MASSEY

The magazine for alumni and friends of Massey University | Issue 26 | **April 2009**

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Inside: Alternative Fuels + Tackling Broken Glass + Dolphins

Massey University

Odd things historically happen to patterns of consumption during times of economic hardship. Some businesses decline: now is not, for example, a good time to be selling cars. Others improve. Fast food outlets, I have read, tend to do well.

For New Zealand universities the recession is a mixed bag. As the Kiwi dollar falls in value, so does a university's ability to make capital purchases and pay internationally competitive salaries, and, as with any other institution, the university's investments are subject to the ups and – more latterly – downs of the market. But enrolments do tend to climb.

There is faultless logic to why people turn to education when times are tough. If you can't find the work you want, want to redundancy-proof yourself in the job you have, need the skills to manage your business better, or would like to be poised for advancement when circumstances improve, it makes sense to seek further qualifications.

As it goes for individuals, so, in a sense, it goes for nations. The cliché of the moment – you will find it attributed to multiple authors – is that a crisis is a terrible thing to waste.

In the US, the Obama administration has allocated unheard of sums to research and technology as part of its economic stimulus package – $20 billion to basic research and around $50 billion to support renewable power and energy efficiency – and there is more to come.

New Zealand is not America, of course, but we too should do what we can to turn our circumstances to our advantage. We can emerge from this trial more competitive in the world marketplace and more sustainable in our practices. In fact, we have little choice.

As banking expert David Tripe points out later in this magazine, New Zealand has a fundamental problem that in recent years the ready availability of cheap credit has helped conceal. We have consistently been spending more than we earn. Our current account deficit – which stood at 8.3 per cent of GDP in June 2008 – represents the misallocation of skills, labour and resources within our economy.

So where should we shift our investment? The best of the golden prospects is agrifood, and one of the most significant players in the business of agrifood education and research is this university.

Massey has more than 400 staff and postgraduates working directly in support of agribusiness, involved in everything from farming practices to food product design and development – from farm gate to plate. The University's infrastructure includes 2000 ha of farms, a $25 million food development plant and a Centre of Research Excellence, the Riddet Centre, which specialises in discovery-based research into foods and human nutrition.

Then there are Massey's graduates, many well established within the industry, others with a bright future: both the current Young Farmer of the Year David Skiffington and the Young Horticulturalist of the Year Jason Greene are Massey alumni.

But neither of these was top of mind when I sat down to write this column, but rather a name I encountered in an article in the business pages of the *New Zealand Herald*.

In among the wash of bad economic news, there was an odd bright spot: a local firm planning to take an established product into the US market with the support and endorsement of a US media celebrity.

The firm was Cookie Time; the product, One Square Meal, winner of the Massey Food awards; the media celebrity, Kiwi-born Phil Keoghan; and the projected profits in the first year, between US$15 and $20 million.

As for who created One Square Meal, need you ask? It was Glenda Ryan, a food technology graduate from 1987, as featured in the December 2007 issue of this magazine.

Finally, I must close by expressing my condolences and those of the greater Massey community to the family of Catherine Peters, the first-year veterinary student who died after falling while on a Massey University Alpine Club organised excursion.

Our thoughts are with you.

Steve Maharey
Vice-Chancellor

Mechatronics student Kent Gearry is cleaning up his city from a scooter he helped design.

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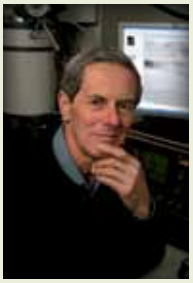

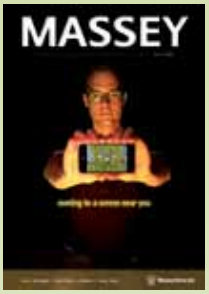

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The other biofuel

The world's best prospect could be microalgae writes Professor Yusuf Chisti


Professor Yusuf Chisti

It is hard to find much good news in the current global economic crisis, but there is at least some. At the time of writing, oil is back to US $44 from the all time high of US $147 a barrel it hit on July 3, 2008; the price of food commodities such as rice and wheat have fallen – good news if you are an impoverished third world consumer – and the global growth in carbon dioxide emissions, though still alarming, will not be as fast as it would otherwise have been.

Some good news, but not much. At most, these are challenges momentarily deferred. The need to find viable substitutes for the world's dwindling supply of oil is as pressing as ever; the world's population and its appetite for foodstuffs continues to climb; and unless unprecedented action is taken we face the likely prospect of catastrophic climate change.

What options do we have, and what are the sorts of trade-offs involved? Let us look to an obvious example: the US decision to use corn as a feedstock to produce alcohol biofuel. The result? Currently the US devotes 25 per cent of its corn crop to producing 3 per cent of its fuel, produces negligible-to-no carbon benefit in the process, and takes productive land away from food production. (The question of how many people could be fed with the corn harvested to fill the tank of a single SUV is not a frivolous one.)

Now you may say that corn is a poor example – and I would agree. But all of the conventional biofuel crops involve allocating significant – or in many cases impossibly vast – amounts of productive land.

By 2050 the world's population, now numbering 6 billion or so, is projected to hit 9 billion. Somewhere mankind is going to have to find a billion more hectares of arable land – and that is without even beginning to examine the implications of allocating land to the production of biofuel.

But there is a less conventional biofuel candidate that need not compromise our ability to grow food. You've seen it before. It is the same class of organism that lends the tinge of green to that neglected swimming pool. The hero of the day may turn out to be microalgae.

I first became aware of the microalgae's potential as a fuelstock when I was an undergraduate student at the University of Jos in Nigeria. For my research project, I studied *Botryococcus braunii*, one of the algae that bloom in fertiliser-polluted lakes and estuaries.

I found that wild-harvested, dried biomass of *Botryococcus braunii* contained by weight 70 per cent of a colourless oil, mainly botryococcene, which, with a little relatively unsophisticated chemistry, could be turned into a substitute for diesel, gasoline and jet fuel.

At the time, in the wake of the Iran-Iraq war, the inflation adjusted price of oil had soared from around $49 in 1978 to $98 a barrel. A paper I wrote ended on an excitedly prophetic note: "With rising oil prices coupled with foreseeable shortages, commercial extraction of botryococcene might become desirable!"

After Nigeria my career took me in other directions. I moved to University College London and then to Canada and used microorganisms and modified animal cells to produce various biological products. It was not until 1997 that microalgae again entered my professional working life.

I had taken up a position with University of Almería on the Mediterranean coast of Spain. This is a region best known for holiday houses for the wealthy and for kilometre on kilometre of plastic-sheeted greenhouses growing vegetables for export. The same temperatures and sun that favour greenhouse plants also favour the production of microalgae. Consequently, in Almería I and my colleagues focused on developing the production of microalgal products, particularly the same omega-3 oils found in fish oil. Microalgae are used to produce other commercial products, such as the food colorants beta-carotene and astaxanthin.

These are high value products – astaxanthin sells for thousands of dollars a kilogram.

Soon I found myself involved in cultivating microalgae in photobioreactors. I have maintained a strong interest in microalgae and microalgal products ever since.

Raceways and bioreactors are the two principal ways of commercially growing microalgae. In a raceway pond, an approach that has been around since the 1950s, the algal 'broth' is circulated around a shallow channel by a paddlewheel.

In a bioreactor, the more elaborate and expensive alternative, the broth is circulated through a closed system of transparent glass or plastic tubes.

Both approaches have inherent problems. In a raceway pond the culture inevitably ends up hosting unwanted species of algae together with the various organisms that feed on the microalgae; the temperature variation limits growth; and because, at best, the mixing will be poor, only the surface layers of algae will have enough light.

Photobioreactors, on the other hand, must be periodically cleaned; the build-up of oxygen that comes from photosynthesis must be prevented by its periodic removal; carbon dioxide must be fed in; and the systems must be cooled during the day.

The payback is that photobioreactors are many times more productive than raceway ponds. By my estimate, for a given volume of broth they are 13 times more so, and this concentration of algae in the broth also makes it less expensive to harvest.

But at the moment neither raceways nor photobioreactors are producing biodiesel at a price competitive with diesel proper.

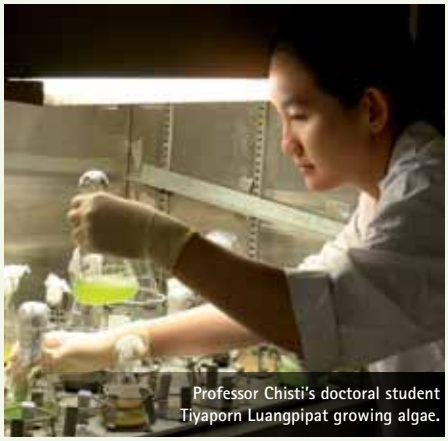
Recently I did the numbers. My models showed that to be competitive with oil at US $100 a barrel, we would need to produce microalgae around nine times more cheaply than is currently being achieved. I am sure this will happen.

What I expect is less some great leap forward than the compounding of many small advances. Bioreactors will become increasingly efficient. Better ways will be developed to recover the algal biomass from the broth and to extract the oil from moist rather than dry biomass. The algae themselves will be genetically modified to become more productive and to thrive in a wider range of conditions. This is a young industry: the advances will be relatively swift.

It helps that at long last there is the prospect of sustained funding. Solazyme, for example, with support from Chevron, is attempting to produce algal fuel from genetically enhanced algae that use sugar to grow instead of sunlight. Other major oil companies – Shell and British Petroleum – are supporting large algae research programs in the US and elsewhere. And there is substantial venture capital funding available for research. Even New Zealand has its own Marlborough-based algal fuel start-up promising biodiesel from sewage ponds.

In early 2008 it looked as if the fabled combination of research universities, venture capital and the workings of the market would work their magic.

My hope is that, despite the world economic downturn, they still will. M



Professor Chisti's doctoral student Tiyaporn Luangpipat growing algae.

Microalgae vs the rest

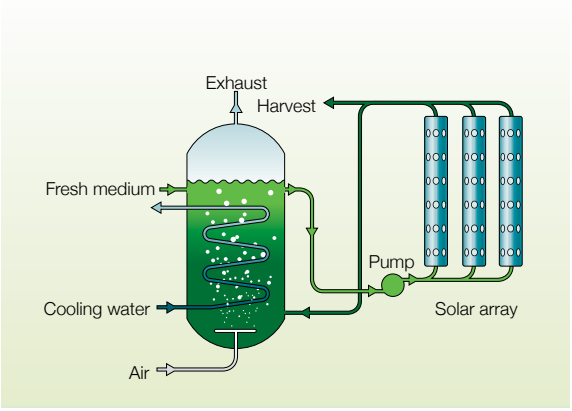
Plant a hectare of land in oil palms, and you can expect a yield of around 6000 litres of oil. Dedicate that hectare to growing microalgae instead, and you can expect somewhere between 60,000 and 137,000 litres of oil – from 10 to upwards of 20 times as much.

This difference in productivity per hectare has major implications. Take the United States, which is relatively blessed with arable land. To fulfil half of its transport oil needs, the US would need to devote a clearly impractical 24 per cent of its total cropland to cultivating oil palm. By contrast, microalgae could accomplish this with just 1 to 3 per cent and it does not depend on the availability of fresh water – brackish or salt will do.

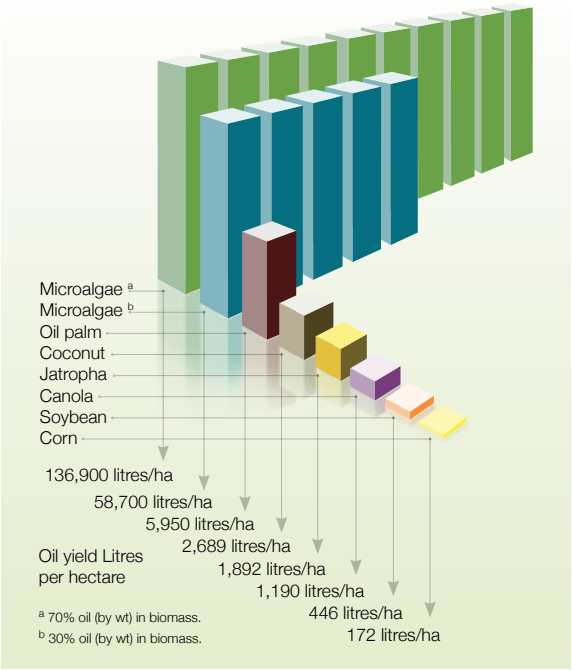
When you think about it, the difference in productivity is not that surprising. Only the oil palm kernel is harvested for oil, whereas the entire biomass of the algae is processed. Then, too, unlike an oil palm, the algae has no overhead in the form of supporting tissues, or systems for circulating water and nutrients. Each cell is a stripped-down factory supplied all of the necessities of life by the medium in which it is suspended: water, carbon dioxide, nutrients and light. It is common for the mass of microalgae to double in just 24 hours.

There are other advantages too. Every 100 tonnes of algal biomass fixes around 183 tonnes of carbon dioxide and production of fuels from microalgae can be carbon neutral.

In the future we may well find that photobioreactors become a valued adjunct to coal or gas burning power plants, the carbon dioxide emissions being used to fuel algal growth.



A tubular photobioreactor with parallel run vertical tubes



Comparison of some sources of biodiesel

Apocalypse tomorrow: sustainability and industrial design

Industrial design faces a knotty problem: how do you design cool products that sell and use the Earth's resources sustainably? Lyn Garrett examines the trade-offs.

You may remember that science fiction movies from the 1960s reflected emerging concerns about the impact of the human race on the planet. Many themes within what we now refer to as sustainability were explored in movies like *Soylent Green*, *Silent Running*, *The Omega Man*, and *Mad Max*. These dystopian visions were generally condensed enough for the story to be wrapped up in 120 minutes, and were resolved by Charlton Heston chewing the scenery or Mel Gibson's heroics and a shotgun.

The real world is somewhat more complex, and barring a currently invisible technological advance or cultural change that renders the whole thing obsolete, sustainability as an issue will be with us for the foreseeable future and beyond. It's an example of a 'wicked problem'[1] (a term coined in 1973 by Rittel and Weber): a Godzilla of a problem, a multi-dimensional, many-layered problem that will not succumb to simple analysis or be resolved by simple measures. It's such a huge issue that despite being bombarded with examples of how it's affecting us, we're little wiser about what can be done.

There is an obvious tension between production and manufacturing and sustainability. However, from an industrial design perspective, resource use and energy production / consumption are two aspects of sustainability that we might be able to tackle.

Design and sustainability have a chequered history. As a profession industrial design developed alongside manufacturing, and originally 'good' design was understood as a product that met the needs of the user, the manufacturer and the designer. It is only recently that our understanding of design has deepened to the point where we clearly understand the roles and responsibilities of the profession and its relationship with culture and society. From this more critical and objective standpoint, what industrial design has achieved – both for good and for ill – is easily visible.

Design as a whole has a problem. All facets of design have been part of the production / consumption cycle. This is not about blame or about pointing fingers – the relationship was a natural outcome of how design as a profession came into being. But industrial design has a particular problem because the products that we design have potentially much longer lifecycles than websites or garments, and many products take a direct line from manufacture to use to landfill. They absorb a lot of energy and can have relatively short lifespans.

Industrial designers find themselves torn between quite different directions: to design cool products and to be part of a sustainable solution rather than be part of the problem. In order to explore both problem and solution, the phrase 'reduce, reuse, recycle' is a useful jump-off point. What does the phrase mean to design and designers?

Reduce: Reduce is at once the most promising and the most problematic aspect of design and sustainability: at its core, 'reduce' goes against the very fabric of the production / consumption model.

Reduce has three design-related facets – use less, get more value from what you do use, and don't use some things at all.

'Use less' needs no elaboration. 'Getting more value' suggests that a product needs to perform as required, be treasured, do the job well and have an appropriate lifespan. In terms of design, this could mean that products are designed to be economical to upgrade or repair rather than replace. This approach is likely to raise retail prices in the marketplace, and possibly reduce sales volume: a risky decision with potentially serious financial consequences.

Apple Computers is an example of a company whose products retail at a premium compared to its competitors. Apple is indelibly linked to 'good design' through its iMac and iPod products. It creates value for the user across its packaging, hardware and software in a way that distinguishes it in the marketplace. Sustainability is an increasingly visible aspect of Apple's marketing, although at this stage it is focusing on material use rather than the whole product lifecycle. There is still some way to go before the lifecycle of a product becomes a major marketing priority for mainstream companies. Regular releases of new products also encourage the premature replacement of existing products. This is not a sustainable approach in the long term.

'Don't use some things at all' refers to the manufacturing processes and materials that use excessive energy or have other environmental impacts. Chrome plating, for example, is a horrendous process as far as the environment is concerned. However, in the marketplace chrome is connected with quality, longevity and hygiene, so manufacturers of bathroom tapware, for example, either have to develop new processes that meet purchasers' expectations or change those expectations. Both approaches are financially risky and require manufacturers to take the long view.

Reuse: 'Reuse' has two areas that are of interest to designers. There is a subset of design that investigates what end-of-life products can be turned into to stave off their final trip to the landfill. The challenge inherent in this approach – creating value from something valueless – is particularly popular among design students, but has broader applications in the marketplace.

Search the 'net, and you will find small bookshelves made from used truck brake pads, CD racks made from bus shelter posters, and furniture made from car tyres. However, these products currently only appeal to niche markets and are far from the mainstream. A local example is the conversion of Smartdrive motors from Fisher and Paykel washing machines into the generators for small-scale commercial water turbines. Fisher and Paykel supports this end-of-life use, but the challenge for design and manufacturing is that this

Lyn Garrett has a particular expertise in product design, ergonomics, technology and furniture design. He is currently the undergraduate co-ordinator for the Industrial Design major within the Bachelor of Design.

end-of-life value may need to be considered in the manufacturing of the original product: an investment that the original manufacturer may not benefit from.

Even then, reuse only defers the discarding or things – it doesn't keep them out of the landfill forever. What it does do, though, is make the best use out of the material and energy resources encapsulated in the product – so second-life uses are a useful step towards sustainability.

Recycle: We all know about recycling. Many of us also know that recycling is not always a profitable activity. This is partly because recycling itself is labour intensive, and there are limited markets for recycled materials.

Design and designers can help by making products easier to disassemble and recycle – an approach, however, that is potentially of little direct benefit for the manufacturer. Germany has addressed this issue head-on by making German manufacturers responsible for their end-of-life products. German supermarkets are responsible for the packaging stripped off products purchased on their premises, which provides an incentive for the supermarket to pressure manufacturers to reduce their packaging. These are useful examples, but the problem with the word 'recycling' is it can be misleading.

While recycling as we know it today removes materials from the waste stream, Braungart and McDonough suggest in their influential book Cradle to Cradle[2] that most of what we do is better termed 'downcycling', as the recycled material rarely has the physical properties of the virgin material and cannot be fed back into the manufacturing process at the same level of value. They further suggest that the ultimate goal for end-of-life products and materials should be 'upcycling': products designed to decompose so that they become actively beneficial 'technical nutrients' rather than merely reducing the waste stream. Obviously, this is some way into the future.

What else does the future hold? What are the solutions? As befits a wicked problem, there are many possible approaches and many benefits only exist as possibilities rather than realities.

Some trends are apparent already. Toyota's Prius hybrid car is part of one trend – not just for its technology, but for what it has achieved in bringing alternative transport technologies squarely into the public consciousness. Sustainability is marketable and people are prepared to pay a premium for a product that delivers better value in the longer term. This is an important lesson for designers.

Another issue raised by the Prius is the argument around the energy that the vehicle consumes across its whole life, from manufacture to disposal. Whatever the merits of the vehicle itself, it demonstrates that vetting the sustainability credentials of a product is not straightforward either. There are many examples of products that claim to be sustainable in some way, but don't respond to even a cursory investigation of their green credentials – a practice disparagingly referred to as 'greenwash'.

In terms of material technology, bioplastics are a development that looks promising. Bioplastics are manufactured from organic material such as corn starch, which could reduce the amount of oil used in plastics manufacture. However, the situation parallels that with biofuel crops, which are more profitable to grow than food crops and compete for the same arable land resources. This is another example of the need to understand the wider implications of our decisions.

In the same way that micro-generation (generation at point of use, such as domestic solar water heating) is a promising approach to energy production, micro-manufacturing might be a promising approach to reducing carbon emissions. Three-dimensional printing technologies are advancing at a similar pace to computer power and the quality of the parts produced through these processes continues to improve as the buy-in price continues to drop. It's not too far-fetched to suggest that in-home manufacturing could substantially reduce the amount of fuel expended in shipping products from one country to another.

The basis of this approach is already here. Traditional manufacturing is based on the benefits of mass-production, but many of the digitally-managed manufacturing processes are capable of economically producing one-off products. There is an emerging trend whereby products are sold as digital files rather than physical products: the files are sold through the 'net (see www.ponoko.com for example) and the purchaser sends the file to a local manufacturer to have the item produced. While currently this only works for a limited range of technologies and materials, there is a lot of potential to expand this approach – which has the added benefit of reducing the need for packaging.

However, one potential fish-hook in this approach is that micro-manufacturing might encourage more things to be produced as they're so accessible. Another potential fish-hook is the impact on the labour market through a reduction in manufacturing capacity.

Bioplastics and micro-manufacturing highlight the nature of sustainability as a wicked problem: solutions are not simple and straightforward. Whatever the future is, we'll head towards it a step at a time – some steps forward, some sideways, and the occasional one backwards.

