

weekend pulse

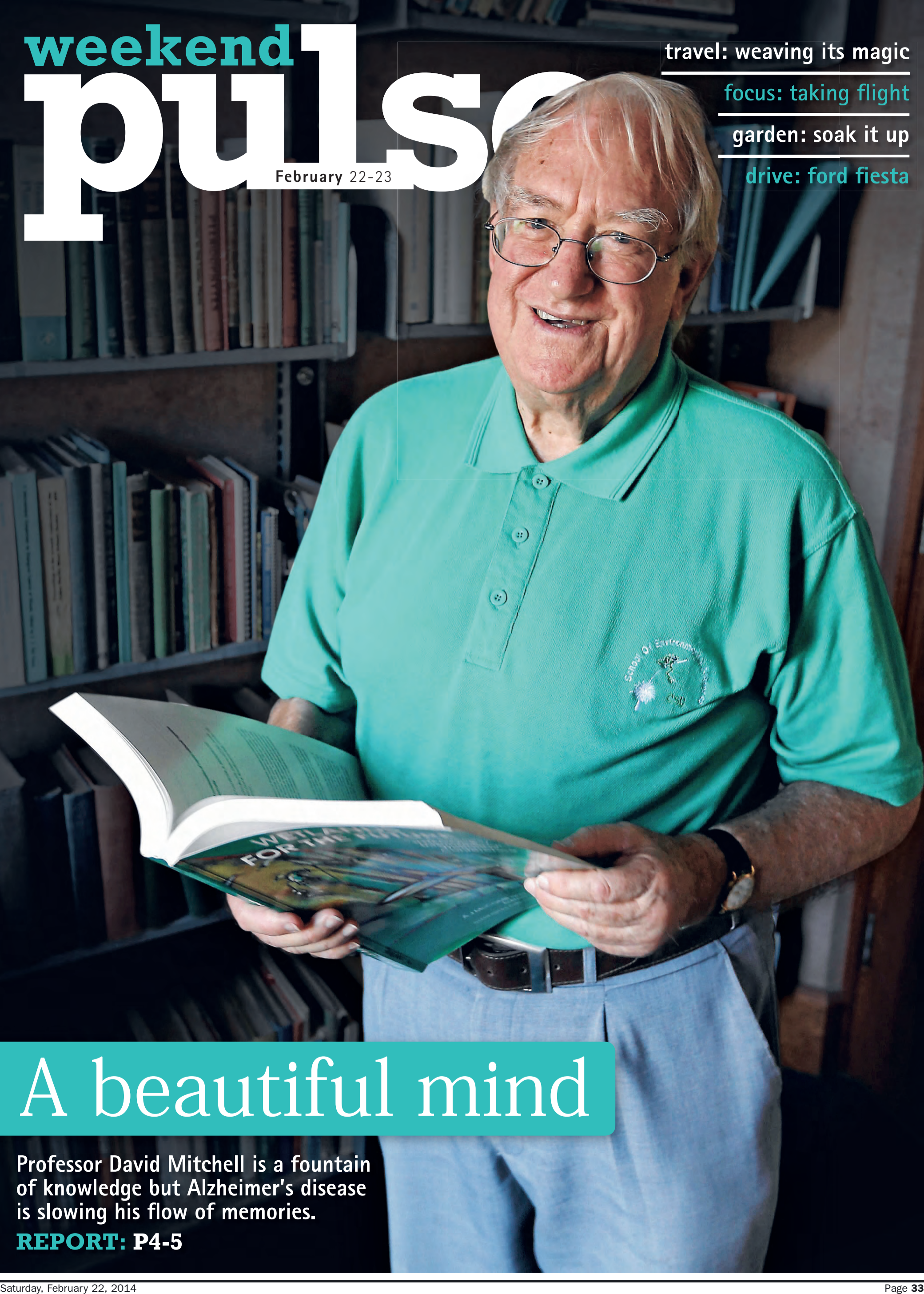
February 22-23

travel: weaving its magic

focus: taking flight

garden: soak it up

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A beautiful mind

Professor David Mitchell is a fountain of knowledge but Alzheimer's disease is slowing his flow of memories.

REPORT: P4-5

COVER STORY

Professor David Mitchell is sorting through a lifetime of academic books and journals at Thurgoona. Picture: MATTHEW SMITHWICK



OUR WATER WARRIOR

Professor David Mitchell has dedicated his life to the environment, but loving the land was never hard work for this devout Christian who was always guided more by his feelings than research, writes **MARGRIT BEEMSTER**.

THERE'S a lifetime worth of scientific books and academic journals to be sorted.

