading book stores and from the Baker Medical Research Institute. RRP $9.95. If you would like to order a copy please fill in the form below.

To order your copy of "Your Heart"

ITEM	UNIT PRICE	QTY	TOTAL
COST	9.95		
POSTAGE & HANDLING PER ITEM	1.50		

Make Payable to: **BAKER MEDICAL RESEARCH INSTITUTE**
C/- COMMUNITY RELATIONS
P.O. BOX 348
PRAHRAN 3181

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