Neither Charlton Heston nor Mel Gibson can save us from this one. M

1. *Wikipedia*. (Retrieved 10.3.09). Wicked Problems. http://en.wikipedia.org/wiki/

2. McDonough, W., & Braungart, M. (2002). *Cradle to cradle: remaking the way we make things*. Portland: North Point Press.

Acts and deeds

The Resource Management Act has been blamed for many ills, writes Dr Jeff McNeill, but many of the faults may lie elsewhere.

Dr Jeffrey McNeill has formerly worked in, and has consulted for and contracted to central and regional government in New Zealand. As part of his doctoral studies, Jeff spent three months working in the European Parliament in Brussels. He joined Massey University's Resource and Environmental Planning Programme in October 2008.

When the RMA was passed in 1991 it was called world-leading. For the first time, New Zealand had integrated management of its natural and physical resources. But that moment of self congratulation was soon over. The RMA has been amended almost ceaselessly ever since, and today, with it being portrayed as an impediment to economic development and jobs even as the nation faces the chill winds of global recession, further legislative changes are underway. What went wrong with the RMA? Or, indeed, are the things that have gone wrong the fault of the RMA, or could it be a scapegoat for other failings?

The RMA needs to be seen in the context of the swathe of local government reform that led up to it. Completed in 1989, this reduced local government from over 700 authorities to 86. As part of the reform, 12 regional councils were established, taking over a multitude of natural resource management tasks, including those of the former catchment boards, rabbit boards, noxious pest boards and drainage boards.

The reforms were largely welcomed by the environmental movement. New Zealand had experienced a long period of heavy natural resource exploitation, much of it state-sponsored. Native forests had been milled; scrubland and wetlands converted to pasture; river systems drowned by hydro dams. The economic benefits were great, but increasingly, the costs were recognised as unacceptable. The RMA was intended, in part, to reveal these costs, and to lead to the sustainable management of our natural resources. And it was far-sighted in integrating decision making so that impacts across all environmental media, water, land, air, and coast, were collectively considered.

The RMA also needs to be seen in the light of the then prevailing mistrust of big government: the new regional councils were seen as a means of getting resource use decisions closer to the communities affected by their consequences.

The RMA established a hierarchical management framework enabling central government to set national guidance and leadership through National Policy Statements (NPS) that regional and territorial councils would need to implement.

With the exception of the Department of Conservation with its legislated conservation mandate, government saw itself as a neutral player, largely concerned with the processes within which the various resource users (including environmental interests) could determine appropriate sustainable use of resources.

How effective have these institutional arrangements been in achieving sustainable environmental management? This was the question I set out to answer when I began my doctoral research into how New Zealand's regional councils manage the environment[1].

I found it a difficult question to answer, for we have no comprehensive national level data or reporting set to show how effective New Zealand's environmental management performance is (a deficiency picked up on by the OECD[2]).

Nevertheless, a survey I conducted of practitioners and stakeholders suggests that overall environmental quality has deteriorated over the last two decades, and this view is supported by individual regional council data. My data also show that the regional councils have a patchy record; some appear to have done much better than others in achieving a better environment for their communities, with, for example, particular councils, reducing pollutants more than others. The research raised issues about council capacity and whether many of the environmental issues they are responsible for – and the public mandates for addressing them – are in fact regional, or at least cross-regional, in scope.

But the councils are only one part of the equation. Successive central governments have conspicuously avoided providing the national leadership we need. Bar a handful of exceptions[3], we are still waiting for meaningful National Policy Statements. Eighteen years after the RMA was passed we have a (mandatory) Coastal National Coastal Policy Statement. But the proposed biodiversity NPS disappeared without trace, the Energy NPS never started, and the current proposed NPS for Freshwater Management is breathtaking in its generality.

This extremely light-handed approach to providing national guidance is at odds with other countries. Take the Netherlands , which have just adopted their fourth National Environment Plan, taking the Dutch out to 2030.

Or take Sweden. Back in 1999 Sweden adopted an overarching strategy, the goal being that the next generation of Swedes will not face today's major environmental problems. The strategy is supported by 16 Environmental Quality Objectives, identified and agreed to through a cross-party and stakeholder process that effectively depoliticises the environmental policy arena. These set clear targets to be achieved within a generation, with interim targets to be met by 2010, and all levels of government are committed to work to achieve them. (See Box).

In fairness, Sweden is not Utopia; a recent review found that while progress had been made, there was still much to do, and time was running out. But at least Sweden knows what it is aiming for, the level of progress that has been made and the distance still to go.

Change is afoot in New Zealand. The RMA Technical Advisory Group advising the Minister for the Environment has identified a two phase process in its recent report[4]. The first phase seeks to improve efficiency, so that decisions can be made more quickly and cheaply. These changes are addressed in the amendment legislation already introduced into Parliament.

The second phase is likely to embrace substantive change, both structural and institutional. One of the changes that is foreshadowed is the creation of an Environmental Protection Agency (EPA) equivalent – an independent national level government agency that could provide central government with technical advice at a national level on environmental quality and inform national (and regional) policy-making.

Some of the references within the legislation are clearly place-holders for ideas that are being worked through. One of these is that at some time in the future regional councils could be disbanded or the scope of their responsibilities reduced as their environmental policy functions are assumed by the EPA.

But let's step back a little. The RMA is couched very much in the prevailing localised pollution paradigm of the late 1980s. The public could see and were concerned about belching smokestacks, foaming waste outfalls from sewage plants and factories and the like, and so the legislation refers to water discolouration and surface scum. The focus in 1989 was on the end-of-the-pipe, local issues.

Twenty years later the environmental policy context has changed. The data are not comprehensive, but regional councils, abetted by the economic rationalisation that closed many polluting factories, have played a key role in substantially reducing pollution coming from the end of pipes or chimney-stacks. Many of our 'new' pollutants, such as nitrates, are unobservable to the lay public – even if the algal blooms that sometimes result are not. The patchy evidence we do have shows that the cumulative impacts on non-point discharges originating from intensified farming are degrading our freshwater lakes, rivers and streams, and, increasingly, groundwater. These discharges are not easy to address.

The scale of environmental issues has also changed. In 1989, when the regional councils were set up in anticipation of the RMA, global climate change was largely an academic exercise. Global climate change has moved from the political fringe to being a mainstream issue: the last election was partly fought over how New Zealand is to meet its international carbon-dioxide reduction obligations.

The expertise housed within an EPA could well be invaluable in addressing broad and intractable issues such as these, providing expertise and advice and pull-no-punches assessments of the state of our environment.

Will the governments of the day have the courage to act on the advice they are given?

We will have to wait and see.

Think global, act regional?

If one option open to the Government is to subsume many of the environmental functions of the regional councils, another is to actually extend their powers. In this scenario the regional councils, which, as they stand, are principally focused on environmental well-being of their regions would be asked to assume a responsibility for social and economic well-being and regional sustainability.

If you believe in placing the accountability of agencies close to the communities they serve, then there may be a strong argument for this. Of all of the many regional agencies – District Health Boards, DoC conservancies to name a few – the regional councils are the only truly fully elected regional authority.

If this is what we aspire to, then many of the central government functions currently delivered regionally will need to be reallocated to regional government and the case for a centrally driven Environmental Protection Agency becomes harder to make.

The current review of Auckland governance and the mooted 'super-city' model would fit with such an approach.

Extracts showing how highly specific Sweden is in setting and achieving water-related environmental objectives when compared to New Zealand

Objective 5 – Addressing freshwater degradation
To ensure the progressive enhancement of the overall quality of Freshwater Resources can reach or exceed a swimmable standard.

From Proposed National Policy Statement for Freshwater Management. *Wellington: Ministry for the Environment (2008)*

EQO 7. Zero Eutrophication:
Nutrient levels in soil and water must not have adverse effects on human health, the prerequisites for biological diversity or versatile land and water use.

Sub-objective (To be achieved in one generation (by 2020-25))
Deposition of airborne nitrogen compounds does not exceed the critical load for eutrophication of soil and water anywhere in Sweden.

Interim target
By 2010 waterborne anthropogenic emissions in Sweden of phosphorus compounds into lakes, streams and coastal waters will have diminished continuously from 1995 levels.

Progress to date
Over 1995-2000, P emissions fell by some 15% overall, with agriculture emissions down 19%, sewage treatment plants 10%, pulp and paper sector 15%.

From Environmental Performance Reviews: Sweden. *Paris: OECD. p57*

1 J.K. McNeill (2008) *The Public Value of Regional Government: how New Zealand's regional councils manage the environment.* Unpublished PhD dissertation, Massey University.

2 OECD. (2007). *OECD Environmental Performance Reviews*: New Zealand. Paris: OECD.

3 In fairness, in the last few years, Government has initiated preparation of several National Policy Statements (NPS). The 2008 Electricity Transmission NPS was the first to be gazetted since the mandatory New Zealand Coastal Policy Statement in 1994. Other progress includes: New Zealand Coastal Policy Statement *Gazetted 1994*, Electricity transmission NPS *Gazetted 2008*, Proposed New Zealand Coastal Policy Statement 2008 *Proposed 2008*, Proposed Renewable electricity generation NPS *Hearings starting May 2009*, Proposed Freshwater Managmenet NPS *Hearings starting in mid-2009*, Proposed Flood risk management NPS *Public submissions in 2009*, Scope for Urban Design NPS *Scoping in 2009*.

4 Minister for the Environment's Technical Advisory Group (2009) Report of the Minister for the Environment's Technical Advisory Group – February 2009. MfE: Wellington.

Amon-approved

Above: the Hulme Can Am. Right: Professor Tony Parker, Chris Amon and Vice-Chancellor Steve Maharey.

After a race-track run, Motor racing legend Chris Amon has delivered his verdict on the newly launched Hulme Can Am: "I was pushing it in the corners and it feels like it has really good road-holding. I think it's brilliant."

The Hulme was launched at the A1 GP at Taupo to the great pride of Jock Freemantle, the car's instigator and founder of Supercars Limited, and Massey's Professor Tony Parker, the designer.

Amon says the Hulme, which is powered by a hand-built seven-litre V8 Chevrolet engine, gave a "huge performance".

The production model of the Hulme is expected to be capable of speeds of up to 300 km/h.

MASSEY readers first met the Hulme in the issue of November 2004, when it had reached the point of being modelled at full scale.

Endangered chevron skink and master's student Ben Barr.

Return to the island

Motuihe Island in the Hauraki Gulf now has a resident population of shore skinks. Eighty shore skinks, among them a number of pregnant females, were introduced to the predator-free island in mid January. Thirty of these came from Massey's captive reptile facility on the Albany campus and the remainder from the Tawharanui Regional Park. All have tested free of *Cryptosporidium* and *Salmonella*.

Ben Barr of the Institute of Natural Resources, who has taken part in the translocation as part of a project for his master's degree, expects the skinks, which can reach 15 cm in length, to thrive. "They become very abundant in the absence of predators, such as rats."

FEEDBACK

In saying that *Wetlands of New Zealand* won the environmental category of the Montana Book Awards 2008, we failed to do the book and its author Janet Hunt justice. In fact it won two awards, the second being the award for non-fiction, a category often unjustly overlooked.

Fans of One Square Meal, the product created by food technologist Glenda Ryan (issue of November 2007) will be pleased to know that the product is now spearheading a drive by Cookie Time to export to the US market. The product has secured the endorsement of six-time Emmy award winner and expat Kiwi Phil Keogan, whose company No Opportunity Wasted, will cobrand the product. Lincoln Booth, Cookie Time's general manager, hopes to see sales of $15 to $20 million in the first year in the US market.

MASSEY welcomes letters and feedback from readers. E-mail the editor at m.wood@massey.ac.nz.

Greene fingered

It isn't quite as well known as its farming counterpart, but the New Zealand horticulture industry (worth in excess of $5.2 billion in 2007), also has a national competition for the young, bright and ambitious. And the current title holders in both industries are Massey alumni. The Young Farmer of the Year was won by David Skiffington in 2008 and now the Young Horticulturalist of the Year has been won by Jason Greene.

Greene was one of eight young horticulturalists aged under 30 who competed for the Horticulture Industry Training Organisation Young Horticulturist of the Year competition held at the Auckland Botanic Gardens.

The Young Horticulturist competition involves a series of regional and sector events leading to a grand final in Auckland.

This includes presenting a marketing project, an interview with the judging panel, delivering a prepared speech, and an audience-pleasing horti-sport event, where the competitors race against each other as well as the clock. Greene, who is based in Ramarama as the sales manager for Rainbow Trees, represented the Nursery & Garden Industry Association sector, won the practical and interview sections as well as the competition overall.

"Winning the competition is a benchmark for me in terms of where I am with my career," he says. "There were a lot of high profile people in the audience at the dinner on the final night and it was great to win the prize in front of them.

"The hardest part of the competition was the prepared speech."

The prize package, worth more than $20,000, includes a travel component; Greene intends to visit his company's suppliers and some nurseries in Europe.

It was the sort of entrance that gets you noticed. Pilot officers Tom Williams, Levi Bell, Scott Finlayson, Megan Hodges and Nick Pearson arrived on campus for semester one by Iroquois helicopter. The five are variously studying towards bachelors degrees in arts, engineering, psychology and aviation management. The group were met by Vice-Chancellor Steve Maharey, Deputy Vice-Chancellor Professor Ian Warrington and Centre for Defence Studies director Professor Ian Warrington.

Under an agreement reached with Cempaka Schools, Massey's Graduate Diploma in Teaching (Secondary) is now being offered to students in Malaysia. From February 2009, 50 students have been undertaking the one-year programme that culminates in the attainment diploma in a custom built international version which has been approved by the New Zealand Committee on University Academic Programmes. Pictured from left: New Zealand Trade and Enterprise business development manager, Jamna Tan, Massey Teacher Education and Undergraduate Studies director Dr Sally Hansen, Cempaka Teach chairman Dato' Hamzah Abdul Majid, College of Education Pro Vice-Chancellor Professor James Chapman, Cempaka Schools chairman Daitin Freida Pilus, New Zealand High Commissioner to Malaysia David Kersey, Massey Graduate Diploma Teaching (Secondary) International programme co-ordinator Dr Peter Rawlins, and Ministry of Education South East Asia counsellor Mike Connolly.

Ryan meets Robotech

It is not unusual for inventors to turn to university expertise for help. What is less usual is for the inventor to be age nine.

Ryan Nichols had never much liked a family chore: traipsing downstairs to an outdoor compost bin with the family food scraps. Surely, he thought, there must be a better way, so he created a video proposal and sent it in to the TVNZ children's programme *Let's Get Inventing*, which had invited ideas that could be turned into products.

At the other end, the man who chose Ryan's from among the 700-plus proposals was 'Dr Robotech – the mad scientist', better known to his Massey colleagues as product development lecturer Chris Chitty.

"My job was to work with Ryan's inventive imagination, add some practical know-how and make his idea a real product," says Chitty, a veteran of 53 episodes over three series of the show.

The components the two turned to were a kitchen sink waste disposal unit, a boat winch, a 44-gallon drum and 12 plastic nut-and-bolt storage containers.

The finished product, the Waste-Away, flushes its mix of food scraps and water in to a system underneath the kitchen window where a filter separates out the solids and the water drives a simple water wheel that rotates the concrete mixer-like drum in which the waste is composted.

Ryan has become New Zealand's youngest ever patent applicant and his application, which has been accepted by the Intellectual Property Office of New Zealand, won him the $10,000 Patent Prize Package from patent attorney firm AJ Park and the Icehouse Business Incubator. M

Images from *Sleep/Wake*, a collaboration between sleep expert Professor Philippa Gander of Massey University's Sleep/Wake Research Centre and the Playground theatre company director Sam Trubridge most recently being peformed in Auckland. For a brief review, see page 32.

Amy Howden-Chapman, The Flood, My Chanting, Wellington, 9 October 2008. Commissioned by City Gallery Wellington for One Day Sculpture.
Photo: Stephen Rowe

Heather and Ivan Morison, *Journée des barricades*, Wellington, 14 December 2008. Commissioned by Litmus Research Initiative, Massey University for One Day Sculpture.
Photo: Stephen Rowe

Coming to a screen near you

Peter Vullings of Pixelthis wants you to spend a lot more time on the phone. But don't worry, it will be fun. He talks to Bryan Gibson.

On every bus in every city it's a common sight. Commuters passing the time engrossed, not in the passing scenery but with eyes down and fingers poised over a mobile phone. They're not texting, but immersed in the virtual world of a game downloaded to their hand-held device from the Internet.

It's an industry that's growing, with 32 per cent of mobile phone users in the United States now playing these games, over 70 per cent in Japan, and a Palmerston North company is capitalising on this new growth industry.

Growing up in the 1980s Peter Vullings, like many youngsters in that decade, spent a lot of time – probably too much – in front of a Commodore 64 computer console. The simple yet engaging games captivated a generation that then progressed to Playstations and Xboxes as the years passed and the technology improved.

But it's the simplicity of those early games that Vullings still embraces with his company Pixelthis, which after just four years is already reaching a worldwide audience. The company develops casual games for use on both desktop computers and mobile phones.

After completing a Bachelor of Technology majoring in information engineering with honours at Massey's Manawatu campus in 2000, Vullings went to work as a web developer – and had his first taste of game development.

"We were contracted to make a game for Carlos Spencer's website," he says. "The problem was that the game involved kicking the rugby ball between the posts, something Carlos hadn't been doing too well at the time, which had got him dropped from the All Blacks."

The game never went live, but the project gave Vullings an idea. When the web development company relocated to Wellington, he stayed put and began Pixelthis. The company now employs eight staff, including two other Massey graduates.

Daniel Haselden and Mike Newton, now game developers at Pixelthis, both studied software engineering at the Manawatu campus. With Vullings and the rest of the team they now create games for a variety of platforms, including the increasingly popular iPhone. Their first game for that platform, *Sheepish*, has just been accepted by Apple and is now available for download.

The simple yet addictive game asks players to direct as many sheep as they can through a maze to greener pastures. It has 100 levels, giving players between 10 and 20 hours of game-play. The game costs US$3.99 to download from the iTunes site and is also available for PCs at www.planetjogo.com.

Sheepish is typical of the products Pixelthis is developing: simple games based on puzzles and adventure.

"Our target audience is casual gamers," Vullings says. "These are people aged from six to 60, both male and female. They are people who don't consider themselves 'gamers', and only play games if they have time, as opposed to core gamers who make time to play games. The casual gamer group is far, far larger than the core gamer group, and includes almost everybody."

Hand-held devices call for games that use little memory, which Vullings says can pose some problems.

"One of the biggest challenges is keeping the memory footprint small," he says. "Users don't want a game that takes up a lot of space on their phone because then they won't be able to fit other games and applications on it. With phones there's no joystick or controller either, so the games need to be able to be played using the controls available, a keypad or touch-screen."

Similarly, many players start up a game while on public transport or waiting for an appointment, so the game must be able to be played without sound and still be understandable and enjoyable. Puzzle-based games work well because they lend themselves to keypads; they're simple to control but still engaging.

Vullings and his team hold regular brainstorming meetings to come up with new game ideas.

"We have a huge list of possibilities but sometimes it's hard to stay ahead because there are a lot of developers out there."

Pixelthis currently has distributors for its games in 16 countries around the world. But it's the recent iPhone contract that has Vullings excited. At the moment his team is busy modifying its current crop of games for the Apple handset, which is quite a task.

"iPhones have no buttons, just a touch-screen, so there's a lot of work that goes into making the games playable. Also, the games have to be developed using Apple products, which the originals weren't developed on, so that adds to the task."

It took 55 days for Pixelthis to be certified by Apple as a game developer for the iPhone, but Vullings says now that hurdle has been cleared subsequent games will take only two days to go from completion to the iTunes shop.

A new game *Rune Mage*, where players slide rune blocks around the screen to form magical pathways, is nearing completion and many more are also in production.

The company is located in the Bio Commerce Centre, which provides support for start-up technology companies. The centre also provides valuable contacts, putting the company in touch with investors and offering guidance at weekly meetings.

Vullings says he enjoys the challenge of managing the highly creative team, which works in a large, open office that promotes a low-key collaborative atmosphere.

The location, across the road from Massey's Palmerston North campus, is ideal.

"I grew up in Waikato, but came here to study," he says. "I met my wife at the university and she works next door as a research scientist at AgResearch. Here we have access to graduates from Massey, and as a technology company we don't have to be physically close to our market."

In fact, in the near future, Pixelthis hopes to find a place in the breast pockets of millions of phone users worldwide. M


Daniel Haselden and Mike Newton, now game developers at Pixelthis, both studied software engineering at the Manawatu campus.

Family values

In real life Antonia Prebble is notching up papers towards her degree, while meanwhile, as one of the wild, wild Wests, her character creates mayhem.
Paul Mulrooney reports.

Reprinted from ***definingnz***, a new limited circulation monthly magazine from Massey. For more information visit news.massey.ac.nz.
Photograph: © Jae Frew South Pacific Pictures

Loretta West is not known for her academic diligence – the feisty, ethically-flawed character in the TV series *Outrageous Fortune* once paid a homeless girl to impersonate her at school. But don't confuse the character with the actor. Antonia Prebble – and the clan she is part of – place a high value on education.

The 24-year-old is channelling any spare energy from her television role as the youngest of the wrong-side-of-the-tracks West clan, into studying extramurally for a BA majoring in English literature, completing a paper or more a year on top of meeting a demanding production schedule.