But for Professor David Mitchell, an adjunct professor with Charles Sturt University's Institute for Land, Water and Society, it is a task he tackles with steady diligence and methodological care.

"When I look at a book, I often don't have to open it up to know what it's about," says Professor Mitchell, 78, who was the inaugural director of the Murray Darling Freshwater Research Centre (MDRFC).

"Just seeing the cover brings back so many memories."

But memories, especially his memory, are something he can no longer count on.

Diagnosed with Alzheimer's disease about three months ago, Professor Mitchell has decided to leave his office of almost two decades at the university's campus at Thurgoona "to make space for others"; hence the need to sort through his books.

"They're dispersed all over the place in the School of Environmental Sciences; in the herbarium, in meeting rooms and a few staff offices, so I'm in the process of bringing them all together and sorting them out," says Professor Mitchell.

"It is possible the library here may be able to make use of some of them, but many are probably destined for the tip."

While Professor Mitchell has been assured his status as an adjunct with the university "can continue for life" his knowing smile recognises the reality will depend on the disease's progress.

At this stage it is people's names and sometimes the names of countries that have gone, while what they look like, what they think and what they have done, is still there.

He gets a little frustrated as he tries to recall the names of the people he has worked with in his life; even those who sit in offices next door to him.

Professor Mitchell is an interesting blend of scientist and a devout Christian too; he cares deeply about humanity and the environment.

He was born and raised in Rhodesia, now Zimbabwe, Africa, during the decade after World War II. His father was a pharmacist, later becoming the chief pharmacist of what was the Federation of Rhodesia and Nyasaland (now Zimbabwe, Malawi and Zambia.) In later life, after the federation was disbanded in 1963, his father was ordained an Anglican priest and continued in that role, part-time, when he and David's mother moved to Australia

in 1981. At that time David was working at the CSIRO Division of Irrigation Research based in the Riverina.

Professor Mitchell went to Cape Town University in South Africa to become a secondary school science teacher with an interest in ornithology. Instead he ended up a fern taxonomist. He taught for two years with the Rhodesian Department of Education, but often worked in the Rhodesian Herbarium during the school holidays and was asked by the herbarium to provide advice on major weed growths of the floating fern, initially identified as *Salvinia auriculata*, covering square kilometres of the newly forming Lake Kariba behind the new dam on the Zambezi River that had been built to provide hydroelectric power to the copperbelt in Zambia.

This led to post-doctorate research at London University's College based in Rhodesia and Nyasaland on the water weed which Professor Mitchell discovered was a hitherto unnamed species which he described and named *Salvinia molesta* (ie the "nuisance salvinia"). The plant soon became a major weed in tropical waters throughout the world.

Professor Mitchell was commissioned to edit and co-author a book *Aquatic Vegetation and its Use and Control* for the UNESCO International Hydrological Decade; visited South and Central America searching for the origin of the weed; and worked for the United Nations Development Fund on the problems caused by the weed on the Sepik River in Papua New Guinea and in other tropical countries.

Professor Mitchell spent 16 years as an academic with the University College of Rhodesia and Nysaland (now the University of Zimbabwe), as his interests grew to include the limnology of artificial reservoirs and the ecology of wetland systems. He became director of the Nuffield Lake Kariba Research Station and directed the Hydrobiology Research Unit at the University in Salisbury, now Harare. He visited Australia in 1975 on sabbatical with the University of Adelaide where he reviewed the management of aquatic weeds in Australian freshwaters. This led to his return to Australia in 1977 and a job with the CSIRO based at Griffith.

He says at the time Australian government research institutions were doing little research on Australia's inland water systems compared to South Africa.

"I was very concerned," says Professor Mitchell who was appointed a chief research scientist and officer in charge of the reorganised Centre for Irrigation Research in 1981. "This is a country which has an enormous need to understand the nature and ecology of its water systems ... I was aghast really and I think I jumped up and down a lot."

In 1986 he became the foundation director of the MDRFC and, in 1987, officer in charge of the Centre for Irrigation and Freshwater Research at Griffith. In 1988 he moved to Albury to direct the MDRFC full-time until 1993, continuing as chief research scientist until his retirement from the CSIRO in July 1995.

The day after he retired he was offered an adjunct position with CSU's School of Environmental Sciences and over the years has watched the university develop and the buildings go up at the Albury-Wodonga campus at Thurgoona.

"Funnily enough what has excited me the most and what was totally unexpected was to be involved in the establishment of the university," says Professor Mitchell on whose suggestion composting toilets were incorporated into the campus' original rammed earth buildings.

