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uniken

The invisible wounds of war



UNSW
THE UNIVERSITY OF NEW SOUTH WALES

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Photo: Ed Jones, AFP, Getty Images

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Lab talk ...

Tunnel vision ... (l-r) Terry Flynn and Associate Professor Noor Ahmed

Associate Professor Noor Ahmed and Technical Officer Terry Flynn are used to dealing with pressure in their work – air pressure, that is.

Noor and Terry have been the team in charge of the Faculty of Engineering's Aerodynamics Laboratory for the best part of a decade, combining their knowledge to guide researchers and students to the best possible outcomes for their inquiries in areas such as efficient aircraft wing and wind turbine design.

The Aerodynamics Laboratory is one of the more imposing places in the University, dominated by a two-storey-tall subsonic wind tunnel that was built in situ by staff nearly 40 years ago. Age is no barrier to effectiveness, however: it's one of six wind tunnels, both subsonic and supersonic, used to produce cutting-edge research results.

Associate Professor Noor Ahmed:

Terry and I work together on research and also on guiding students. He worked with me on an ARC-funded research project for an advanced wind-driven ventilator design which is now in production.

I'm interested in the environmental aerodynamics side of research so I do a lot of research on ventilators and wind turbine design, but even when we're looking at aircraft aerodynamics we're trying to improve efficiency, which brings you back to trying to get a better environmental outcome.

When I have a student with a particular project I discuss it with Terry, to go over the nitty-gritty of what can be done and what can't. I have my ideas and he has his and together we form something that's do-able. Terry also has a special interest in model railways so we've devised a few undergraduate projects in that area, such as working out the drag on fast-moving trains.

Terry Flynn:

I've been a technical officer pretty much all my career. I began work as a naval fitter and machinist on the Garden Island dockyard before progressing to technical officer. After that I worked with the CSIRO at Lucas Heights and the NSW Standards Laboratory before coming to UNSW.

Noor and I probably talk at least on a weekly basis, but I rather like some of the more fundamental projects where we look at the basic science of airflow. I'm also responsible for the maintenance of all the equipment in the lab, and when something does break it's a redesign and rebuild job – you can't just order in a replacement part because a lot of the original suppliers aren't in business anymore. Even with a lot of computing in engineering, a lot of undergraduate students use this laboratory for verifying their modelling.

Associate Professor Noor Ahmed and Terry Flynn spoke with Peter Trute.

To nominate a researcher and technician for "Lab Talk" please email uniken@unsw.edu.au.



For what it's Worth

Work underway on the façade of the Wallace Wurth Building on UNSW's upper campus is only the beginning of a \$126 million makeover for the 47-year-old building.

Pending planning approvals, work will begin on this part of the medical precinct in January next year and will take three years to complete.

When it is finished, the floor space will be doubled and it will house the new Institute for Virology, as well as other research spaces and areas for undergraduate teaching.

"There will be a new wing along Botany Street, as well as the existing building," says Geoffrey Leeson, Project Manager, Facilities Management. "There will also be an atrium connecting the two wings."

The construction will be staged to minimise disruption to the existing staff and teaching activities. The new wing will be completed first, enabling occupation of that area, prior to the refurbishment of the existing building.

Ultimately, it will match the height of the adjacent Biological Sciences Building.

"It will be more like the street façade of the Lowy Building, but there won't be any green," says Mr Leeson, who says the distinctive 1960s red bricks will go.

Lahz Nimmo Architects in association with Wilson Architects, the architects for the Lowy Cancer Research Centre, are designing the proposed new building and refurbishment.

Australia's *other* team at the World Cup



Bound for South Africa ... (l-r) Ahmed Thafer and Mekhaled Al-anezi

The *other* team which represented Australia at the World Cup – UNSW's Football United – had a rousing send-off before leaving for South Africa.

The Football United team of refugee youth was one of only 52 in the world invited to take part in the Football for Hope Festival – an official event of the FIFA World Cup.