First screened in 2005, *Outrageous Fortune,* the series about a "West by name Westie by nature" family and its old-fashioned criminal code quickly stole the hearts of viewers. In some ways the racy storylines, snappy dialogue and expertly crafted characters were almost Shakespearean. Indeed the show's title – think "slings and arrows of" – and episode names are taken from the bard's works.

"You wouldn't automatically equate life in West Auckland with Shakespearean life," Prebble notes. "But the titles are more proof of how eternally relevant Shakespeare is."

She should know. Last year, in between filming scenes of Loretta trying to sell off her new born baby and being involved in accidentally burning down a pet store, Prebble was immersing herself in a paper on love and revenge in Shakespearean England.

"[It was] quite relevant to my career as I hope to act in plays by Shakespeare and other playwrights that I've studied, at some point in the future."

Prebble began working in television early, with roles in *Mirror Mirror 2* and *The Tribe*.

"I've had to find the balance between acting and study since the age of 12. So I've always been a pretty diligent person and tried my best at things."

She finds her papers stimulating. "I find that my brain functions a lot better with all that studying," she said. "And the benefits outweigh the stress you can get at the examination time of the year."

Since 2006, Prebble has taken one paper a year with the goal of completing her degree by age 30.

Each paper includes a two-day contact course at the Manawatu campus.

"I find it really useful and nice to get that sense of camaraderie among fellow students even if it is only for two days; otherwise it is a bit of a lonely way to study. It's not so much about the piece of paper as the process and the knowledge I'll gain in getting my degree. I have no further academic plans as yet. I really want to be an actress and put my time into that."

Does Prebble come from a theatrical background? There may be some family propensity. Her grandfather Kenneth Prebble, a retired Anglican clergyman who died last year aged 93, had appeared in Close to Home and – often as an old man or priest – in *Hercules and Xena*, and some might argue that two of her uncles, recently retired State Services Commissioner Mark Prebble and former Labour Cabinet Minister and ACT Party leader Richard Prebble, also know what it is to play to an audience – particularly the latter, who was no stranger to hamming it up in the Parliamentary debating chamber.

"I guess you could say that their careers have involved some elements of performance, so perhaps at a genetic level I've picked up on some of that desire to express myself but I don't think I've been directly influenced by their careers."

But balancing that is a substantial family commitment to academic achievement. Her father is a law professor (as well as a barrister and solicitor) and another of her uncles, Dr Tom Prebble, is a Massey Emeritus Professor and education consultant with whom she has sometimes stayed while on contact courses.

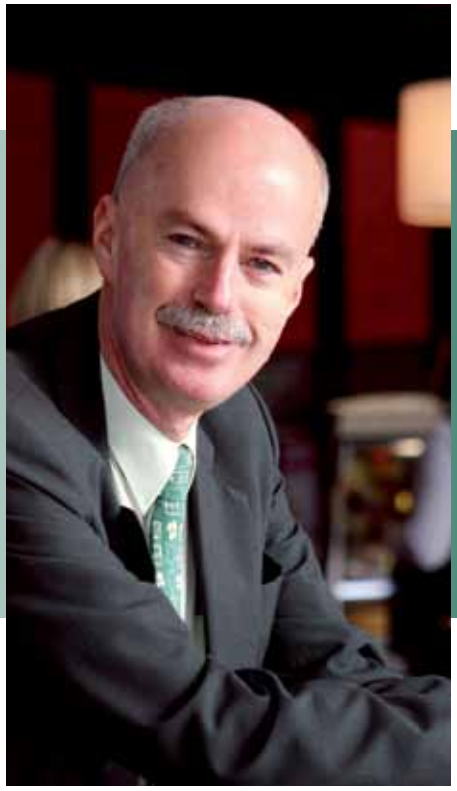
What does her family think of *Outrageous Fortune*? While Richard is a fan, her grandfather, she recalls, "almost couldn't believe that a family like the Wests could actually exist."

Prebble says the role of the ever-scheming Loretta is a "great gift". "There are still some really big stories for her this [fifth] season. Her character is still developing hugely. She's never really standing still. I think she's got limitless scope actually."

The same could be said for Prebble, who before Christmas branched out into professional live theatre, an experience she hopes to repeat. "You need very different skills and you hone your craft in a very different way."

An actor's career she has closely followed is that of Natalie Portman, who has a psychology degree from Harvard. "She [Portman] also really values education and wants to integrate that into her life. I look to people like her and think 'oh good, other people are trying to study and work at the same time, and they're managing so I'll just keep plugging away'." M

Due Credit



You've probably seen his name in the business pages. **Malcolm Wood talks to David Tripe, Director of Massey's Center for Banking Studies.**

There is a term David Tripe is fond of using these days when people ask about the origins of the global financial crisis. It is 'disaster myopia', the very human tendency to severely underestimate risk. It comes, he tells me, from a paper coauthored by Richard Herring, a former visiting scholar at the Reserve Bank. Herring, Tripe recalls, was fond of ending his talks to local audiences with the snide comment, "but of course the bankers tell us that this time it is different, there won't be a problem, nothing can go wrong".

Nothing can go wrong.

During his career Tripe has seen many shifts and ructions within the banking world. He joined the industry in the 1970s with an honour's degree in economics just as international exchange rates were being floated and the banks were making their first forays into foreign exchange trading, "some making quite spectacular losses by the standards of the day". Later he would watch with growing disbelief the behaviour of the markets in the lead-in to the 1987 crash. "There were people lending money on the smell of the smell of an oily rag. When you saw it being done, you thought, 'well this is a recipe for disaster' and, of course, it was."

He witnessed too the aftermath of the crash: the reluctance of banks to lend for commercial property development – an inherently risky activity, he says – and the fateful rise, in response, of private finance companies set up by commercial property developers.

But he also saw good things happen, particularly as the banking system was deregulated. "In the mid '80s you had to queue to get to a lender to get a mortgage for a house and you needed four or five mortgages and all the rest of it. By the mid '90s it was so much easier for the consumer."

By the time he departed the commercial banking world to join Massey's Institute of Banking Studies in 1994, he had developed an utter fascination with the industry he had entered for no better reason than "it paid better than a government job".

It shows. In conversation over a cappuccino in Wellington Library's Clark's café he leans slightly forward, talking with enthusiasm, explaining and expanding.

If a banking expert can be locally famous, then Tripe is that expert. Newspaper reporters seek him out; their coverage of the current crisis is punctuated with Tripe's typically matter-of-fact commentary. So I have been curious to meet him, if only to see what happens when banker turns academic.

Impressions? I can imagine he must be a compelling lecturer in Palmerston North, but he also has the sort of besuited well-groomed presence that might equally be at home in Wellington's policy-making circles or the boardrooms of Auckland, which is where most of the banks are locally headquartered.

But there are individual touches as well: his jazz-instrument-themed tie – though he tells me his inclinations are more classical – and the pocket watch he pulls out white-rabbitishly to consult once or twice.

Just as the 1987 sharemarket crash was, in retrospect, clearly predictable, he tells me, this time round the signs that a financial bubble was building were evident long before it burst. The flood of cheap credit, the comfortable belief that property could only rise in value, the herd behaviour – all of these were signs the market was riding for a fall, says Tripe, who has made no secret of his views over the past few years.

Indeed, he wasn't the only one to express doubts But the industries whose self-interest was tied up with the rise in property and pushing out cheap credit were not interested in naysayers.

"There were a lot of people who had a commitment to it as a one-way bet, because if it was a one-way bet it was going to make them rich, or it gave them a job, because they sold services to the people who bought houses."

In New Zealand a smaller-scale reckoning came with the collapse of a number of finance companies, beginning in May 2006, while internationally the first significant signs that all was not well – the beginnings of the catastrophe – came with the August 2007 announcement by BNP Paribas, a commercial bank in France, that it could not fairly value the underlying assets in three funds as a result of exposure to US subprime mortgage markets. Like many other major banks, Paribas had unwittingly taken on so-called toxic debt in the form of the bundled and securitised packages of mortgages called Collateral Debt Obligations (CDOs).

These in themselves are a useful financial instrument, according to Tripe.

"CDOs were established to address the problem that when you bought a pool of mortgages you didn't know when you were going to get your cashflow. With a CDO you would know when you would get your cashflow – say within two-to-four years or

four-to-eight years – and in principle that is a good thing for investors."

Similarly, a financial instrument some journalists have taken to describing as a weapon of mass financial destruction, the Credit Default Swap, is far more useful than not. "Suppose you are a bank wanting to make a large loan to the New Zealand government but you don't necessarily want that much [risk] exposure to the New Zealand government on your books. What you do is make the loan then sell off parts of the exposure. Not having too much of a credit concentration with any particular borrower is just prudent."

Where the fault lies, he says, is not with the instruments, but with how they have been used: the push to sell mortgages to people who could not afford them; the misleadingly secure ratings given to CDOs that were anything but; the rush to onsell those CDOs to institutions around the world; the overlay of financial complexity; and the miscalculation of risk. He comes back to disaster myopia. Those outside-chance events – the ones so unlikely no allowance is made for them – do happen, and much more often than the models allow for.

So what happens now in our patch? New Zealand's small open economy faces some very serious problems. Although the exchange rate may offer some buffer, the overall demand for our products is still likely to decline as global demand diminishes; credit has already become more difficult to come by; and the downturn will cast an unforgiving light on the New Zealand economy's fundamental problem: the nation has been consistently spending beyond its means, making up the difference with debt.

For a number of years New Zealand has been running a current account deficit of between 8 and 10 per cent of GDP (Gross Domestic Product), accumulating a net international debt that stood at $165.9 billion at the end of September 2008.

Paradoxically that brings with it some reassurance, he says – overseas investors are to some extent hostage to New Zealand's economic success – and some risks.

"Of that $160- or $170-billion odd of foreign indebtedness, banks have net foreign indebtedness in New Zealand dollars, or hedged in New Zealand dollars, of around $110 billion," explains Tripe. "So they have a very big chunk of it, which means someone somewhere else in the world is holding net New Zealand dollar positions that have been falling in value as the value of the New Zealand dollar has declined. There is a real concern that they will get uncomfortable with that and want to exit their New Zealand dollar positions, and that could cause a dramatic decline in the value of the currency."

However, Tripe is reasonably comfortable that the local – read Australian – banks, although leveraged ("they all meet the standard capital rules of 8 per cent equity, but in practical dollar terms when the risks are unweighted we are effectively looking at between 5 and 8 per cent"), will accommodate the changing environment.

> **"New Zealand's small open economy faces some very serious problems. Although the exchange rate may offer some buffer, the overall demand for our products is still likely to decline as global demand diminishes"...**

"When it comes to the crunch, I am not of the view that the banks are going to lose huge amounts of money. Most of their lending is secured with loans for housing and loans on small businesses, and most people will have been sensible in their borrowing, and the banks have some margin. Even if someone loses their job and housing falls by 20 per cent, in many cases the house can be sold without a loss, and even where there are losses, some of these will be insured."

He is less sanguine about what will happen to the New Zealand economy generally. "To spend at the level of our income we are going to have to reduce the proportion of the nation's income being spent on retail and housing by 8 to 10 per cent. That means some excess capacity that is going to have to be drafted into some other use, which means that current levels of employment are nowhere near what they are going to reach. The official government figures seem to be unduly optimistic."

Nor is the world soon going to be back to what it was anytime soon. Although Tripe is resistant to the idea of being classified ideologically, in general he favours free market solutions over the alternatives and he is no fan of nationally owned banks, which tend, he says, towards inflexibility.

Yet for the foreseeable future a number of landmark international banks will now have major government stakeholdings.

"The French took the best part of 20 years to unnationalise the banks that they nationalised in the early '80s – and they took up most of the market's appetite and capacity for buying banks. When you have the US and the UK and the Europeans all trying to denationalise banks [in the same period], that is going to take lot more."

The blanket retail bank deposit guarantee schemes now in place in many countries also disquiet him. However necessary, these schemes introduce 'moral hazard': with the government carrying the risk there is less reason for financial institutions to act with proper prudence.

Will the crisis mean that banking qualifications now become more sought after within an industry whose upper echelons – it emerges – are largely full of people who have come in from other disciplines?

Tripe isn't sure. There has, in the past, been a tendency for the banks to see themselves as all-knowing and no one has held them to account – bank customers seldom ask their bankers about their qualifications.

Perhaps, he says, they should. M

Changing the face of banking?

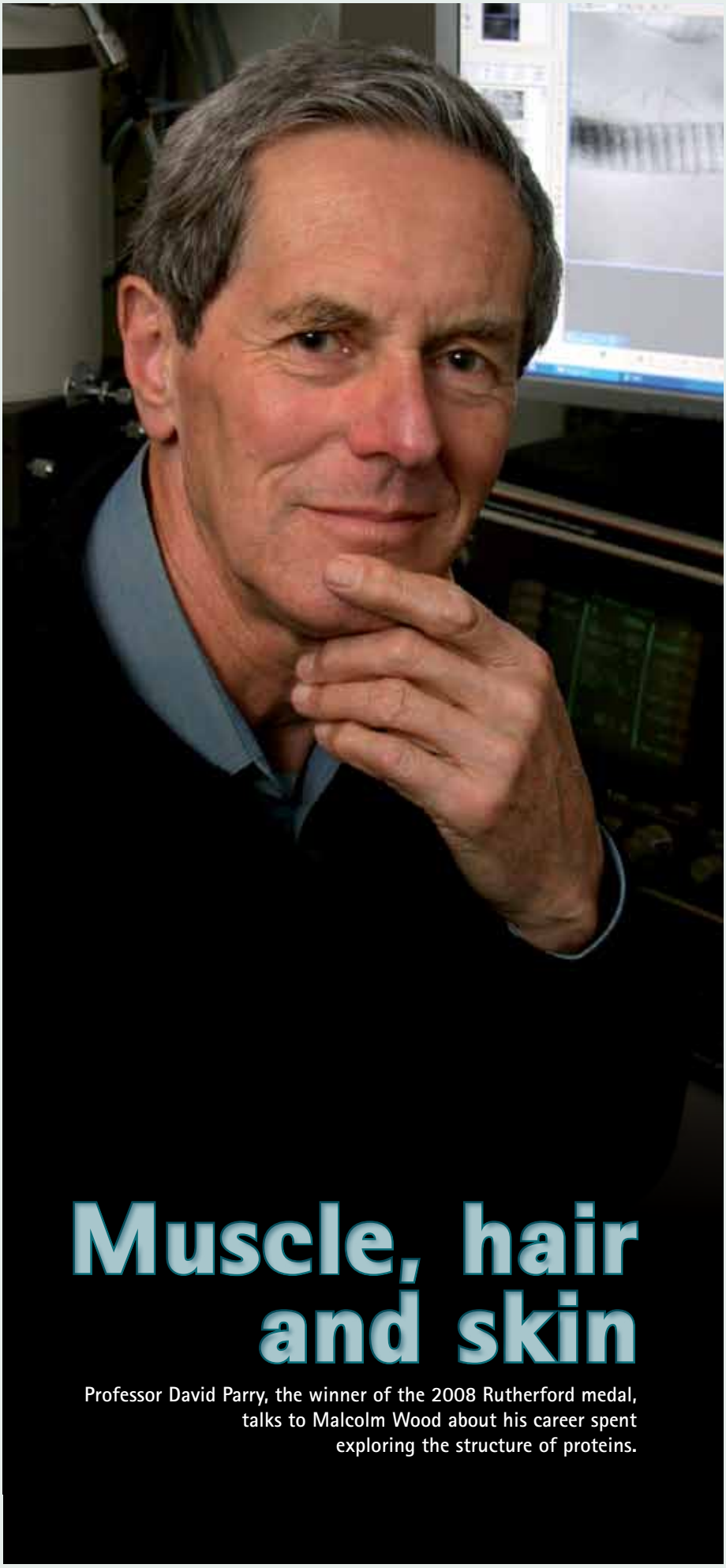
One of the more interesting phenomenons in recent years has been the arrival of the NZPost-owned Kiwibank, which launched in June 2002 and, as of September 30 2008 had slightly more than 2 per cent of the New Zealand market share but more than 10 per cent of the New Zealand customer base. *

But is the playing field level? In December 2008, former BNZ chairman Kerry McDonald suggested that the over-the-counter business in PostBank branches was being used to cross-subsidise the banking business.

Tripe does find aspects of Kiwibank's business model "a bit challenging", making it almost impossible to determine how well it is doing. "Kiwibank's cost structure is way higher than the other banks. It has a bigger branch network and assets that are a tenth of the size of the bigger banks. The costs allocated to Kiwibank by NZPost should be those of the additional banking activities of the branch. But how do we test that? We can't."

He also wonders about the long-term future of a bank that relies on having a costly physical presence in any community of some size. "If we look 20 years ahead are banks going to want branch networks as large as they have now? The answer is no. The only functions you need now are to deposit small business takings and to open an account. In Australia some of the information brokering for opening new accounts has been brokered to AustraliaPost, but they can do that because AustraliaPost isn't a banking competitor."

* Combined with the TSB and SBS, this brings total New Zealand-owned share of the banking market to between 3.5 per cent and 4 per cent.



Muscle, hair and skin

Professor David Parry, the winner of the 2008 Rutherford medal, talks to Malcolm Wood about his career spent exploring the structure of proteins.

For someone who has just entered his retirement years – meaning a two-day working week in this case – Professor David Parry doesn't look his age. The 2008 Rutherford Medal winner is tall and whippet lean, and it is somehow right that as the world's authority on the structure of hair (or more particularly keratin, which is its basic constituent) he should himself sport a full head of the stuff. It's mostly grey admittedly, but then Parry knows professionally from his work with proteins that age will have its way.

But more of that later, for matters scientific are not top of Parry's mind just now. Rather, he is thinking about the talk he will give when he goes on tour for the Royal Society. Where the tour will take him, he hasn't been told quite yet, but it is likely to be small-town New Zealand: places where scientists on lecture tours are an uncommon event.

He's a bit apprehensive. These will be mixed audiences: some will be drawn to the hard science; others less so. So Parry is setting out to interleave his quite technical science with a more personal account of his own history and of how the world has changed around him in the half century since he began university study.

And it has changed, he muses, almost beyond recognition. Take information technology. Parry remembers the computer he worked with while doing his PhD at King's College in mid-sixties London, the Elliott 803 (a room-sized machine boasting 8k of memory). "It had green, red and blue lights and they all flashed on and off. The magnetic tapes whirled around and the reader chewed up our precious spools of tape. This was a real computer and not the antiseptic ones we have today." »

The entire stock of rubber balls from Woolworths in Oxford – as Professor Parry puts it – is seen here as the base components of a model he and John Squire constructed to show the regulation of vertebrate skeletal muscle. The basic mechanism, described by them in 1973, remains undisputed.

Or take international travel. His first postdoctoral fellowship with the CSIRO's Division of Protein Chemistry in Melbourne (where he met and married his wife and they had their first child) meant spending a month on the sea via the Suez Canal. His next bouts of extended travel were to Boston to work for the Children's Cancer Research Foundation and Harvard Biophysics Department, then on to Oxford via the QE2 to work for the Laboratory of Molecular Biophysics, and finally to Massey in 1973 to take up a lectureship in physics. The plane travel was not long-haul as we know it, but an extended series of less-than-three-hour hops.

As a boy, Parry could never have foreseen the shape his career would take. In his final school years he had planned to go to Oxford on a maths scholarship, but when his father relocated to London he hurriedly revised his plans. He made a late application to several London University Colleges and was accepted by King's College to study maths and physics, going on to graduate in 1963 with a job offer in hand: designing ship hulls for the British Scientific Civil Service.

But King's College intervened once more. New Zealand-born Maurice Wilkins (who had won the Nobel Prize for physiology or medicine the year before for his part in determining the structure of DNA) and his colleague Arthur Elliott were looking for someone to take on a PhD determining the structure of synthetic proteins and polypeptides using the maths-and-physics heavy discipline of x-ray crystallography. Would Parry be interested? He would.

It was a career-determining choice. He had opted to become a molecular biophysicist, and at a time when breakthroughs such as the solution of the primary structural motifs in proteins (proposed in 1951 by Linus Pauling and colleagues) and the determination of the structure of DNA (described by Watson and Crick in 1953 drawing on the work of Wilkins and Franklin) were relatively recent and the field was largely untilled.

As his Royal Society audiences will learn, Parry swiftly began notching up achievements. Between completing his PhD and arriving at Massey, Parry participated in some seminal work. At Harvard he helped decrypt the structure of the tropomyosin, a cable-like muscle component, and at Oxford he collaborated in assembling the first-ever sequence of the protein collagen (subsequently explaining in an elegantly designed modelling experiment why the sequence led to the collagen-forming bands in the fibrils). He also arrived at the mechanism by which muscles are switched on and off.

The last of these alone would have been enough to make Parry's name.

At Massey Parry persisted with the line of research he had begun while at the CSIRO. There he had worked on wool proteins, now he would work with hair proteins. But call it wool or hair, it makes no difference, says Parry. In biochemical and structural terms the two are the same thing: a tough, resilient, outer layer that provides temperature regulation and protection from both the environment and predators.

All proteins are built from different combinations of about 20 amino acids. In the case of hair, the structure of keratin is based on the α-helix. This resembles a spiral staircase with amino acids as runners. Two of these structures come together and wind around one another to form a coiled coil rather like a ship's rope.