He also made use of existing lakes on the site by designing a wetland system to treat the campus' wastewater via a series of gravel and reed bed wetlands. These were named the "David Mitchell Wetlands" in 2004 by the university in recognition of his excellence in his field.

"To begin with the system was treated with a great deal of scepticism by the council staff who were very concerned that it would contaminate the stream at the bottom of the university site, so the 'treated' water was not allowed to leave the wetland system and had to be evaporated through leafy swamp plants," says Professor Mitchell.

"However, careful regular analysis on a weekly basis of the water that had passed through the wetland system showed the water coming out of the wetland system consistently met drinking water requirements each year and they were no longer as concerned. As it is, most of the treated water does evaporate."

When he became an adjunct, Professor Mitchell planned to continue his research, but instead found himself interacting with people, writing papers and attending conferences.

"I've done research but I'm not a researcher," he says. "Increasingly it's been interaction with people rather than interaction with data. I don't have a statistics sense. I am guided more by what I feel than what I read. That's my nature, it always has been."

Professor Mitchell is well aware that as a scientist that can make him subjective rather than objective. "Science is about being objective," he says. "It is looking at the data, doing what you can to understand it and then accepting it, critically. Sometimes I can feel very disturbed about what the data is telling me but, if the data is there, it demands further investigation rather than rejection!"

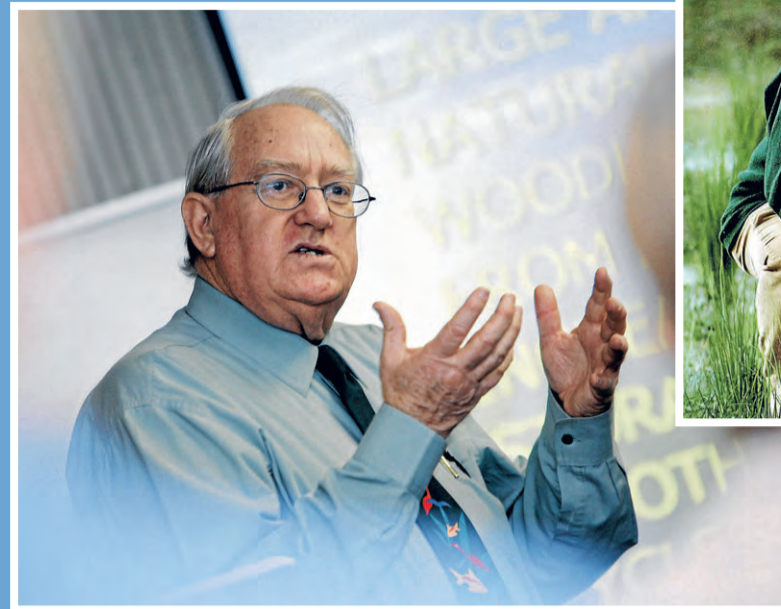
As the author or co-author of many scientific papers, reports and book chapters, Professor Mitchell and his work is well respected by his scientific peers and among his awards in 2003 he was made an International Fellow of the Society for Wetlands Scientists for "a lifetime of contributions to wetland science and management".

Professor Mitchell comes from a strong Christian family and has been actively involved with the Anglican Church all his life and has been a lay reader for the church since he returned to Rhodesia from his university studies. It is likely that over 50 years, he has taken and/or preached at several hundred services.

"If I've written out a sermon I kept it," says Professor Mitchell, a member of the Anglican Parish of Northern Albury. "That way I can always recycle it, usually in a revised form. At last count I think I have preached some 550 sermons."