One of Parry's achievements has been to establish that the basis of the coils is a set sequence of seven amino acids – a heptad – broken up by 'stutters', 'stammers' and 'skips', the terms applied when certain predictable numbers of amino acids are missing.

"The heptad repeat is an extremely common feature in a very large number of proteins, but it just wasn't recognised," says Parry.

This "delightful simplicity", as he puts it in one of his papers, means that one day soon it may be possible to bioengineer new forms of coiled coil proteins with biomedical and other applications.

What, then, is the relationship between the keratin in skin and the keratin in hair? At the base of the hair follicle, he explains, the structures of hair and the surrounding skin are virtually identical.

"But as the cells die the hair molecules rearrange themselves, disulphide bonds form, and the thing becomes very stiff and rigid," Parry explains.

These same disulphide bonds, which form many of the links between the coiled coils, are the reason why burning hair has that distinctive smell, and it is also these bonds that are rearranged when hair is permed.

As for what happens to proteins with age, the news is mostly bad. Parry has collaborated in investigations into the state of horse tendons as they age and has shown that the delicate collagen connective tissues known as fibrils undergo a distinctive change: "In an older horse the fibrils are very small; all the big ones have gone."

Professor Parry speaks at the Science Hons dinner after being presented with Rutherford Medal by Professor Mary Fowler, Rutherford's great grand-daughter.

Governor General Dame Silvia Cartwright and Professor Parry unveil an official portrait of Maurice Wilkins, New Zealand's second Nobel laureate, at Government House on the 50th anniversary of the seminal work he carried out into the structure of DNA in 1953. Wilkins was one of Parry's doctoral supervisers.

Professor Parry and his wife at Alpbach in Austria during some off-time from a workshop on coiled coils, collagen and co-proteins. He and John Squire have organised such workshops every four years since 1993.

"Every time an animal died – from natural causes I might say – they would post the eyes to us and we would extract the cornea."

Age brings other unwanted changes too. Tissues, such as the skin, which were plump with lubricating water, become increasingly desiccated as we age, and most – not quite all, he says – of the cosmetic remedies on offer are little more than upmarket forms of grease.

Perhaps the strangest of Parry's projects has been an investigation of collagen in the cornea of the eye. For the cornea to be transparent, the collagen fibres must have the same diameter and be evenly spaced. But over the years researchers had produced results that showed the diameters of the fibrils varied widely across the species, a result Parry doubted. It must, he thought, be an artefact produced by variations in methodology.

He talked to the veterinary department at the Auckland Zoo and soon strange packages began arriving.

'Every time an animal died – from natural causes I might say – they would post the eyes to us and we would extract the cornea."

He rattles off a Noah's ark of animals: "…salamander, possum, stoat, stingray, hippopotamus…"

"So we treated all these species in the same way and all, except the bony fish, had fibrils of the same size," he says with amused satisfaction.

"That was an easy piece of work, but quite fun – it is all fun."

Except when it isn't. In Parry's later career, as he increasingly took on responsibilities within the international science community, the amount of travel he had to do became a trial. In 1990 he was elected to the Council of the International Union for Pure and Applied Biophysics, serving for 12 years in roles including vice president and president. In 1999 he was elected to the executive board of the International Council for Science (ICSU) – science's equivalent of the United Nations – which is headquartered in Paris.

"Initially that meant only one or two meetings a year, but after three years I became vice president and the chair of one of the major subcommittees."

Six times a year Parry would set aside his duties as head of Massey's Institute of Fundamental Science to head for the most unromantic return trip to the city of lights. "It really killed me: a day-and-a-half there, a two-day meeting, and then a day-and-a-half back. A miserable existence." At Massey a backlog of work and correspondence would await his return.

So while more golf, tramping, gardening and family time are on his list of aspirations, more travel isn't. For the most part it is far more convenient to collaborate electronically, and again Parry marvels at the way things have changed.

"When I came to New Zealand in '73 if you wanted to collaborate you literally had to write a letter to somebody and it would take a week to get there, and a week there and a week back. Then came faxes, then, at last, e-mails."

Parry is much sought after as a co-researcher, and not just because of his expertise, he admits.

Being 12 hours out of sync with Europe has its advantages – "I can work while they sleep," and, besides, there is another pragmatic line of reasoning: "I am not competing for same [nationally-based] pot of money that they are."

Over the years and in the course of compiling more than 200 published research papers (plus editing and co-authoring a number of books) Parry's tally of co-authors has topped 250.

"I have been collaborating with someone in Oxford and we just published a paper together.

"Coincidentally, I was at a big conference on intermediate filaments in Oxford later that year, so I got to meet him for the first time. Turns out he is about six foot eight and graduated from Otago."

How does he feel about the recognition of the importance of fundamental science in New Zealand? It has improved greatly, he says, with it now being more widely recognised by government that successful applied science could not exist without its vibrant sibling.

In his own case, his early work explaining how muscles are triggered has found application in such things as meat processing (electrical stimulation makes for more tender meat) and he has worked with an Auckland-based plastic surgeon to foster techniques to minimise scarring.

But acknowledging the place of fundamental science is not enough in itself. More funding is needed, particularly, he says, for that mainstay for New Zealand science – the Marsden Fund.

As for the Rutherford medal, he knew he had been put in for it, but as a first timer he didn't rate his chances.

"Most times you need to be there for quite a few years before you become a serious contender, and often you never get to the top of the pile at all." It must, he says, with genuinely unassuming self deprecation, have been an easy year. M

Professor Hazelton with PhD student Katharina Parry.

Caught up in traffic

Professor Martin Hazelton talks to Malcolm Wood

Here is a possibly infuriating mental exercise for the next time you are stuck in traffic: see if you can disconnect and see yourself, the roading system, the mass of machinery and people going nowhere fast, in a more abstract sense. Picture yourself rising above it all, assume a Wise's-street-map view, and picture your car as just one among the many.

From this Olympian perspective you can see traffic less as a tangle of frustrated intentions and more as a physical phenomenon: a strange substance working through a complex circulatory system. Sometimes the substance is fluid- or gas-like, sometimes it is clotted, sometimes shockwaves ripple through it, as, back at ground level, driver reacts to driver reacts to driver.

Now think about how you design such a system to get each car to its destination as swiftly and efficiently as possible.

It is a problem that has engaged civil engineers, applied mathematicians, physicists (one of the better known traffic modelling systems was designed by Los Alamos, the people who brought you the atomic bomb) and a handful of statisticians, of whom Professor Martin Hazelton is one.

Hazelton, a clean-cut Englishman who has just landed a $310,000 Marsden grant to look at transport network problems, began his career-long fascination with the subject early on: immediately after his doctorate he spent 18 months working with the transport studies unit at the University of Oxford.

What is it that appeals? The field, he says, produces some lovely quirky problems and it can be appealingly counterintuitive. For one thing, this is a realm in which the self interest of the individual – each trying to pick the quickest route – is not necessarily the best thing. In fact, if you were to empower some all-seeing traffic controller to manage matters perfectly, people would reach their destinations much more quickly. Then there is Braess' paradox: in some cases adding extra capacity – such as another road – to a network will actually slow it down.

So far, so academic, but of course the everyday costs of the inefficiencies in our roading and transport systems are very tangible – wasted fuel, emissions such as carbon dioxide, and knock-on effects throughout the economy to name but three – and since WWII traffic modelling has become an ever more important tool.

If a public agency wants to know what will happen when it builds a bypass, adds public transport, introduces congestion charging, or provides real-time traffic information via GPS and cell phone, then it makes sense to test the what-ifs virtually first.

And the latest modelling software is capable of embracing an astonishing level of detail. TRANSIMS, the Los Alamos product, promises agent-based simulation of the second-by-second movements of every person and every vehicle through the transportation network of a large metropolitan area.

Where, then, do the difficulties lie and what does a statistician bring to the table? The problem is not so much the level of detail, Hazelton says, as it is of calibration.

"Many transportation models are very good at forecasting the past. You can tweak all of your parameters until your model perfectly predicts what happened yesterday. But if you change one of the inputs just a little bit – say a few hundred people want to go to see a sports event – everything falls over. The models can be perfectly calibrated to reproduce the past and almost completely useless at predicting the future."

In effect, trying to make these determinist models identical to the reality they are trying to represent – a map at the same scale as the landscape – is a futile endeavour, Hazelton says. Rather, there needs to be shift away from the deceptive precision of ever more complex and determinist models towards one in which degrees of imprecision and uncertainty can be assigned values – and this is where being a statistician comes in.

"What we need is some well-founded methodology for calibrating the system, so that if we fail to perfectly reproduce reality then instead of saying 'whoops, we got it wrong', we say, 'we always knew we had some random elements, and we can at least quantify how wrong we were likely to be'.

"And our forecasts aren't going to be spot on either, but at least we are going to be pretty accurate."

Pretty accurate would be an advance. If sometimes New Zealand's record of traffic planning does not seem very distinguished, then others do no better. A 2005 study by Danish researchers looked at the traffic forecasting in transportation infrastructure projects, drawing on the data from 210 projects in 14 nations, their collective worth amounting to US$58 billion. In a quarter of the roading projects the traffic forecasts were more than 40 per cent out.

GDP typically devoted to transportation by developed countries: between 5 and 12 per cent

Global CO2 emissions attributable to transport: 20 per cent.

Cost of traffic congestion to the US economy in 2000:
3.6 billion vehicle-hours of delay
21.6 billion litres of wasted fuel
US$67.5 billion in lost productivity

Estimated economic, health and environmental cost of traffic congestion to the New Zealand: in excess of NZ$1 billion.

Waste not

Jonathon Hannon of the Zero Waste Academy talks to Malcolm Wood

Jonathon Hannon knows what it is to get his hands dirty. A little over a decade ago he ran his own recycling business based at the Masterton dump, "among all the rats and cats and seagulls", he says wryly.

It was not a career that enjoyed much social cachet, and you might have thought Hannon – a bright young man with a future – would have been planning his exit.

Far from it. In fact, when Hannon began studying extramurally towards the honour's degree in applied science he now holds, it was with the intention of doing what he did better. "It was the best way I could see of developing the skills I needed and integrating them into my practices."

Today Hannon is lodged in rat-free surrounds in the Institute of Natural Resources as the co-ordinator of the Zero Waste Academy, a partnership between Massey University, the Palmerston North City Council and the Zero Waste New Zealand Trust.

Zero waste is what it suggests: a philosophy under which products are engineered to last, rather than be used once and thrown away, and are designed with their end of life in mind, their components tailored to be reused, recycled or to biodegrade. It means waste-conscious production processes that are frugal in their employment of energy and raw material. It means, in short, a radical break with the way things are now done.

And officially New Zealand is on board: in 2002 the Government officially adopted the *New Zealand Waste Strategy: Towards Zero Waste and a Sustainable New Zealand*.

How wasteful are we? To take but one measure, according to the Ministry for the Environment, in 2006 New Zealanders produced 784 kilograms of solid waste per person, which, disposed of in New Zealand landfills, amounted to 3.156 million tonnes nationally.

Traditionally this mass of waste would have been seen as entailing a set of problems around land allocation – no one wants to have a dump as a neighbour – avoiding risks to human health, and minimising the environmental impact.

The concept of zero waste brings in the costs that do not usually feature in the calculus. Our current wasteful practices, says Hannon, are a result of market failure. The true costs of the air and water pollution and the carbon emissions are not carried in the price we pay for products, and consequently society fails to allocate a proper value to the gains made by practices such as recycling.

Hannon cites a study conducted by Sustainability Victoria, which found that by substituting secondary-use materials for the virgin alternative – such as waste paper for wood pulp, glass for silica sand – the state's recycling saved enough energy to power every household in the state for eight months, enough water to fill more than 20,000 Olympic-sized swimming pools and the greenhouse gas equivalent of removing 700,000 cars from the road.

Similarly, the 329,283 tonnes of paper, plastic, card, glass, steel and aluminium collected in New Zealand through municipal recycling in 2005 represents not just space freed in a landfill, but substantial savings in energy and lower greenhouse gas emissions.

Hannon describes the uses of landfill and incineration – the current default means of waste disposal – as dirty and dumb. Why, he asks, mine raw resources at great environmental cost, when prerefined commodities are available from the kerbsides, factories and transfer stations? Shouldn't we be taking our lead from the natural world where systems are cyclical?

And recycling is only a part of what waste recovery is about, says Hannon. "Our contemporary understanding of waste recovery is not so much about recycling as it is about regulating the flow of materials and commodities through our economy."

Hannon's role is extraordinarily broad. At Massey he is one of a group of like-minded people (including the campus regional facilities management team, the Zero Waste Academy advisory group and the School for the Environment) collaborating towards sustainable campus management. He is a supporter of the campus-based Green Hub and its many initiatives – the e-waste collection, fluorescent light bulb recycling, the scooter-vac glass collection initiative. And as a member of the New Zealand resource sector advisory group, Hannon has been instrumental in developing a suite of 19 new national diploma and certificate qualifications (falling within the NZQA framework and administered by the New Zealand Extractive Industries Industry Training Organisation). His PhD thesis will address the value of embedding education for sustainable development in industry training more broadly.

Two new university-level papers taught at Massey, the first of which, 188.751 Advanced Waste for Sustainability, begins this year, will also bear his mark.

Hannon has many of his hopes for New Zealand's sustainable future pinned on what will happen as the 2008 Waste Minimisation Act takes effect. "For the first time we have price-based economic instruments in place to drive strategy."

The Act will, among other things, assist and sometimes oblige producers to take some responsibility for what happens to their products when they reach the end of their life, and it will introduce a levy on the waste disposed at landfills, providing people with an incentive to produce less waste and create a useful kitty that can be used for environmental projects. "Potentially that might raise as much as $30 million, with 50 per cent of that going back to local councils to fund improved recycling-related infrastructure and services. It's going to be incredibly powerful," says Hannon.

This change in economic incentives needs to be complemented by a cultural shift, says Hannon. Our throw-away consumption-without-conscience lifestyle must itself be disposed of.

A number of European countries are far more environmentally conscious than we are, says Hannon, and there is no reason we should not change the way we are accustomed to doing things. Indeed, for a while New Zealand did nurture a culture of 'reduce, reuse and recycle' – it was during WWII, he says.

We need to muster a similar sense of urgency. The hour demands it. "In times of crisis you manufacture the culture you need." M

Pedal pushers

Palmerston North's campus-sited Green Bike Trust is branching out into new endeavours. Bryan Gibson and Malcolm Wood write

Kyleisha Foote has a problem. The workings of her trusty mountain bike have failed on the way to a lecture, putting the brakes on her daily ride to Massey University. Stuck at class with a broken bike, the 23-year old geography student decides to take advantage of a campus-based workshop.

She walks it up the drive to what was formerly the Palmerston North campus boiler room building, which now houses Palmerston North's Green Bike Trust. It is fixed in no time, for a very student-friendly price, at Massey's 'department of cycleology'.

As well as carrying out repairs, the trust provides bikes to people wanting a cheap and carbon-neutral way to get around the city. For a $20 deposit, people can ride away on one of the hundreds of ten-speeds, mountain bikes and restored relics housed at the facility.

Over the years, Green Bike Trust programme manager Yvonne Marsh has seen many a bike make the same journey. Around 20 will leave today, perhaps a 100 over the course of February, which is a relatively quiet month. Liberated into the community – so the idea runs – the bikes will save fuel, cut carbon emissions, encourage physical activity, and make their new custodians' lives easier.

Back in the cavernous post-industrial space of the boiler room building, the bikes stand in ranks, their chrome handlebars catching the early morning sunlight that pours in through a wall of dusty windows. They are a motley lot: no two are the same, but they are mechanically sound – each goes through a rigorous inspection before being declared roadworthy.

Alongside the racks of bikes is the workshop, its floor neatly swept and every tool in its place. Here the bikes are either rebuilt or – for many parts are now unavailable – cannibalised, and student bikes are repaired at subsidised prices.

Then there are the people. Outside on the forecourt a man with long grey hair furiously pedals away on a bike that is much too small for him, looking like a character from a surrealist film. On the stairs up to the small office we are smilingly greeted by a young man who is obviously awaiting instruction. From a recycled office chair, a mechanic enters inventory details.

If part of the Green Bike Trust's mission is environmental, another is societal; from its beginning, the Trust has been providing supervised employment to the likes of work and income beneficiaries, school students wanting work experience, and people with disabilities. (Phoenix Inc, an assisted employment facilitator, was one of the Trust's founders.)

Today the Green Bike Trust is in the process of securing its future by integrating

into a broader and more ambitious enterprise. This is the Green Hub, a provisionally named and so-far informally constituted umbrella organisation. Like the bike trust, which was one of its instigators, the Hub is being set up to pursue social and environmental objectives and be financially viable, but it will have the advantage of a much wider remit.

Working in close collaboration with Ken McEwan of Massey's Regional Facilities Management, it is the Hub that runs the local recycling service, using a small truck to collect the contents of 98 recycling bins at 28 locations around Massey's Manawatu campus and the adjacent Crown Research Institutes. It operates a USEPA-approved fluorescent light bulb crusher, which fills 44 gallon sealed drums with the mercury containing waste for shipment and recycling. It stores recycled furniture over the summer months, passing it on to students at flea market prices when they return for the academic year. And it partners with a PC recycling business – which also has floor space in the boiler room – in running Palmerston North's electronic waste collection eDay. It has even recently entrepreneurially explored the idea of not only contracting a glass cleaning service to the city council but also creating the technology with which to do it (see Bottle Drive p24).

Each business stream brings in income in the form of contracts, subsidies, grants and payments. The bin of scrap metal now at the front of the boiler house, for example, will bring in $30 these days – well down on the $100 of a few months ago, but not to be scorned.

This is where the Hub will have its future: running a conglomerate of complementary niche environmental services.

Eventually, if its instigators have their way, the Hub will be part of a number of wider hands-on environmental collaborations with Massey and Palmerston North.

They would like to see it play a role in everything from the introduction of campus organic recycling and community gardens through to the establishment of a state-of-the-art resource recovery and recycling centre for Palmerston North.

In the meantime the Green Bike Trust will continue to go about its business, improving the lives of a good part of Palmerston North's population. Back in the early years the extent to which the green bikes had become part of the city's life was more obvious. The bikes, being painted bright green, announced their presence.

These days the bikes are 'mufti', indistinguishable from any other – except to those who know them, says Yvonne Marsh of the Trust. "We recognise our bikes and the people riding them. It is amazing the number of people riding our bikes."

Geography student Kyleisha Foote with Yvonne Marsh of the Green Bike Trust.

One of the original green bikes in its Christmas finery. As well as supplying bikes to people on a budget – such as students (often from overseas), refugees and beneficiaries – the Green Bike Trust is often called on for bikes as props. For the annual Christmas parade the mayor forsook his car for a green bike tandem; the district nurses borrowed 40 for a Christmas party; and one has just been loaned out for the postman in a production of the Sound of Music.

While the bikes are kept in good working order by the Trust's mechanic and the trainees who are on placement, they are not in showroom condition. One of the ideas the Trust is exploring is instituting a programme to strip back and fully restore for sale a number of the bikes that fall into the broadly defined category of retro classics.

The flip side of the Trust's bike allocation programme is a fortnightly collection of broken and abandoned bikes from around the city. In its 10-year history the Green Bike Trust has refurbished more than 7000 bicycles.

Old furniture arriving at the Green Hub for recycling.

The USEPA-approved fluorescent light bulb crusher operated to fill forty-four gallon sealed drums with the mercury containing waste for shipment and recycling.

Bottle Drive

Mechatronics student Kent Gearry is cleaning up his city from a scooter he helped design. He talks to Malcolm Wood.

January 2009. Kent Gearry is on a mission. Spotting the glint of broken glass, he angles his scooter up on to the footpath, the vacuum cleaner roars into life, and, as the shards of beer bottle thump-and-clatter into the aluminium drawer behind him, Gearry pushes the button on the GPS. The glass is gone; the site is logged.

He takes a particular satisfaction in this. Gearry, having helped design and build the mark II 'scooter vac', is now its pilot – and so far the experience has been going well. The vacuum cleaner is more than up to the task, and the scooter – generously supplied by Palmerston North's Honda City – gets by on $5 of petrol every two days and does everything asked of it.

Broken glass is a bane of city life. In Palmerston North alone, broken glass is estimated to cost motorists $350,000 in puncture repairs, while nationwide it results in $3 million worth of claims to ACC annually. Motorists, the drivers of mobility scooters, children in bare feet, pets: where there is broken glass, everyone suffers.

The existing clean-up technology – road sweeping trucks – is ineffectual. Often the glass lies in those places – gutters flanked by parked cars or under bushes – a truck can't get to.

Two years ago the problem was raised at a Green Hub board of trustees meeting, with ideas being batted about the table: Should someone with a bike and a broom be enlisted to pick up glass? What about a scooter? What about, say, a scooter with a mounted vacuum cleaner? Could the Green Hub contract a service like this to Palmerston North City Council?

Part funded by a $20,000 grant from the Packaging Accord (a voluntary initiative to cut down on wasteful packaging), the Green Hub (see previous pages) and Massey's School of Engineering and Applied Technology (SEAT) set about testing the possibilities.

For Gearry, here was the ideal project. As a mechatronics student (now entering his fourth year) he needed summer work to carry him through his degree, and his green credentials were good. In fact, as the student association's environmental officer Gearry was a Green Hub trustee himself.

With the direction and assistance of Jonathan Hannon of the Zero Waste Academy and of Professor Clive Davies and technician Stan Hyde, both of SEAT, Gearry was put to work. There was a proof-of-concept vacuum cleaner to build to show that a small single-cylinder motor would be up to the job. There were blueprints to be drawn up in CAD (Computer Aided Design), a programme to be written for the GPS logging system, and all of the hands-on workshop engineering. There were the measures that would be agreed on and put in place to make the scooter road legal: in this case a sign on the back, "caution, street cleaning, stops frequently", and a pole-mounted orange flashing light for night use (something the scooter has yet to see).

There were the personal preparations he had to make for his summer duties: gaining his Ministry of Transport credentials as a traffic controller.

All this Gearry had done. He has even pimped his ride – the scooter sports a custom logo commissioned from Eyecandy creations.

But as any entrepreneur would tell him, designing and engineering the product are only part of it. There is the matter of applying for more funding – that initial $20,000 has only gone so far – while ahead lie the tangle of issues surrounding intellectual property and the prospects for commercialisation. Is there something patentable here? Is the scooter-vac something there might be a wider market for? If so, who would build it?

It must be a relief for him to put it all from his mind momentarily and head out into a bright summer's day for some find-the-bottle treasure hunting.

For his part, Jonathan Hannon is eagerly waiting on the data Gearry will bring back. The problem of broken glass, he says, is something city councils have yet to get a proper handle on. If city councils can establish links between when and where the incidence of glass is highest then they can take objective measures to solving the problem.

Perhaps, he ponders, it might make sense to rent out the scooter vac to event organisers where an association has been proven.

But he also has larger ambitions. He hopes this multipartner green project will be the forerunner of many others. Here a student has gained practical experience, a city and its residents have gained from the expertise of the university they host, and a community organisation has – good fortune allowing – gained a viable enterprise.

"This is where the connection between Massey, the city, and the Green Hub starts to fuse really nicely."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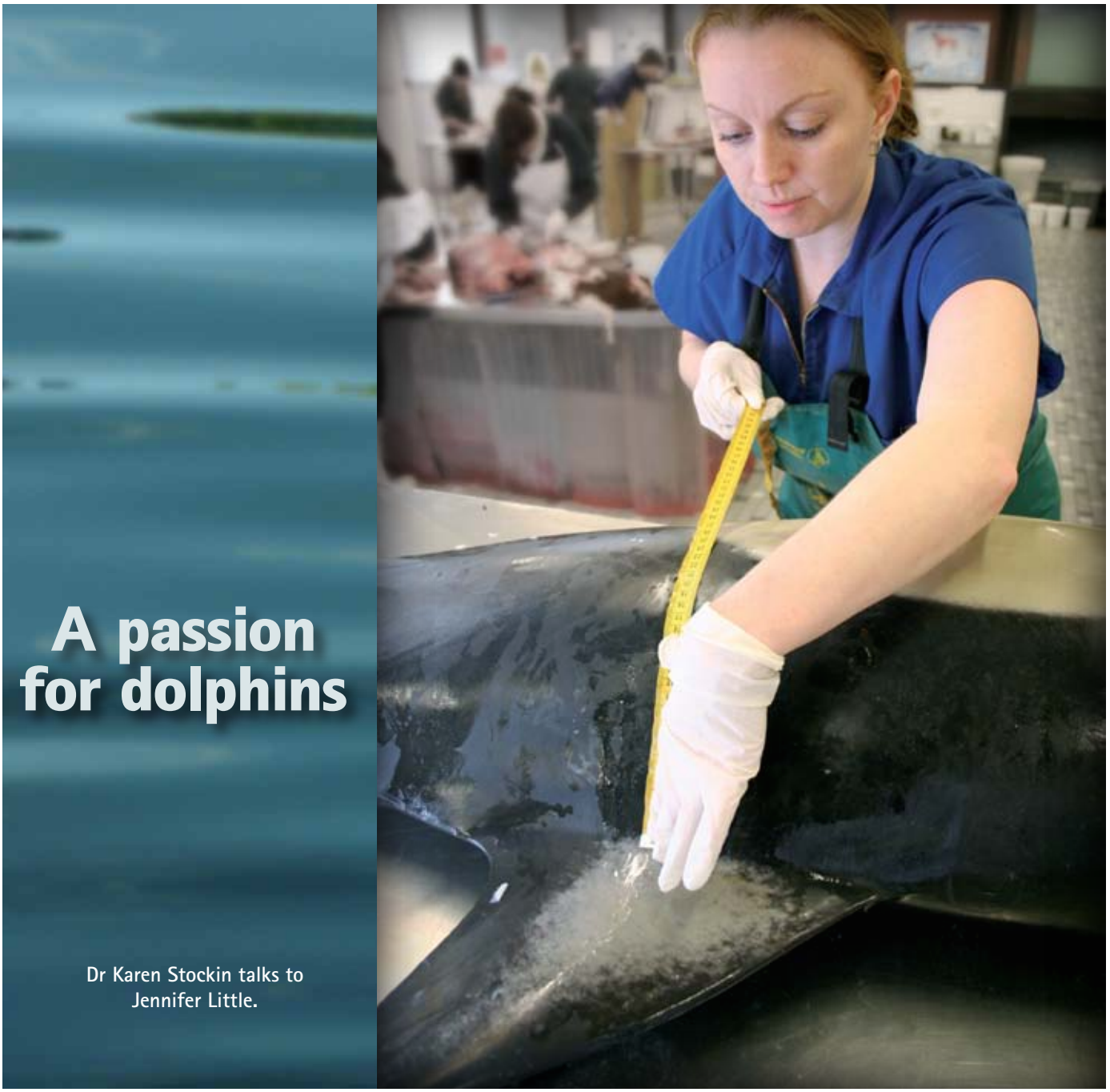


A passion for dolphins

Dr Karen Stockin talks to Jennifer Little.

Karen Stockin's parents probably guessed that their teenage daughter would have an unusual career. The family tradition was that they would pay for a lavish 18th birthday party for each of their children. Karen wanted something different. She asked them to help pay for a trip to Monterey Bay off the coast of California; the girl from the UK's land-locked county of Staffordshire dreamed of seeing a blue whale.

She saw blue whales. She saw orca, bottlenose and Risso's dolphins, and schools of sunfish and sharks. "I came back completely focused. I knew marine biology was definitely for me – there was nothing else," says Dr Stockin, now a lecturer at the Institute of Natural Sciences on the Albany campus, where last year she completed her doctoral thesis on the so-called common dolphin

Hers is a varied job description. At one moment she is at the podium in a lecture theatre; at the next in the lab crunching data on the computer; or out on the water logging dolphin behaviour; or up to her knees in the viscera of some long-dead beached whale; or evangelising to groups of spellbound school students – perhaps in the classroom perhaps on a dolphin-watching trip – about marine conservation.

Stockin first began studying dolphins in Moray Firth while working towards her MSc at Aberdeen University. These were bottlenose dolphins – think Flipper – but partway through her studies she took a month-long internship with Massey's Dirk Neumann. Then a PhD student based in Whitianga, Neumann was carrying out the first dedicated study of New Zealand common dolphins. When the time came for Stockin to do her PhD, she decided to switch species and countries.

The common dolphin is a genus of medium-size dolphin, coming in at 1.6 to 2.7 metres in length when adult, and found over a number of ranges worldwide. In New Zealand waters the common dolphin is particularly found in the Bay of Islands and the Hauraki Gulf and other areas around the top part of the North Island.

Stockin was surprised to discover little work had been done. "In Aberdeen there were dozens of researchers falling over each other to try and study a different aspect of the bottle-nose dolphin. When I came back to New Zealand to begin my PhD, I realised

"nothing drives me more than seeing my research make a difference."

to my amazement that with Dirk [now] back in Germany I was now the only person who had any academic interest in the New Zealand common dolphin."

There are reasons for this. Imperilled species such as the Maui and Hector's dolphins (both of which are on the Red List, the so-called Oscars of extinction) naturally attract a large amount of research interest.

But it would be a mistake for researchers to concentrate on endangered species to the exclusion of all others, says Stockin. "Some scientists have suggested that it is the more abundant species which drive the ecosystem. If those populations become damaged, it's going to have a bigger effect on the ecosystem as a whole than losing smaller numbers of already endangered species," she says.

To manage the conservation of the New Zealand common dolphin, you need to understand its diet, breeding patterns, susceptibility to pollution, and how it is affected by human activities such as tourism and fishing. You need to have some verifiable measure of populations numbers to understand whether the population is healthy or in decline.

In pursuit of data, Stockin has spent many sea-going hours observing dolphins going about their daily lives. But there is a more macabre side to the work as well: postmortems. The Department of Conservation turns to Stockin when dolphins or whales beach and die in the Auckland/Northland region.

It is messy, smelly work. The animals she dissects have often been many days dead when found and the formalin in which they are sometimes preserved adds its own distinctive whiff.

Once the police stopped her on the road from Auckland to Palmerston North. They had noticed the tail flukes of a dolphin protruding from the window of her truck. The dolphin was pungently dead; they were not keen to detain her from her business, she remembers.

Habituated to the smell of dead dolphin, Stockin has to be careful not to carry her work around with her. "The oil from the blubber clings to you – you need to shower and wash your hair a couple of times to get rid of the smell," she says.

"But the bottom line is that a carcass represents a plethora of data that we wouldn't otherwise have access to."

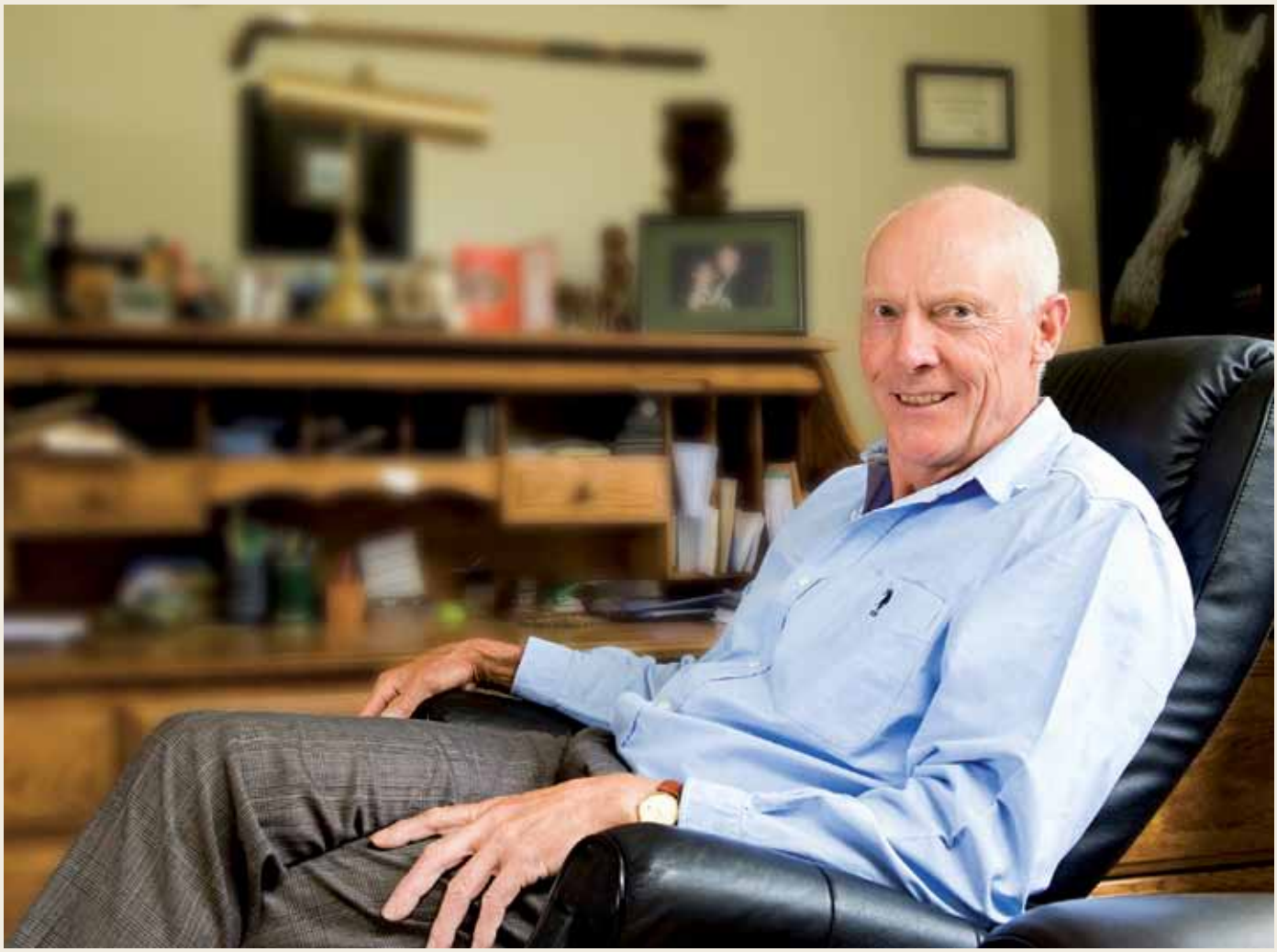
Post-mortems have enabled Stockin and her colleagues to describe the diet of the

New Zealand common dolphin and have shown that the animals often have elevated DDT levels. She has also found numerous plastic bags in the digestive tracts of dolphins and whales – when talking to school children she is sure to mention that a carelessly discarded plastic bag washed down a storm drain can materially contribute to the death of a marine mammal.

Stockin's thesis, The New Zealand common dolphin (*Delphinus sp.*) – Identity, Ecology and Conservation, is the first scientific investigation into the taxonomy, diet and life history, and she expects to release the first-ever population estimates for the New Zealand common dolphin later this year, and in June she will present data on the status of the common dolphin in New Zealand to the International Whaling Commission's meeting in Madeira, Portugal.

Stockin was an instigator of the New Zealand Common Dolphin Project, founded in 2002, under the auspices of the Coastal-Marine Research Group based at Massey's Institute of Natural Sciences in Albany. The project, a long-term research and education programme aimed at raising awareness of the species and contributing to conservation efforts, received a grant from the New Zealand Geographic Trust's first funding round last year and has applied for Marsden funding

"Nothing drives me more than seeing my research make a difference," she says "Whether it be the implementation of set net exclusion zones or the instigation of a tourism moratorium in the Hauraki Gulf, it feels good to be able to make a difference to the way marine mammals are viewed and managed in New Zealand."



A chat with the Chancellor

More than forty years after first learning about Massey from half a world away, Russ Ballard, the university's new chancellor wants to spread the word about its virtues to a new generation. He talks to Paul Mulrooney.

Russ Ballard first heard of Massey University when growing up in colonial Kenya as part of a farming family. Over the years, as they variously raised dairy cattle and pigs and grew a variety of crops – barley, maize, wheat and finally coffee – he came to a natural decision: he too wanted to make his career around working the land. He would set his sights on qualifications in agricultural science.

The contenders were four: Cirencester in Britain, the Royal College of Tropical Agriculture in Trinidad and Tobago in the Caribbean, and either Lincoln or Massey in New Zealand.

Even in far-off Kenya, Massey commanded a reputation, Ballard remembers. But his father's opinions may also have been an influence. A British immigrant, he thought that New Zealanders, unlike his countrymen, still knew how to roll up their sleeves and work hard.

Ballard, a now wiry 65-year-old, raps the rims of his glasses on the table as he remembers.

We are sitting in an attractively terraced house in the Wellington suburb of Wadestown. This is Ballard's little kingdom, a place where sleeves have certainly been rolled up. Inside, the shelves and walls are rich with mementoes: maps, African tribal art, family photographs (the Ballards have three children, now in their twenties and thirties). Outside there are rose beds and intricately cut miniature hedges. Ballard's wife, a keen topiarist, is, he tells me, the author of most of these, but the hedge trimmed to the shape of a small Scottie dog, a homage to a departed beloved family pet, is his own work.

Ballard arrived at Massey Agricultural College in 1963 and began working towards first a Bachelor of Agricultural Science, with which he graduated in 1967, and a Master of Agricultural Science, with which he graduated two years later.

They were formative times both for him and for Massey, which was to metamorphose from a conservative agricultural college to a well-rounded university with multiple constituencies. Not long after Ballard's arrival the College became a university in its own right and began an extraordinary expansion: from 1964 on the Turitea site became a perpetual building site. In 1968 the University acquired an arts faculty based in nearby Hokowhitu.

Ballard remembers his time fondly; he balanced his studies with activities including golf and field athletics, the latter earning him a blue for discus throwing.

He was representing the University at the Easter Tournament being held in Wellington in 1968 when other events were dominating the headlines.

"The Wahine had just sunk [in Wellington Harbour] and I remember we went down and had a look at it…this big ship just lying in the water on its side."

Back in Palmerston North the arrival of the arts faculty had changed the character of campus life, balancing out the influence of the "rough and ready ag boys".

"There was a bit more culture and refinement around the place," and, he adds, "more girls".

One of them was Phillipa, now his wife, whom he married six months after they both graduated from Massey.

After Massey Ballard spent nine years working for the Forest Research Institute in Rotorua. During this period he went to the University of Florida, where he completed his PhD in forest soils science in 1974. At the beginning of 1978 he moved to the US to join the faculty at the School of Forest Resources at North Carolina State University. It was while in the US, by this stage working in management for Weyerhaeuser, the world's second-largest integrated forestry company, that he was invited to apply for the position of director of research back at the New Zealand Forest Service's Forest Research Institute.

Remember the New Zealand Forest Service? It is one of many public agencies that are no more. Ballard's invitation had come in 1986; the fourth Labour Government was in its revolutionary first term and the public service was being remade.

"After I had accepted the appointment I was advised that the Forest Service was being broken up and asked whether I still wanted to come back? I said yes. I wanted to come back to New Zealand."

In fact, Ballard had already helped to manage a restructuring at Weyerhaeuser in the early 1980s, and in the tumult of state sector restructuring – with forestry being particularly affected – he gained a reputation for being a safe pair of hands. He made hard calls – there were numerous redundancies – but he kept the sector's confidence, and when a new state agency was created, the Ministry of Forestry, Ballard was appointed Secretary of Forestry.

But Ballard's performance had also been noticed elsewhere by Labour's new education minister, who also just happened to be Prime Minister.

"David Lange was looking for someone to lead education reforms who was unlikely to be ground down and captured by the system," Ballard says of his 1988 appointment as Director General of Education.

"He [Lange] wanted someone who had the courage to drive the education reforms through, who was essentially independent, who had a background in change management and was able to resist the unions and other pressure groups."

Courage would be needed. Under the policy drive called Tomorrow's Schools, the community was to become increasingly responsible for overseeing schools and there were major changes to be made in early childhood and tertiary education.

"They were extraordinary pressure cooker years. I lost two stone in weight but I loved it," says Ballard, who had the good fortune of both being ideologically in sympathy with the changes taking place and of having the clout in Cabinet to get things done.

"Every time we put a Cabinet paper up, we got what we asked for."

Having acquitted himself with honour, Ballard was then appointed Director General of the Ministry of Agriculture and Fisheries, with the mandate of driving the agricultural part of the GATT trade negotiations and bringing order to New Zealand's commercial fisheries. The GATT negotiations were very successful for New Zealand. As Ballard sees it, his task on the fisheries side was to introduce a sensible degree of regulation around a quota system to an industry instinctively averse to attempts to govern its behaviour. "[Commercial] fishing was the last frontier. The reason people chose to be in the industry was that there was no one to tell them what to do and how to do it." Again Ballard found his satisfactions within the job, but also his frustrations: the expansion of the quota system in particular, which was under way when he arrived, became the subject of extensive court action.

It must have been some small relief when he took up his next appointment in 1996 to the less contentious agency Land Information New Zealand, where a highlight, he says, was instigating the introduction of a "world first" online system for integrating land survey and title information and transactions, and from which he retired in 2003.

Throughout his career, Ballard never lost touch with his alma mater. In 2002, he was presented with a Massey University 75th anniversary Medal. In 2005, he was appointed to the university council, and last December became the University's Chancellor – just two months after Steve Maharey was officially installed as Vice-Chancellor.

As Minister of Social Services in the last Labour Government, Maharey was Ballard's senior minister when the ever-versatile departmental head was acting chief executive in 2004 of Child Youth and Family.

Both Massey alumni, they seem ideally matched: one a former cabinet minister, the other a former government chief executive, both extraordinarily experienced, both espousing the same vision for the University.

Ballard wants Massey to provide the best student experience in New Zealand and to produce the most highly regarded graduates.

Like Maharey, he wants to make Massey New Zealand's defining university by 2020.

"Or before," he says with a smile. M

Massey University Council members

Chancellor

Dr Russell Ballard CNZM BAgrSc MAgrSc PhD Florida USA FNZIM

Pro-Chancellor

Mr Stephen Kós QC, LLB (Hons) Vict, LLM Cantab

Vice-Chancellor

The Honourable Steve Maharey MA

Appointed by the Minister of Education

Dr Russell Ballard CNZM BAgrSc MAgrSc PhD Florida USA FNZIM

Mr Stephen Kós LLB (Hons) Vict LLM Cantab

Proffessor Ngatata Love JP BCom BCA (Hons) PhD Well ACIS ANZIM

Mrs Alison Paterson FAC FIoD

Elected Permanent Member of Academic Staff

Dr Colin Anderson MA and PhD Auck

Elected Academic Staff of the Academic Board

Professor Tony Signal BSc PhD Adelaide

Professor Ray Winger MS PhD Wisc FNZIFST FIFST UK MAIFST

Elected Permanent Member of General Staff

Mrs Andrea Davies BBS MBA

Massey University Extramural Students' Society (EXMSS) and Massey University Students' Association Appointee

Mr Karl Pearce BSW(Hons)

Massey University Student Association Representative

Ms Alexandria Sorensen

President Extramural Students' Society

Mr Ralph Springett

Elected by the Court of Convocation

Dr Susan Baragwanath BA(Otago) MA(London) Dip Ed, D Litt(Hon) (Massey) FRGS

Mr Bruce Ullrich OBE MBA BCom (Cant) ACA FInstDVice Chancellor's Appointees

Vice-Chancellor's appointees

Mr Nigel Gould JP BCA Vict FCA

Mr Chris Kelly MVSc (Massey) MACVSc

Mrs Mavis Mullins MBA

As long as you've got your health

Associate Professor Christine Stephens tells Malcolm Wood about what public health campaigns can and can't do.