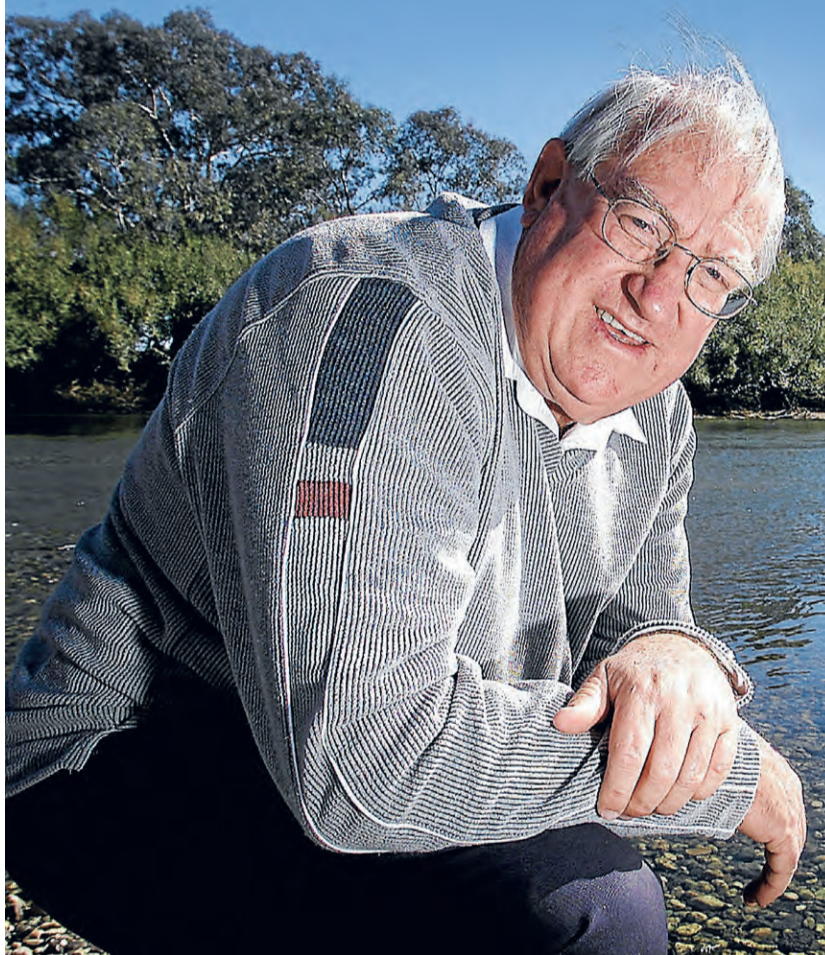
In recent years Professor Mitchell has helped put his concern for the environment on to the Anglican Church's national agenda. At the first Australian Anglican Church General Synod that meets every three years, which he attended in 2001, he gave a paper on environmental issues. This inspired others at the meeting "who were able to understand the importance of what I had to say from the church's point of view" and led to the formation of the Environment Working Group of the Anglican Church of Australia.

BELOW: Professor David Mitchell shares his research experience at Wonga Wetlands during 2007.



ABOVE: Professor Mitchell won a president's award in recognition of a career devoted to scientific discovery.

BELOW: Pictured at Noreuil Park, Albury, in 2003, Professor Mitchell has a wealth of knowledge on wetlands in this country.



ABOVE: David Mitchell was heavily involved in the development of the CSU Thurgoona campus.

Professor Mitchell was chair of the group from 2005 until July last year when the work of the group was absorbed into the church's national Public Affairs Commission.

"One of the exciting things about all this is that the church has the ability to influence a wide range of people Australia-wide," he says.

"Looking after our environment is an issue of national importance. We need to be, as a community, as a nation, very conscious of the fragility of our environment. There are too many people who see the environment as something to make use of. Look at any major business, and some agriculture is of that nature. But agriculturists know that the continuation of their activity is dependent on care of their environment, not exploitation. People who dig holes in the ground and extract what they want with little regard to other impacts, don't. They are just making a buck! Admittedly that's also important but we must, as a community, as a nation, as citizens of the world, look after the world which is our home. If we don't look after the environment we are mad."

Another passion in Professor Mitchell's life is singing. While he has had no musical training "my sister learnt to play the piano, I played rugby and did athletics", he has always been able to sing which was picked up by one of his teachers in primary school and in secondary school he performed in Gilbert and Sullivan musicals. When he moved to Albury he joined the Murray Conservatorium Choir and has been with the choir since.

“ We must, as a community, as a nation, as citizens of the world, look after the world which is our home. If we don't look after the environment we are mad. ”

"I can't read music but I've always been able to follow a melody," says Professor Mitchell. "There's a tune in my head a lot of the time; usually I'm making it up as I go."

Professor Mitchell lives a five-minute drive from the campus with his wife of 55 years, Glenda. They have three sons: Christopher who is a priest; Andrew, who has a Masters degree in Pharmacy and is a senior member of the Australian government's newly formed Department of Health and Ageing; and Dr Michael Mitchell, a social researcher in Natural Resource Management and adjunct research fellow with the Institute for Land, Water and Society.

Professor Mitchell expects to continue his contact with the university.

"There's other things I want to do but I'm still working it out," says Professor Mitchell. "That depends on how I go with my Alzheimer's. It was confirmed three months ago but I think the symptoms have been there for at least a year. I can still remember all sorts of things but for me at the moment the disease has manifested in my forgetting names. The thing about names is that there is no logical reason for someone to be called what they are. I am on a drug which will slow down the memory loss but will not return memory that has gone."

But one thing is sure, even if the future of Professor Mitchell's memory isn't certain, those around him and those who have worked with him will remember his stories and his work ... and his memories will live on through them.