You began your working life working with the victims of trauma using individual approaches. What happened?

When I started teaching health promotion I used more traditional psychological models, ones very focused on individual behaviours. But after a while, based on my personal experience, that of my colleagues, and the literature, I came to see that one-to-one therapy could only do so much and I started looking at the broader social life of people and their health and their choices.

Why the switch in emphasis?

I think it came from accepting how strongly we are influenced by our families, our friends and our workmates. Our eating habits are likely to be those we were brought up with. If members of our immediate family smoke, then we are that much more likely to smoke ourselves. If our social group measures our worth by how much beer we can drink in one night, then our chances of drinking in moderation are much slimmer, no matter how strong our resolution is. The social setting is key.

So a television campaign that, say, simply exhorts us to get our 30 minutes of exercise may not do that much good?

It won't work particularly well for you if the people you associate with are physically inactive. You need social support. And it won't work well if the physical environment isn't right.

Take someone who lives in an outer suburb. They may have to rise early to drive or catch public transport to get to work, and by the time they get home it is late in the evening. Will a television campaign change matters? Maybe, as they lie on their couch watching television after getting home from work and looking after the kids, they will think, 'well, that looks like a good idea, throwing balls about joyfully'. But in practical terms, when are they going to get to do that?

Another problem with the sorts of health promotion that tell us to do what is good for us is that a lot of time people aren't thinking about their health benefits in the future. The people who promulgate these messages are assuming that if they establish a link between how people behave now and their health at some time in the future, people will change their behaviours. But usually our actions do not take place with this sort of future outcome in mind. When we go to get a hamburger, what we think is "yum", or "my friend's having a hamburger", or "my kids want to go to McDonald's". We aren't thinking, "ahem, I might get heart disease 20 years in the future".

It is often easier to have a campaign than to change people's environments. It can be an easy way out.

In fact, sometimes, you say, the finger-wagging approach can be counterproductive.

It can be harmful to stigmatise people because of conditions that have to do with their social circumstances. If you make people feel bad about their diet or exercise habits and it is difficult for them to make changes, then all you are doing is putting pressure on them and making them feel unworthy. People who are overweight often find themselves the subject of moral judgments: they are overweight, therefore they are eating badly, therefore they have no self will.

There's no harm in giving people information – telling them this is how to eat healthily or warning that cigarette smoking will damage their health or ultimately kill them – but if you are making people feel psychologically unwell, then they aren't going to get physically well.

> **"When we go to get a hamburger, what we think is 'yum', or 'my friend's having a hamburger', or 'my kids want to go to Macdonalds'. We aren't thinking, 'ahem, I might get heart disease twenty years in the future'."**

You also cite studies that show people will rebel against messages that are overly strident.

There has been research done showing that gay men have stopped using condoms as a form of resistance. In fact, condom use in general is a good example of how the health information delivered in a quite clinical way in the classroom fails to connect with the way people actually use condoms, which is social.

You use smoking as an example of how changes to the environment – taxation, limits on advertising, bans on smoking in public places – can change the incidence of the behaviour.

Smoking has been a great success story and I think it is generally understood that most of

the effect of the antismoking work has come from changes to the environment. But then making rules around smoking is easy, because smoking is only bad for you – the case for rules is quite simple and clear-cut. You can't really carry that approach into other areas. People may talk about fat taxes, but we need to eat, whereas we don't need to smoke.

The antismoking message is one of those things that the middle classes took up with enthusiasm, but we still have what are called 'recalcitrant' smokers. And who are they? They are more likely to be poor people, people operating under stress.

After reading your book, it seems to me that by far the best way of achieving a long and healthy life is to have the right socio-economic status.

Yes, the research demonstrates this over and over again. There's a study of the British civil service that shows that executives and administrators live longer than clerks and cleaners. There's a Swedish study showing that people who hold doctorates live longer than people with masterates and they live longer than people who have bachelor's degrees. There is even a study that shows that Oscar winners live longer on average than the runner-ups. These are all eccentrically memorable examples that show that it works at higher status as well as between rich and poor.

But this is also something I see in my day-to-day working life. In the study of the New Zealand's ageing population I am involved in, we can show the same graded correlations between health and such things as income, level of educational qualification and ethnicity.

Can you tell me more about the apparent effect of ethnicity?

We can't put ethnicity on the same gradient as those other factors. There is no scale of ethnicity that matches neatly with health status, but we can show that there is an effect. Even if people are poor, somehow ethnicity has an additional effect. We know this.

In our survey of New Zealanders aged 55 to 70 [see sidebar] we can show those ethnicity-related inequalities in health cut across income, across living standards.

Our health statistics for Māori and Pacific Island people are a national embarrassment. The indigenous groups in our country have a clear gap in mortality and illness and they do need their own approaches. So, in New Zealand there are concerted public health efforts to address Māori health. Think of the breast feeding, smoking, and cervical smear programmes.

For Māori – and people like [Professor] Mason Durie have expressed this very well and clearly – health is not just about the individual, it's about their family and their spirituality, about their land, and their identity as Māori people. Mind you, I think this is true of all human beings to one extent or other.

How do you measure how successful a health promotion has been?

The health promotion perspective is about prevention; it's a positive approach as opposed to the medical approach, which is about fixing people up once they become ill. We are always thinking about keeping people well. But the outcomes are still measured in illness or death.

We just want to drop those numbers down. Or at least even them out so that no one group is disadvantaged – that would help. M

Health Promotion: A Psychosocial Approach
by Christine Stephens,
ISBN13: 9780335222087,
ISBN10: 0335222080,
Open University Press

When we get older

Christine Stephens is one of a number of Massey researchers who are part of a massive and ongoing study of the health of older people in the transition from work to retirement.

The study's first iteration, led by Massey's Professor Fiona Alpass and funded by the Health Research Council, surveyed 6000 people aged from 55 to 70 years old, 3000 of whom will take part in a subsequent survey.

The study's second iteration, this time funded by the Foundation for Research, Science and Technology, will fund two more rounds of data collection and finish in 2012.

"We have more research partners, we have extended the age range from 50 to 80, and we are going to add a couple of thousand more people in and carry on," explains Stephens, who also has some of her postdoctoral students doing qualitative studies "around the edges".

"I have a Chinese student in Auckland who is doing a study with older first-generation immigrant Chinese people, because typically they don't get picked up by our surveys. We are also doing qualitative work with Pacific Island people."

She hopes the work will help change the perception of older workers. "My view is that people should go on working if they are happy to. Not all of us are happy at 65 to say, well that's it I am off home to the armchair."

POEM

What No One Bothers to Tell the Birds

The repeated call of a song
carves a name for silence.

There are no improper places to settle.
While the building of a nest goes on
in the eave above our kitchen window,
my wife peels a pear in a single stroke.
It sloughs its skin
like a lover shedding his clothes.
I mean gratefully.
Sometimes, her touch is light.

There are some who believe
love is chemical.
There are some who believe
the force of gravity equal
to the mass of one object multiplied
by the mass of another, divided
by the distance between them.

In the time it takes an oak leaf
to flutter to the yard,
a night can pass.

in the heart.
If you stand still,
listening, long enough,
you'll never get off the ground.

Senior lecturer Bryan Walpert's poems have appeared in such publications as *AGNI*, *Crab Orchard Review*, *Gulf Coast*, *New Zealand Listener*, *Poet Lore*, and *Tar River Poetry*. He won the 2007 New Zealand Poetry Society International Poetry Competition, is poetry editor of *Bravado* and winner of a national Tertiary Teaching Excellence Award for teaching creative writing in New Zealand. *Etymology*, from which What No One Bothers to Tell the Birds is drawn, is published by Cinnamon Press and is available from the Bruce McKenzie Booksellers in Palmerston North, from www.cinnamonpress.com, or from www.fishpond.co.nz, which has it listed at $32.99.

Sleep/Wake

Before Sleep/Wake I semi-joked with one of the promoters that it was one performance where an audience member should be able to nod off without causing offence. (In my own case, this has happened before.) Fortunately, there was never a chance of that.

Sleep/Wake dramatises what happens to us when we sleep, employing a potent, highly surreal mix of drama, dance and performance. A narrator holds things together, at one moment hypnotically explains the processes of sleep, at the next barks out multiple numbered commands, and shows the confusions of those first bleary moments of awaking. The production culminates in an extraordinary water-logged dance sequence, the cast members slipping, sliding and splashing their way across the stage, by some miracle managing to avoid spraying the audience.

Sleep/Wake is a collaboration between sleep expert Professor Philippa Gander of Massey University's Sleep/Wake Research Centre and Playground theatre company director Sam Trubridge,.

First performed in 2008, the production was revived for Auckland Festival of the Arts.

Paul Mulrooney

PLASTIC MĀORI – A Tradition of Innovation

14 March – 9 August 2009 / FREE ENTRY
TheNewDowse / 45 Laings Road Lower Hutt / www.newdowse.org.nz

Often Liked Never Beaten, Wayne Youle (Bachelor of Design)

Net Reflections, Christina Wirihana (Masterate in Māori Visual Arts)

When plastic tiki replace pounamu pendants and tekoteko panels are made out of computer keyboards, can these objects retain their cultural integrity? Is synthetic still authentic?

Plastic Māori is an exploration of artworks made by Māori artists who use plastic and other synthetic materials, curated by Blumhardt Foundation/Creative New Zealand Curatorial Intern Reuben Friend.

Friend says, "I called the show Plastic Māori because this slang term refers to a Māori person who is culturally uninformed, but pretends to know their stuff. The show looks at the issue of cultural authenticity in contemporary Māori art, and plays with these ideas of artificial identity and fabrication. A common belief shared by the artists I've selected is that a tradition of innovation exists in Māori culture. The artists reinterpret customary art forms in a way that enables them to comment on contemporary issues."

Plastic Māori examines the appropriation, commodification and mass production of Māori taonga (treasures), with art works including kowhaiwhai lightboxes, tukutuku puzzle cubes, jewellery, streetwear and even NZ's most famous plastic Māori – Manu from Playschool.

Reuben Friend is currently studying towards a master's in Māori Visual Arts at Massey and a number of other artists on show have strong Massey connections.

An' Then the World Came Tae Oor Doorstep: Lockerbie Lives and Stories
Jill S Haldane, The Grimsay Press

Dedicated to "the good folk of Lockerbie", Jill Haldane's oral history of the crash of Flight 103 over the small Scottish town, of which she is a native, is an account of the intensely human aspects of the tragedy, told in first person by the survivors.

I remember that in nearby Kirkcudbright – about 39 miles from Lockerbie – the night of 21 December 1988 was bitterly cold and dark: the dense, penetrating cold and darkness of a winter far distant from the equator. Aged 15, I was curled up in front of the fire at an aunt's house. Like many of the houses in Lockerbie and surrounding towns, its centuries old walls were two-foot thick stone, the windows inset to ward out the cold. A coal fire was burning in the stone hearth as it did almost every single day of the year. My 20-year-old cousin Kate and I were enjoying a night at home in "peace", when, at around 8.00pm, 'Border' – as we called Border Television – interrupted programming with a shock announcement that some kind of emergency had hit a nearby town. Lockerbie lay on the other side of the regional town Dumfries. Yet it was close to home, and I recall the chill I felt as details emerged.

We had no idea that Flight 103 had exploded above the town. The Internet was years away; we didn't have teletext. So we waited and watched until the call came: all medical personnel throughout the region were to mobilise. Kate, two years' into her training as a nurse, drove off into the dark along the A75.

As it turned out, there was little the thousands of medical and non-medical rescuers who mobilised could do. All 243 passengers and 16 crew were killed. Amazingly only 11 Lockerbie residents were killed. Haldane chronicles both the event and the following days, months and years: from the setting up of a makeshift mortuary in an abandoned factory to the eventual trial of two accused bombers.

Time has moved on. My family still own the house in Kirkcudbright, and my family, like many of those in Lockerbie who share their stories in Haldane's book, still cluster round the small town of their origin. Border TV has gone, however, axed last year and a generation have entered adult life with no memory of the tragedy. They should read Haldane's book, not just to hear of Flight 103, but for the social history of a time and place.

Jill Haldane is a museum studies graduate. Reviewer Communications Manager Lindsey Birnie is a journalism graduate now in the final months of a Massey MBA.

ALUMNI NOTES AND NEWS

From left, Massey alumni Duncan McLean, Tessa Bradley and Amanda Mathews.

INSIDE:

“The cotton’s right, the fit, and then their own bit of flair, their own creative involvement inside our production. What could be cooler?”

—Duncan Mclean of Duncan & Prudence (see page 44)


Robyn Matthews
Alumni Relations Service Facilitator

Looking ahead

Robyn Matthews writes

Robyn Matthews comes to Massey from Otago University, where she has worked for the past eight years as a Teaching Fellow at Te Tumu, School of Māori, Pacific and Indigenous Studies.

This year our office will be focusing on enhancing our engagement with alumni by continuing to support the entrenchment of our five current National Chapters (Auckland, Manawatu, Hawkes Bay, Wellington and Canterbury) with the additional goal of establishing new chapters in the Taranaki and Waikato regions. We have also begun preparations for the establishment of a Māori Alumni Chapter.

In November 2008 the Palmerston North alumni chapter visited Te Pūtahi-a-Toi (School of Māori Studies) on the Manawatu campus. The host for the event Professor Robert Jahnke introduced the building and the range of courses available. This was followed by a tour of an exhibition of students work from the Māori visual arts programme at Te Manawa. The Auckland Chapter held a Christmas function at Annabelles restaurant in December. The dinner was combined with a tasting of a selection of wines from Riverby's vineyard in Marlborough. Everyone spent a great evening being introduced to a range of varieties alongside excellent food.

Meet the VC events have been held in the Hawkes Bay, Manawatu, and Auckland. This was chance for alumni to meet our new Vice-Chancellor, Steve Maharey, and hear first hand his vision for the university through to the year 2020 and particularly his emphasis on reconnecting the university with its alumni.

Massey University Assistant Vice-Chancellor, External Relations Sue Foley and University Marketing Director Sarah Vining recently hosted an enjoyable gathering in Singapore with members from our local alumni community. Those who attended included a veterinarian, a psychologist, an air inspector, and a number of business people and health professionals. Many wonderful stories were shared of their times at Massey. It was a pleasure to meet with you.

The University has collaborative agreements with the Singapore Polytechnic, in the teaching of food technology, and also with the Singapore Aviation Academy. Through these connections we can look forward to a growing number of alumni in the region and to hosting more functions in the near future.

The office is currently working on the development of social networking functionality within the Massey alumni online community website, just another innovative way to keep in touch with one another. There will also be a bi-monthly electronic newsletter available to keep you up to date on all the fantastic things happening amongst Massey alumni.

Please don't forget to keep in touch with us either via e-mail or the alumni website so we can keep you updated on all the exciting events scheduled for this year.


The March alumni reunion in Singapore.

Be in the news and win

Visit the Massey Alumni Online Community website at alumnionline.massey.ac.nz and be in the draw to win an iPod Nano!

The competition is open to all alumni who provide us with their latest news for our notes and news section between 1 April 2009 and 25 June 2009. The draw will be made on 26 June 2009 and the winner then notified.

Show and tell

Let your fellow alumni see where you are and what you are up to. The alumni office welcomes digital photographs as e-mail attachments. To be of publishable qualty, photographs must be at a print resolution of 300dpi. The preferred file format is jpeg.

Register as a chapter member to be invited to events in your local area. Visit alumnionline.massey.ac.nz.

DISTINGUISHED ALUMNI AWARDS

This year Massey University introduces a series of annual awards to honour the outstanding achievements of the University's alumni and recognise their contribution to the greater good of Massey their professions, their communities and New Zealand. The candidates for the awards will be nominated by the university's alumni, with the award winners chosen by a university committee led by the two alumni representatives to the University Council, elected by the Court of Convocation.

Awards will be conferred in a number of categories to ensure that the broadest possible fields of achievement can be considered. Each categories spans the full range of human endeavour and recognises achievement by an alumni of each gender.

The Distinguished Alumni Achievement Award
For significant accomplishments in business or professional life.
Awarded to one alumnus and one alumna.

The Distinguished Alumni Service Award
For specific and meritorious service to the university, community or nation.
Awarded to one alumna and one alumnus.

The Distinguished Young Alumni Award
For an alumni aged 35 or younger at time of nomination, for significant accomplishments in business or professional life or for service to the university, community or nation.
Awarded to one alumnus and one alumna.

The Sir Geoffrey Peren Distinguished Alumnus Award
This, the last and most distinguished of awards, acknowledges an alumni who has reached the highest level of achievement in business and/or professional life or who has been of significant service to the University, community or nation. It commemorates one of the University's most respected former professors. This award will be made to an alumni selected from recipients of the awards listed above.

Making a nomination
A nomination can be made by an individual alumni or an alumni chapter. At the time of nomination, the nominee should not be an employee of the University, or a member of the University Council.
An official nomination form must be used. For a copy of the form
• visit http://alumnionline.massey.ac.nz
• e-mail alumni@massey.ac.nz
• call the alumni office on +64 6 3505865
• nominations must be received by 5.00 pm, June 19, 2009

The form lists the documentation the nominator must supply to support the nomination. This includes the nominee's title and full name and address; his or her assent to the nomination; his or her career or occupation; his or her academic qualifications, including specialisation and the educational institution that conferred the qualifications; other honours, awards or offices held, with dates if known; the contributions and achievements that make the nominee eligible and deserving of selection; any other supporting documentation or information deemed useful.

Presentation of Awards
In this first year, award winners will be chosen in July, notified in September and presented with their awards at a dinner in Palmerston North. The award winners will be announced in the next issue of *MASSEY* magazine.

Stay in touch

The alumni office invites you to subscribe to our bi-monthly email newsletter. This is the best way to keep in touch with news from the university and its national and internationl alumni chapters and to find out about the events that are planned your region. It only takes a few seconds to register, and it's free!

To subscribe, head on over to alumnionline.massey.ac.nz and follow the links or e-mail us at alumni@massey.ac.nz.

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Duty Free Stores New Zealand offers a 20 per cent discount on phone and internet orders and a 5 per cent discount at all airport stores across New Zealand for alcohol, fragrances and cosmetics (discounts cannot be combined with other offers) to Massey University alumni and friends. For every $50 or part thereof that you spend in their outlets, Duty Free Stores New Zealand donates $1 to the Massey University Scholarship Fund.

Simply present the required coupon when making a purchase, or use the required code when placing an order over the Internet or telephone. Contact the alumni office for your coupon or required code.

Send us your news

To appear in notes and news either

- *visit the alumnionline.massey.ac.nz and fill in the online form*
- *send your information to*
  Alumni Relations
  Private Bag 11 222
  Palmerston North
  New Zealand
- *send an e-mail to alumni@massey.ac.nz.*

Information may be edited for clarity and space.

NZUniCareerHub

If you are an employer, then NZUniCareerHub will allow you to easily distribute information about your organisation and vacancies to jobsearching students and recent graduates throughout New Zealand. To find out about NZUniCareerHub point your browser at www.nzunicareerhub.ac.nz.

If you are a student or recent graduate, then the Massey CareerHub makes it easier for you to connect with employers and find out about their job vacancies, graduate programmes and employer events. Visit careerhub.massey.ac.nz.

Join the Massey Library

Massey University Library offers alumni and friends a 50 per cent discount on membership. For only $100 per year you can have the same borrowing privileges as an undergraduate distance student. Borrow books in person or have them delivered to you anywhere in New Zealand. Contact the alumni relations for more information.

Find a classmate

With a database of over 98,000 names, there is a good chance that we can help you to get in touch with your former classmates. Contact us with information about who it is you would like to catch up with and, if it is possible, we will help you to get in touch.

To protect the privacy of alumni, this process is carried out in accordance with the Privacy Act (1993).

NOTES

1961

Mary Broz, Diploma in Agriculture, retired from nursing in 2005 after 24 years in aged care. "I am now involved with Beechworth Singers and am still with the Girl Guides. I have just received my 40-year service award with Girl Guides."

John Telford, Bachelor of Agriculture Science, worked for three years as dairy husbandry officer with the Victorian Dept. of Agriculture after graduating. In 1972, he and his wife, Elaine, began working with the Institute of Cultural Affairs, an international NGO initiating human development projects worldwide. They worked in Australia, Asia and Zambia, running training programs to empower local people to take charge of their own development. They returned to Australia in 1986, and in 1991 began their own consulting business, principally offering participatory strategic planning services, but also doing some project management. Since 2003, a focus has been capacity building work with government and non-government agencies in East Timor. They have three daughters and two grandchildren, and live in the Blue Mountains west of Sydney.

1969

Prithiviraj Oogarah, Bachelor of Agriculture, returned to Mauritius after completing his degree. He worked as an agronomist in the Ministry of Agriculture and in 1975 was promoted to Divisional Scientific Officer. In 1977, he was appointed general manager of the Mauritius Tobacco Board and in 1995 became director of the Farmers Service Corporation dealing with extension work in sugar cane. He retired in 2004. He and his wife are planning to visit Massey's Manawatu campus on April 26, 2009 on their way to Wellington. They intend spending 10 days in NZ, mostly in the South Island.

Dalsukh Patel, Diploma in Dairy Technology, writes: "I went on to do postgraduate studies and what I have achieved is only because of my education in India as well as in NZ at Massey, Palmerston North. I was inspired to write this after I visited in September 2008 and also I received an issue of MASSEY, where in my name was mentioned as a Massey alumnus. I was very happy to see Peter MacGillivray and Dr Jim Pollok's photographs in MASSEY. I was also happy to learn that Dr Dick and Dr Mary Earle are both Emeritus Professors at Massey – they migrated from Scotland (UK) way back in 1966-67."

1978

Simon Tiong, Bachelor of Technology, started with Standard Telephones and Cables at Upper Hutt for a year as a production engineer after graduating. He left NZ and worked for Philips Singapore, progressing from industrial engineer, systems analyst, production management to project management (Philips jointly with Singapore Economic Development Board). After completing an MBA finance major with University in Arizona in 1984/1985, he went back to Philips as purchasing manager, later becoming corporate planning manager working in HQ Holland for a year. After leaving Philips in Aug 1995, he worked for several electronics companies in Asia before starting his own business, Simax Materials Solution, in 2006. His company supplies packaging and harness parts to MNCs like Flextronics, Wincor Nixdorf and Philips in Singapore. Massey friends are invited to contact him when they visit Singapore.

1980

Narayan Regmi, Master of Business Administration, has fond memories of his years as a graduate student in the Faculty of Business. "I am grateful and admire my teachers, specifically Prof. George Hines, Dr Mike Bebb, Stuart Thompson and Dr Antony Lewis. After Massey I rejoined the Department of Agriculture, Nepal and remained there until I retired in 2004 as deputy secretary. During that time, I also worked with the Institute for Integrated Development Studies as research fellow in agriculture and rural development contributing in the formulation of rural services delivery policy for the Government. I also made a significant contribution in establishing and leading a national agriculture training institute at Kathmandu, Central Agriculture Training Institute. Apart from some management consultancy, I am spending my retirement enquiring about spirituality in the backdrop of my worldly past with training and continuous practice of Vipassana meditation."

1981

Jennifer Frederiksen Butler, Bachelor of Business Studies, 1987, Diploma Wool & Wool Technology 1981, spent a couple of years in international wool trading after graduating, before moving to Masterton with her husband. "We have three children, aged 29, 21 and 18, a son-in-law and two gorgeous granddaughters. While in Masterton I managed a department of the local polytechnic for 10 years and likewise in Melbourne for a year. In 2000 we moved to Melbourne where we continue to live. I have spent the past six years with Victorian Farmers Federation, the largest state farming organisation in Australia, specialising in dairy and education policy, and managing VFF projects. Recently I was promoted to managing all our regional and metropolitan support staff across Victoria."

1982

Gregor Reid, PhD in Science, writes: "It seems like yesterday I was playing soccer with the championship-winning Massey team and being a DJ on Maskeradio. Happy days that I dearly miss. Still, the last few years have been exciting in this academic city of London, Ontario and beyond. In 2007, I was awarded the International Dairy Federation Elie Metchnikoff Prize for Nutrition and Health, then in 2008, I received an Honorary Doctorate in Biology from Orebro University in Sweden, was a keynote speaker at a Mini Novel Symposium, and received a NZ $11 million endowed Chair in Human Microbiology and Probiotics. The latter will be presented officially to me by Nobel Laureate Archbishop Desmond Tutu on May 22 this year. As president of the International Scientific Association for Probiotics and Prebiotics I co-organised conferences in India, Poland and Canada in 2008 and will take part in an American Academy of Sciences Symposium in November. Our grass roots community kitchen project in Tanzania continues to flourish, with now 350 people (half with HIV) a day receiving the home-made probiotic yogurt. In some ways, it embellishes my Massey experience – combining microbiology with agriculture for the good of others."

1983

David Mirams, Bachelor of Social Work, writes: "We (David and Jocelyn [nee Harris] Mirams) both graduated with a Bachelor of Social Work. We moved to Brisbane, Australia in 1988, where we have raised our three daughters. Jocelyn completed a postgraduate Diploma in Education (Early Childhood) in 1996 and has taught primary school ever since. David graduated

in 2003 with a Bachelor of Architecture and now works for a Brisbane architectural practice. Our daughters have all completed tertiary study with two currently undertaking postgraduate study and one working as a nurse."

1985

Sandy Bond, Master of Business Studies 1997, Postgraduate Diploma in Business Administration 1994, Bachelor of Business Studies 1985, writes: "I worked as a registered valuer in Wellington for four years before going on my OE to Canada, South America and London, where I worked as a valuer for the Lambeth City Council. In 1991, I returned Massey as a lecturer in property valuation. In 1999/2000 I completed my PhD at Curtin University in Perth, Western Australia. I returned again to NZ to Auckland University where I worked for four years before remarrying and moving to Florida, USA where my husband is from. I studied in New York to become a feng shui consultant (www.buildingchi.com) but it was not financially sustainable to stay living on an island working part-time (as idyllic a as it was) so moved back to Perth with my husband, where I teach property valuation at Curtin University."

1987

Stuart Gouk, Diploma in Dairy Technology, went to MIT, Boston, USA in January to do the Entrepreneurial Development block course as a result of winning the Danfoss internal Man On The Moon competition along with his four Australian colleagues. He is currently employed as Key Account Manager, Dairy Asia-Pacific by Danfoss, which has its HQ in Denmark.

1988

Nopadon Meemark, M Phil, continued working in the Northeastern Veterinary Research and development Center, Khon Kaen for 10 years after graduating, then moved to be the director of the Western Veterinary Research and Development Center in Ratchburi for 10 years. In 2008, he became a director of the Southern Veterinary Research and Development Center in Nakornsithammrat with 88 staff. He plans to retire in Oct 2009. "On behalf of my family and the Department of Livestock Development I have been sincerely appreciative of Massey University and Massey alumni, which still keeps in touch with me. My wife, Malliga, and I have two daughters, Nan (31) and Nui (30) and we will be grandparents at the end of March 09."

Tricia Thompson, Bachelor of Education, is working on an NZAID contract as the Kiribati Teacher Training Organisational Development Specialist. "It's a challenging place to work and amazing to see the resilience and good humour of people living in overcrowded (50,000 pop) Tarawa, a strip of sand washed by lagoon and ocean. I come across many educators from Aotearoa NZ, some from Massey University, working in the Pacific. Normally I'm based in Rarotonga, Cook Islands. I have three accommodation units near a beautiful sandy, snorkelling beach. Discover us at www.aroakainga.co.ck and do visit. We could offer a discount to alumni! I was lucky to receive a Commonwealth Fellowship to study at the London Institute of Education 1991-1992. Thanks Massey for all the opportunities you offer."

1990

Casie Hermansson, Bachelor of Arts, is an associate professor of English at Pittsburgh State University in the US, where she has been teaching since 1997, after completing graduate degrees in English at the University of Toronto. Her second book, *Bluebeard: A Reader's Guide to the English Tradition* will be published in 2009 from the University Press of Mississippi, and she was recently invited to present at the first international

Bluebeard colloquium at the University of Zurich, Switzerland. She is looking forward to spending more time with her family now that this five-year project has been completed. She and her husband Gil have two children: Griffin (7) and Corin (5).

1991

Ian Dacre, Bachelor of Vet Sciences, worked as a veterinary surgeon in Scotland from1991-1995, then as technical director for the Society for the Protection of Animals Abroad, Morocco until 1999. He was a private veterinary equine dentistry practitioner from 2000-2005 and director of FilmVets, managing welfare standards of animals used in film and entertainment on behalf of the American Humane Association. From 2000 to 2004 he undertook a PhD thesis, *A Pathological, Histological and Ultrastructural Study of Diseased Equine Teeth*, and in 2005 became senior adviser in animal welfare for the Ministry of Agriculture and Forestry (MAF). In June 2006 he was appointed senior lecturer in Equine Health and Dentistry at Massey, before becoming interim director of disaster management for the World Society for the Protection of Animals (UK) in September 2007. He is now Disaster Management Operations Director (DMOD) for WSPA in Asia.

Martin Smillie, Bachelor of Business Studies, has been living in Amsterdam since 2000 with his wife and two daughters. He has been working as a general manager in business development and security products at British Telecom for the past six years. "I enjoy working in telecommunications and in the dynamic atmosphere that the work brings. In my spare time I enjoy riding my courier bike to work, watching my favourite football team, Chelsea, at my local pub, spending time with my family, World War II films and books, and keeping abreast of world events."

Rasika Versleijen-Pradhan Pradhan, Bachelor of Technology, did an OE to Europe and ended up staying abroad for 17 years, 15 years of them in the Netherlands. She returned to NZ in April 2008 with her Dutch husband Erwin and daughters Priyanka and Kareena. "In The Netherlands I worked for Samsung Electronics Benelux, consumer division in marketing and as a senior market analyst for IDC EMEA, a market intelligence company specialising in the IT industry. The last six years were spent working for Mitsubishi Motors European headquarters in Amsterdam as a marketing services manager. After arriving back in NZ last year I have decided to work again for IDC, this time focusing on the NZ IT market. While I was in Europe, it was really great to receive *MASSEY* and be kept up to date. Despite being away from NZ for so many years I still have a great bunch of friends from Massey whom I have kept in touch with over the years"

1993

Rachel Ah Kit, Bachelor of Business Studies, has made a career change and is going to study a Dip. Massage Therapy for 18 months full-time. She will continue to providing consultancy services in marketing data strategy.

1995

Aderina Panggabean, Master of Agriculture Science, writes: "Upon completing my degree at Massey, I returned home and got a promotion as the head of section on domestic market analysis for livestock within the Ministry of Agriculture. I now head the section on multilateral cooperation (mainly deal with the WTO forum) within the same ministry. I visited Massey University in Palmerston North in 2004 and noted many changes in the campus as well as the structural organisation of the university."

Erina Ogawa Wright, Master of Management 2007, Postgraduate Diploma in Business Administration 2003, Bachelor of Business Studies 1995, has spent most of her time in Japan since graduating, with several long stays in New Zealand. "I now have two wonderful children and teach English and cultural skills (including a course on Oceania) in universities in Japan. I conduct research on multicultural identities and can be contacted at kiwierina@yahoo.com."

1997

Sheila Alexander Parry, Bachelor of Arts, writes: "Although I was a returning student, my degree in English from Massey has been invaluable to changing my career. After graduating, I worked for a publisher, and later opened my own editing business. Since returning to the US after 10 years in the Manawatu, I have been overseeing publications at Sweet Briar College, a women's liberal arts college in central Virginia. I have taken one graduate course through Massey University, but as the US dollar fell against the Kiwi, it quickly became unaffordable. I hope to return to my graduate studies with Massey in the future. I will always be grateful to my professors for the fine education I received."

Seira Fuimaono, Masters of Business Studies 2002, Postgraduate Diploma in Business Administration 1998, Bachelor of Business Studies 1997, is working as an economist for the Ministry of Finance in the Economic Planning and Policy Division in Samoa.

1998

Susan Nicholson Giboney, Graduate Diploma in Business Studies, writes that she went on to complete a BA in psychology and will graduate at the end of this year. "I initially undertook the study as I was convalescing from a spinal injury and surgery. Unfortunately the surgery made me even worse and I have been unable to work since. Due to sitting problems, I have only been able to do one paper each semester for many years now. I have really enjoyed doing the papers and will no doubt continue on and do an MA."

Zhongnan Nie, PhD Dairy/Technology, writes: "I cannot believe it has been nearly 12 years since I left Massey University, a place that not only has knowledge and wisdom, but also joy and warmth. Massey qualified me to work initially with the University of Melbourne for a few years, and then with the Victorian Department of Primary Industries in Australia. The nature of my work as a researcher has allowed me to travel around the world often, attending professional conferences or having collaborative study/work tours. These gave me opportunities to meet many alumni from various countries/regions. Whether we are young or old, black or white, rich or poor, Christians or Buddhists, there is one thing that we are in common – we are proud of being alumni of Massey University."

Amelia Takau Lelea I-Vailahi, Bachelor of Arts, immigrated to Canada after graduating and has worked in various roles at Tourism Canada, Laurentian Bank of Canada, Hong Kong Bank of Canada and Swan Valley High School. She is currently working for the Royal Bank of Canada and is working towards her master's in social work and psychology and also hoping for an MBA sponsored by her current employer.

Rosemary Brown, Master of Education Psychology 2006, Postgraduate Diploma in Education 2003, Graduate Diploma in Arts 1999, Bachelor of Education 1998, has recently moved from Invercargill to Christchurch, and is working in MOE: Special Education, mostly with students with severe and challenging behaviour. "I am enjoying the change and the opportunities that come with living and working in a bigger city. For fun I sing with about 150 women in the Christchurch City Chorus – a Sweet Adelines Barbershop group. Last year the chorus came ninth in the world at the Sweet Adelines International Competition in Calgary. As a result we have been invited to join six other choruses from the USA/Canada to sing at Carnegie Hall in New York in February next year. We are rehearsing hard to polish our performance for this 'once in a lifetime' opportunity."

1999

Sen-Sung Chen, Postgraduate Diploma in Business Administration, writes: "I finally got my PhD from Wuhan University of China in 2005. I am working for Feng-Chia University of Taiwan as an associate professor at the department of risk management and insurance."

Stefan Evans, Bachelor of Technology, writes: "I look back on my time at Massey with fond memories and appreciate the doors it has opened for me in life. After graduation, I started in an IT consultancy, called Datacom, in Wellington then moved overseas to the UK, worked in a number of companies and also travelled a bit. I met my lovely wife Kate, from NSW in Australia, in London and we've now been in Sydney for the past three years. My career has continued at Fairfax Digital in Sydney, where we are looking after and developing a number of major Australian mastheads online including The Sydney Morning Herald (www.smh.com.au) and The Age (www.theage.com.au). My parents still live in Nelson and we travel over regularly."

Xiaofeng Gong, Master of Business Studies 2000, Postgraduate Diploma in Business Administration 1999, writes that his professional career mainly focuses on management fields in China, including strategy management, corporate governance, investments, acquisition and merge, loan, general management, operation management, human resources management, marketing management. "As an alumnus of Massey, I have two wishes: firstly, I wish the University would enhance teaching quality control to maintain higher international tertiary education prestige. Secondly, I wish the College of Business could become a member of AACSB as soon as possible, which would help graduates' career development in China."

Mataa Kataueana Keebwa, Diploma in Education, became a teacher trainer at the Education Department at the Kiribati Teachers' College after graduating, and later headed of the college's education department, with responsibility for coordinating the teaching practice for all student teachers both on the capital and on rural islands. "I wish to grab this opportunity to convey my heartfelt thanks to my lecturers at Massey, Jenny Poskitt, Anne Marie O'Neil, Clive Harper, Roy Nash and others whom I cannot recall at the moment. You have contributed a lot not merely to me but to my country as well. Your wonderful lectures and assistance caused me to make a better difference in life. Thanks a lot!"

Timu-O-Te-Rangi Niwa, Master of Education 2007, Bachelor of Education 1999, writes: "I was a teacher at Awapuni Primary School, Palmerston North and Glen Taylor Primary School, Glen Innes, Auckland from 1999 to 2002. From January 2003 to January 2006 I was an assistant lecturer at Te Uru Marauru, College of Education, Massey University where I completed my MEd (Hons) degree. My wife and I moved to Northern Ireland (where she is from!) in March 2006 and apart from travelling to various parts of Europe, I am now into my third year of teaching at Cairnshill Primary School, Belfast. I have applied for entrance into a Master of Social Science Research degree at Queen's University in Belfast, which I hope to begin in September 2009. I plan to complete a doctorate in the broad area of Māori education."

2000

Sue Bright Sampson/Guess, Bachelor of Arts, is trying to promote sustainable living both professionally and personally.

Massey University

APPAREL ORDER FORM

#01A #04A #02A #03A #05A #06A

#07A #08A #09A #10A #11A #12A

#13A #14A #15A #16A #17A #18A

#19A #21A #20A #22A #23A #24A #25A #26A #27A

PIC #	DESCRIPTION	SIZE	QUANTITY	PRICE	SUB TOTAL
	WOMEN'S				
01A	Polar fleece jackets 8 - 18			$60.00	
02A	T shirt - V neck (black) 8 - 18			$25.00	
	MEN'S				
03A	Polar fleece jackets XS - 3XL			$60.00	
04A	T shirt - crew neck (black) XS - 3XL			$25.00	
	UNISEX				
05A	Hoodie (grey) XS - 3XL			$70.00	
06A	Hoodie (navy) XS - 3XL			$70.00	
07A	Parka (wind and shower proof - hood in collar) XS - 3XL			$65.00	
08A	Polar fleece sweatshirt (half zip) XS - 3XL			$60.00	
09A	Polar fleece vest XS - 3XL			$50.00	
10A	Polo shirt - navy with yellow trim on sleeves -(quickdry) XS - 3XL			$40.00	
11A	Polo shirt - (navy) S - 3XL			$35.00	
12A	Rugby jersey - short sleeve (harlequin) XS - 3XL			$75.00	
13A	Rugby jersey - long sleeve (striped) XS - 3XL			$80.00	
14A	T-shirt (navy) XS - 3XL			$30.00	
15A	T-shirt (white) XS - 3XL			$30.00	
16A	Trackpants (Unisex) XS - 3XL			$65.00	
	SWANNDRI RANGE				
17A	Viaduct Jacket (women's) XS - XL			$225.00	
18A	Lyttelton Jacket (men's) S - 3XL			$225.00	
19A	Beaumont Vest (women's) XS - XL			$145.00	
20A	Wanaka Vest (men's) S - 3XL			$145.00	
21A	Paihia Shirt (short sleeved) S - 4XL			$65.00	
22A	Parkhurst Shirt (long sleeved) S - 3XL			$75.00	
	OTHER				
23A	University cap			$20.00	
24A	Merino wool scarf			$30.00	
25A	Merino wool beanie			$20.00	
26A	Possum / Merino scarf			$45.00	
27A	Possum / Merino beanie			$35.00	
				SUB TOTAL	

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Albany Campus

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alumni@massey.ac.nz

MEMORABILIA ORDER FORM

Massey University

PIC #	DESCRIPTION	QUANTITY	PRICE	SUB TOTAL
01M	Backpack		$30.00	
02M	Bookmark (rimu)		$10.00	
03M	Briefcase (leather)		$285.00	
04M	Business Card Holder		$20.00	
05M	Ceremonial Tie		$30.00	
06M	Charm (silver)		$15.00	
07M	Coasters - Stainless Steel (set of 4)		$40.00	
08M	Coasters - Rimu (set of 4)		$50.00	
09M	Coffee Mug		$13.00	
10M	Compendium		$30.00	
11M	Crest		$60.00	
12M	Cufflinks		$30.00	
13M	Degree Frame (rimu, non-reflective glass, acid free backing)		$120.00	
14M	Key Fob		$7.00	
15M	Lapel Pin		$8.00	
16M	Lanyards (blue OR red OR yellow)		$4.00	
17M	Necklace (silver)		$35.00	
18M	Ring Women's (silver)		$75.00	
19M	Ring Men's (silver)		$105.00	
20M	Pen (in box)		$20.00	
21M	Pen (in velvet sleeve)		$5.00	
22M	Photo Frame (8" x 10")		$45.00	
23M	Shot glasses (per glass)		$4.00	
24M	Thermal Mug		$20.00	
25M	Tie Slide		$15.00	
26M	Umbrella		$25.00	
27M	USB Drive (1GB)		$35.00	
28M	Wallet - (leather)		$75.00	
29M	William Bear Degree (degree _____)		$45.00	
30M	William Bear Diploma (graduate OR postgraduate)		$45.00	
31M	William Bear – PhD		$55.00	
32M	Wine Glasses – set of 2		$40.00	
			SUB TOTAL	
	Postage and handling (NZ $5 - Overseas $30)			
			TOTAL	

DELIVERY DETAILS

Name (for order) _____

Delivery Address _____

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Country _____

Ph (work) _____

Ph (home) _____

Email _____

Signature _____ Date _____

PAYMENT METHOD

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Credit Card Number ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiry Date ☐☐ ☐☐☐☐

Card Holder's Name _____

Card Holder's Signature _____


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#32M

Richard Lysnar, Modular Master of Business Administration, 2000 relocated from Hawke's Bay to the Sunshine Coast, north of Brisbane, Queensland after graduating and opened a small business consultancy practice with clients from Noosa to the Gold Coast. When the Gold Coast clients became the mainstay of the business, he moved to the Gold Coast hinterland at Mount Tamborine in 2004. He specialised in undertaking business valuations, and in 2007 joined a national valuation firm as senior business valuer, based on the Gold Coast. He is currently studying at Bond University, completing his final paper for a master's degree in property valuation. He intends to become a registered valuer specialising in commercial and industrial properties.

2001

Ngamoko Nikora, Master of Philosophy, has been working overseas as a TESOL teacher since graduating and has a TESOL qualification. "From 2001 to 2008 I worked in Japan teaching English at a number of institutions including Osaka Shoin Women's University and a private boys high school. In 2008 I moved to Brunei Darussalam and I'm currently teaching English at a secondary school. I plan to publish an article on comprehensible input in relation to second language acquisition."

Gary Severinsen, Master of Education 2008, Postgraduate Diploma in Education 2004, B Ed 2001, has been awarded a Queen's Service Medal for service to the community. For more than 30 years, he has been involved with boards, committees, societies and organisations. He has coached sports, worked as a volunteer St John Ambulance officer for six years, been involved in scouting, gliding, tramping, repertory theatre and has held a string of positions in education. He has been teaching since 1979, and is now head of mathematics at Hukarere Girls' College.

2002

Humbelina Borromeu Duarte, Postgraduate Diploma in Business Administration, returned home to East Timor after graduating became administration and finance officer for the Consulate Generel of the Democratic Republic of Timor-Leste in Bali, Indonesia. Her husband, **Aurelio Sergio Guterres**, also attended Massey, completing a master's and PhD.

Michael Mor, Graduate Diploma in Science 2002, Masters of Science 2002, returned to Cameroon and resumed his duties in the Public Sector as a trainee. "I have continued to share my knowledge to the young generation here in many more health training institutions, medical diagnosis and in research. The impact of the knowledge gained from the University is being overwhelmingly felt by many here, and I am very grateful to the New Zealand Government for sponsoring my studies in NZ. I am very proud to be an alumnus of Massey University."

Frederick Saeni, Bachelor of Education, returned to the Solomon Islands and took up senior positions as secondary school deputy principal for a number of years. "Massey University has equipped me so well to take up postgraduate study at master's level. I got a Second Class Honours Division One in Applied Science at Lincoln University in Christchurch in 2008."

2003

Yuichi Kobayashi, Postgraduate Diploma in Teaching of Japanese 2003, Graduate Diploma in Business Studies 2004, writes: "I passed two Japanese state examinations for social insurance and labour consultants, and gyoseishoshi lawyers (administrative scriveners). I am currently working as a human resource specialist at a trading company in Osaka, Japan. I returned to Kyoto, Japan after graduating but I came home to Palmerston North in 2005."

Rawinia Manihera Wilcox, Bachelor of Education, is a fulltime netball coach at the Singapore Sports School in Singapore.

Grace Mwathe, Master of Education, returned to Kenya and was deployed to a teacher training college as a lecturer for about two years. In April 2005 she moved to Kenya Institute of Education (KIE) as a curriculum developer in the section for special needs. KIE is the national centre for curriculum development and research for all education institutions in Kenya except universities. The special needs section develops flexible curriculum and support materials for learners who have special needs. "Last year I was promoted to a position of chief curriculum developer. I'm grateful for the way Massey has helped me improve in my career. I look forward to pursuing my PhD there one day."

2004

Isis Nair Balachandran, Bachelor of Engineering, writes: "My first job at Fisher and Paykel allowed me to move from New Zealand to Australia in a business analyst role. This experience helped me move on to eventually taking a job with Google in Sydney and now I am based in Silicon Valley at the Google headquarters in Mountain View. This is my dream job. I am responsible for setting strategic direction for the Asia Pacific Latin America market."

Chairut Rungrojcharoenkij, Master of Management, has been working in Thailand since graduating. "Our company manufactures housekeeping plastic products – www.spplastic.co.th."

Teruaki Shinokura, Bachelor of Arts, was a member of the Massey BreakDance team between 2002 and 2004 and returned home to Fukuoka after graduating. "I got married in 2006, then had a child in 2007. I am working at a trading company in Japan. My job is to introduce our products overseas, including to NZ. I hope to have a chance to travel to NZ this year since I have one customer in South Island."

Sandra Vannoordt, Bachelor of Arts, spent a year at Bond University on the Gold Coast completing an honours degree in social science (psychology). She moved to Bundaberg and spent about 15 months working for Queensland Corrective Services. She has been working as an Intern Psychologist with Royal Queensland Bush Children's Health Scheme in Bundaberg since May 2007. "I plan to continue my studies, as, because of my marks from Bond University, I am able to skip my master's and do a Doctor of Clinical Psychology. I am also doing a Distance Education Counselling Course to further enhance my skills. I have some fond memories of Massey, especially the Albany psych and anthropology departments – my lecturers there were great!"

Always in fashion

From a weatherboard shop in Wellington's shabby-chic Newtown, Duncan Mclean and his life-and-business partner Prudence Stone are mounting their next sally into the world of casual-fashion-with-a-conscience.

Already known for the cachet of its range of t-shirts, Duncan & Prudence are now crafting jeans, or rather what Duncan describes as *the* jeans, manufactured inhouse using organic denim sourced directly from the Indian manufacturer and individually fitted to the customer.

A graduate of the School of Design (then part of Wellington Polytechnic), Duncan has had an extraordinary career. In 1990, three days after finishing his fashion design studies, he moved to New York, where he talked himself into a job with Cynthia Rowley on 7th Avenue (he designed her menswear line Rowley, as featured on on the cover of the *Women's Wear Daily* modelled by a 19-year-old Ashton Kucher), before going on freelance for a number of other young designers, and eventually being headhunted by Banana Republic.

Duncan McLean, Tessa Bradley and Amanda Mathews.

But the dream he held in common with Prudence – a New Zealander he had fallen in love with on a holiday visit home and married when she was in New York doing postgraduate studies – was to return home to establish a business.

This they did, buying a building in such disrepair that Prudence nicknamed it Lenny after its lean, refurbishing it completely, working every hour under the sun to establish the business, and somehow, along the way, finding the energy to have a family.

Duncan & Prudence is now at the point where it now employs two staff, both fashion design graduates. Tessa worked at Duncan & Prudence part time while studying at Massey on Duncan's recommendation, while Amanda came on the recommendation of Vince Becket, Massey's head of fashion design, Duncan remembers.

"We were invited to take a look at her course's end-of-year fashion show. She had designed an essentially jeans-and-t-shirt aesthetic, but for geeks. I called her up for an interview the following week."

Part of the Duncan & Prudence aesthetic is "fashion statements without guilt", and although Duncan likes to interact face-to-face, the firm recognises the environmental virtues of doing business online. In fact, for some things – such as the business of selling customised t-shirts – the web is ideal. The company launched its increasingly comprehensive website in 2008.

www.duncanandprudence.co.nz

In the last year Massey's archives have received two remarkable memoirs (extracts featured opposite) and a number of photo collections. If you have material from your days at Massey (or, for that matter,Massey Agricultural College, Wellington Polytechnic, and Palmerston North Teachers' College/College of Education) that you would like to see kept as a record for future generations, contact the University Archives.

Tel. (06) 350-4591

E-mail: libarch@massey.ac.nz.

Louis Changuion, University Archivist

-- ROGER WARNER BENJAMIN 1930-2008 --

Born in Wellington in 1930, Roger Benjamin died in Beersheeba Israel in November 2008. He was one of those who made the desert bloom. Roger graduated from Massey with a bachelor's degree in agricultural science in 1951, emigrating shortly afterwards. He did not lose touch with his classmates, returning for a reunion in 1999.

Roger's life is celebrated in a website constructed by his sister Jacqui Beder: sites.google.com/site/rogerbenjamin.

Photographs sourced from David Isaacs of Wanganui and Jim Stewart of Papakura.

Capping day, with Roger being equipped for his trip to Israel.

Students from the "rehab" hostel dressed for a photo with Roger seated wearing the fedora.

Boat race in the fire fighting reservoir.

From John Hore-Lacy's, "Misadventures in the land of the Long White Cloud, 1949-1951"

"Prof Perin's Welcome. Just before being presented with the Croix de Guerre made of carrot & parsnip" 18/03/1950

"On the 18th March, Professor Perin, the principal of the college was arriving back from overseas, by train early in the morning. So we students decided to welcome him in our pyjamas. ...Some of the degree students made his Croix de Guerre, a French WII decoration out of a carrot and a parsnip, and presented it to him when he got off the train. He got quite a surprise. We gave him three cheers and sang For He's a Jolly Good Fellow. Then we all went back to the college."

From John Carnahan's Massey Tramping Memoirs

"At the summit" Fltr: John Carnahan, Jill Mayfield, Margaret White and Janet Hutchinson at Tawirikohukohu 28/10/1950

This was the first time that I kept detailed notes of a tramping trip...it was undertaken at the end of ten days of perfect weather – a more or less unprecedented spell...We were shortly on top of Tawirikohukohu where Fred [Barnes] took an evocative photo. [the photo left]

"Leaving the road" Coppermines Stream 09/04/1949

Another large-party trip, for which my only record is a few photographs, was to the Coppermines Stream and Wharite....

John Carnahan was a junior lecturer in agricultural botany at Massey from 1948 to 1957 when he and his wife emigrated to Australia.

Jiaqi Zhang, Master of Management 2005, Postgraduate Diploma in Business Administration 2004 is now back in Beijing, China, working in the coal import/export business for Glencore International AG, a globalised coal supplier/trader that handles coal from Indonesia, Russia and Australia.

2005

Juan Guaita, Postgraduate Diploma in Business Administration, returned to Argentina after graduating, took up a management position at Accenture, and became a part time lecturer at the Buenos Aires University's college of business and economics. "I am proud of leading an operation that is servicing 14 countries in six different languages in one of the most prestigious companies in the world. On top of that my part time lecturing experience at the Buenos Aires University gives me the opportunity to maintain my interaction with the academic world. Massey gave me the language and technical skills to take my current position at Accenture."

Nigel Perkins, PhD in Science, has been working as a consultant veterinary epidemiologist with AusVet Animal Health Services (www.ausvet.com.au) since graduating and is now a company director. He and his family live in Toowoomba, Australia. "I remain in regular contact with my former colleagues at Massey and have only positive feelings about my time at Massey."

Sunpen Ren, Executive Master of Business Administration, joined Lenovo two years ago and led and finished four big projects, one of them the Everest Release BW project, which includes Lenovo New Zealand's business. He is now with IBM Solution & Services Co Ltd.

Patrick Teng Teng Wai Ying, Bachelor of Aviation Management, writes: "I was offered an executive post with Singapore Technologies Aerospace Engineering on the strength of my Bachelor in Aviation Management. My salary has increased by a third. They recognised degrees from Massey University and understand that is among the top 100 universities in the world."

Michael Wang, Bachelor of Business Studies, returned to Shanghai, China after graduating and has been working for HSBC China headquarters in the credit risk management team since 2006. "I really enjoyed the three years studying at Massey, which was fruitful and unforgettable. Massey not only brought me the professional knowledge but a way to think and learn that is most valuable for my career."

Rhett Wu, Bachelor of Business Studies, returned to China and is now an auditor in the biggest audit firm in China. "My time at Massey was very happy and the knowledge Massey gave me is playing a tremendous role during my daily work."

Yao Yao, Bachelor of Business Studies, moved to Europe in 2006 and spent a year studying German, receiving a Zertifikat Deutch German language qualification. "I work as intellectual property support manager for Novartis AG, one of the biggest pharmaceutical companies in Europe, at its headquarters in Basel. I travel a lot in my job, but will never forget Wellington, New Zealand."

Jun Yu, Bachelor of Business Studies, went to Nottingham University to do a master's degree after leaving Massey and then went to ICBC. "Now I am in the biggest ICBC branch in Zhejiang province in Hangzhou as vice manager of No.3 marketing department. I had learned a lot from Massey, especially the way of thinking."

2006

Peter Fan, Master of Dairy Science & Technology, is now working in China as technical sales manager for Danisco China. He is looking at market development

of industrial enzyme products in the Chinese market. "It is a very busy but exciting job. My time at Massey gave me some of the best memories in my life. I miss the trees and people there."

Koong Foo, PhD in Arts 2007, Postgraduate Diploma in Cognitive Behaviour Therapy, 2006, has returned to Singapore to work as lecturer in a private school teaching psychology subjects at the diploma and advanced diploma levels. "I was later made academic director of the psychology department of that school. From there I moved to a lecturing job at (Australian) James Cook University, Singapore campus and a year later was made associate dean of psychology department. However, preferring lecturing to administrative work, I resigned from the AD post to go back into lecturing at the university. Today I am still with JCU and we are into research areas."

Kate Lynch, Bachelor of Education, finished her degree as an extramural student while living in Hanoi, Vietnam, and teaching at the United Nations International School. She then moved with her husband to Germany to teach at an international school in Berlin for two years and most recently moved to Thailand where she teaches at an international school in Bangkok. She has just accepted a promotion and will become the Early Years coordinator, beginning August this year. She is currently enrolling to begin a master's through Massey.

Donn Morrison, Master of Science, is working on his PhD in information retrieval with the Viper Group at the University of Geneva, Switzerland.

Fei Wang, Bachelor of Business Studies, is working in the HR department at a hospital in Chengdu, China. "The job is great. I learn a lot from my directors, colleagues, and my department. I have happy memories of Massey and NZ, although I struggled with the tests sometimes. I wish all Massey alumni and friends well."

Jo Zhang, Bachelor of Business Studies, returned home to Shanghai and joined CBRE as a property valuer and plant and machinery valuer. "I am in charge of business development in the East China region and have clients from industries all over the world such as pulp mill valuations in Indonesia, power plants in China. I am currently doing Master of Real Estate in Reading University. Next year, I am going to join the Royal Institution of Chartered Surveyors (RICS)."

2007

Rosie Alley Pheasant, Graduate Diploma of Teaching, returned to Australia with her family and took up a position at Flinders Christian College in Victoria. Although trained for primary teaching, she began her career teaching junior secondary students maths and science. "It was challenging to begin first-year teaching in another educational system, let alone in secondary after being trained primary! However, although it was a steep learning curve I found I quite enjoyed teaching at this level. The next year, I taught a class of year 6 students. This year I have stepped back from teaching part-time so I can spend more time with my family of four children. However I am still hoping to do some casual relief teaching. As an Aussie it was a different experience studying in New Zealand, and there were plenty of memorable moments. Thank you to all the staff at Massey, especially Dr Ally Sewell and Dr Bill McIntyre, for your excellent training and support."

Stewart Chong, Diploma in Banking Studies, worked for a few years with Trustbank New Zealand after graduating. He has been working for BMW Credit (Malaysia), a financial institution which is a part of BMW Group, for 14 years. He manages the Malacca branch, and is involved in providing credit and leasing facilities for financing of equipment and motor vehicles.

Carolyn Hartevelt Hartmann, Bachelor of Arts, is working as a rehabilitation consultant for Breakthru Employment Solutions in Sydney. She is also studying to qualify as a counsellor and is in her final year with the Australian Institute of Family Counselling. Her plan for next year is to set up her own counselling practice and also to enrol in the Postgrad Diploma in Guidance Studies at Massey. "I always like to keep my finger in the pie in the world of learning."

Helen Jones White, Postgraduate Diploma in Arts, undertook her Massey diploma to update her social work qualifications as it had been 20 years since she completed her first professional qualifications. "I have been working in rural Australia in the child protection field for the past six years and managing from time to time in out-of-home care. I have experienced some interesting differences while practising in rural Australia. We are currently witnessing terrible bush fires in Victoria and the mobilisation of welfare services alongside those. Australians have such a generous spirit at times like these."

Jennie Reid Bourget, Bachelor of Science, returned to work in Boston, USA in clinical research for a medical device company. "I really enjoyed my time at Massey and appreciate the education they gave me."

2008

Aniket Abhyankar, Postgraduate Diploma in Technology, is a PhD student at Moorepark food research centre, TEAGASC, Co. Cork, Ireland. "Massey was my first experience outside my home country (India), and it helped me to get a broad understanding of not only my area of work, but also the opportunity to see and understand different people and their cultures that I came across in my term over there."

Dylan Barrett, Bachelor of Business Studies, is currently working in Brisbane, Australia for a company called Preston Rowe Paterson as an assistant property valuer and will be eligible to apply for Valuation Registration in June 2010. "I plan to stay in Brisbane for a few more years to get as much experience as possible then I would like to do some travelling before returning home to Wellington to further my career in the property industry. If anyone is considering moving over to Queensland to work in the property industry and would like to know anything, then please feel free to contact me."

Lee Carter, Bachelor of Technology, writes: "I'm in Scotland playing rugby as an import player for a Premiership 3 team called Ellon. So far I haven't used my qualifications."

Dagnal Dereveke, Postgraduate Diploma in Business Administration, returned to the Solomon Islands as a training coordinator for the Solomon Islands Government Accounting Services. "My area of speciality is the design, development and coordination of public sector financial management training for Solomon Islands public servants. I credit Massey University with developing my organisation, managerial, and technical skills to meet challenges in the workplace head-on."

Nadine Fromont, Bachelor of Sport & Exercise, worked in Melbourne, Australia as a personal trainer for Southern Health Victoria after graduating. During this time she also studied extramurally towards a graduate diploma in Business Studies, which she completed in the 2008/2009 summer school. She now works as the High Performance National Teams Coordinator for Athletics New Zealand, based in Wellington.

Phil Listerman, Bachelor of Engineering Technology, worked at Unitec for one year as a lecturer in the School of Built Environment and is now living in Ontario, Canada and working at Fanshawe College as a professor (lecturer) in the School of Building Technology. "I intend to continue my studies eventually through to a PhD. However, since the birth of our baby, life has become very busy and studies are on the go slow at the moment. We're enjoying life at minus 16 degrees C."

Margarerre Cantwell, Bachelor of Education, writes: "At 54 years I am on my OE, volunteering for VSA in Port Vila, Vanuatu. I'm working in my field assisting the Pre-School Association to improve early childhood education. I am also (hopefully) beginning another study journey – Postgrad Cert in Admin and Leadership to keep my mind active in a laidback society."

Paulina Japardy, Masters of Philosophy, started working with Fairtrade Labeling Organizations (FLO) in July 2008 as a liaison officer for Indonesia, based in Jakarta. She acts as a liaison between the Producer Business Unit (PBU) and FLO certified producers, potential FLO producer partners, and Fairtrade stakeholders in Indonesia. Her main tasks include providing information, advice and training to small farmers' organisations at the grassroots level (producers) improving their compliance with Fairtrade standards and developing their market opportunities.

Rosemary Peacock Mackay, Postgraduate Certificate in Midwifery, is now half-way through a postgrad diploma in counselling, is just finishing a certificate in Christian ministry, and is working part time as a research assistant with Curtin University and part time as a midwife.

Rachel Niven Portman, Bachelor of Science, is project manager for a Brisbane-based software development company. She writes: "The information systems major provided a framework to understand the technical aspects of the business. I spearheaded the adoption of project management best practice and established a project office. The company now has a professional services team, dedicated to the implementation of its software. Behind the scenes there are developers (Java/SQL), technical support staff and a design team. Globally, the company has over 10,000 customers in 150 countries. A highlight was working cross culturally with project teams in the Maldives, Papua New Guinea and Fiji, where telecommunications operate in unpredictable environments."

Ratu Tamani, Bachelor of Technology, writes: "I am now in Fiji and head of the Food Unit, which acts as the competent authority for fish and fishery products. My unit's primary purpose is getting Fiji back to the EU market. The task is challenging and I also manage human resources. However, my Food Technology training at Massey has been really useful to me."

Katharina Zechner, Postgraduate Diploma in Business Administration, is originally from Germany and moved to Washington, DC shortly after graduation to work for the Save Darfur Coalition. "Moving forward, I would like to do a PhD, maybe in the UK."

2009

Penelope Bradford Muncey, Master of Education, worked as a teacher for 30 years and raised a family of five before completing her master's, specialising in curriculum design and development. "I have always been interested in curriculum and often had opportunities to develop curriculum at the institutions in which I worked in New Zealand, England, Papua New Guinea, Bangladesh, Pakistan and Vanuatu. On completion of my degree, I found a position in Vanuatu which enabled me to put all my new learning to good use. I worked with Transparency International and the Vanuatu Ministry of Education to design a Civics Education Curriculum. At the completion of that work, I took a job with the Australian Electoral Commission, designing curriculum for professional development across the Asia Pacific region. The most striking learning that I experienced at Massey was finding out how little I know and how much more there is to learn."

Ross Island, Antarctica 2008. *Anne Noble*

Professor Anne Noble has recently returned from seven weeks in Antarctica on a prestigious US National Science Foundation Artists and Writers Fellowship. She spent time at the South Pole, and remote field camps on the West Antarctic Ice Shelf and the Polar Plateau observing and photographing light, space and atmospheric phenomena. In the Ross sea region she photographed aspects of science support infrastructure, in particular roads, vehicles, fuel depots and transportation networks on the sea ice. She is working towards the completion of her Antarctic projects, with publication of two books and exhibitions in the United States, Germany, and Australia during 2010 – 2011.

The first system to explore the dynamics of skiing was created by Matthew Brodie at Massey University. It won him the Future Science and Technology category and title of overall runner-up 2008 MacDiarmid Young Scientist of the Year. He's just one of the postgraduate minds making amazing breakthroughs in our environment. The New Zealand spirit of discovery thrives at Massey with the help of world-class academic staff, some of NZ's best facilities and the exploring minds of people like you. Come and discover what you are capable of achieving through postgraduate study in areas like Business, Design, Education and Teaching, Health and Wellbeing, Social Sciences, Humanities and Arts, Engineering and Technology, and Sciences.

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