Football United is an initiative of the School of Public Health and Community Medicine at UNSW. Working in partnership with councils, migrant resource centres and football clubs and associations, it uses football to build opportunities for social inclusion among the 7,000 refugee children who arrive in Australia every year.

Meanwhile, the UNSW robot soccer team made it to the grand final of RoboCup 2010 – only to be knocked out by Germany's University of Bremen, 6-1.

Playing on a world stage

UNSW has played a key role in the 90th anniversary celebrations of one of China's leading universities.

Professor Fred Hilmer was the Vice-Chancellor of Honour at Harbin Institute of Technology's celebrations in June.

The Institute is one of the elite China 9 – that nation's equivalent of Australia's Group of Eight universities.

Speaking about best practices for global higher education partnerships, Professor Hilmer told an audience of 15,000 that what is vital is continuing commitment.

"Universities work over long time frames, and the partnerships we forge may take many years to bear fruit, but the fruit they bear is critical to the future of our global community," he said.

UNSW was also represented by the Pro-Vice-Chancellor (International) Jennie Lang, the Dean of Engineering, Graham Davies and Professor Liangchi Zhang, also from the Faculty of Engineering.



UNSW tops grants funding

UNSW has once again received the most funding of any university in Linkage grants from the Australian Research Council – winning \$9.5 million in the latest round.

The funding, which begins this month (July), covers 27 projects across seven faculties. The grants are supported with \$21.2 million in cash and in-kind support from industry and partner organisations.

Professor Jeffrey Braithwaite from the Faculty of Medicine won UNSW's largest single grant, worth \$1.5 million, for research into how accreditation and standard setting contribute to organisational performance in health facilities, and their impact on quality of care.

A major project led by Associate Professor Eileen Baldry from the Faculty of Arts and Social Sciences, looks at the over-representation of Indigenous people with mental health disorders and cognitive disabilities in Australian criminal justice systems. The four-year project has been awarded \$384,000.

Overall Engineering received UNSW's largest share of Linkage Grant funding with 10 successful grants totalling \$2.6 million. Medicine and Science are close behind with \$2.5 million and \$2.4 million respectively.

Secure communications

The risk of sensitive information falling into the wrong hands could be eliminated by a new quantum communication process that delivers unprecedented security.

UNSW telecommunications researcher Robert Malaney has developed the process, called “unconditional location verification”, which ensures that even if an encryption password has fallen into the wrong hands, a secure message can only be seen by a recipient at an agreed geographic point.

“This takes communications security to a level that hasn't previously been available,” Associate Professor Malaney said.

“With this process you can send data to a person at a particular location. If they are not at that location the process would detect that and you can stop the communication.”

The concept, which also has potential applications in the intelligence community, e-commerce and digital content distribution, was reported in the American Physical Society journal *Physical Review A*.

It has been listed as one of the top 10 inventions of 2010 by *Popular Science* magazine.

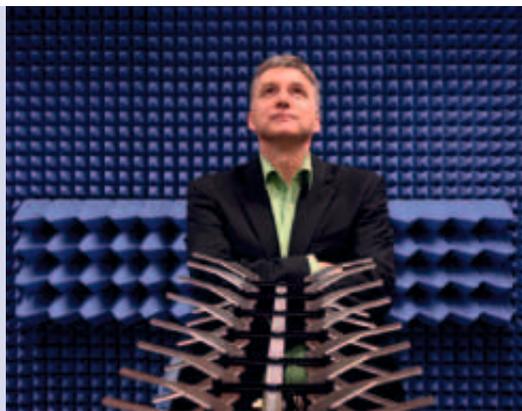


Photo: James Croucher, NewsPix

Sex appeal and the avatar

Almost 37,000 volunteers have taken part so far in a unique online experiment to investigate what physical traits men and women find most attractive about each other.

Run by the UNSW Evolution and Ecology Research Centre, the experiment asks users to go to a website and rate computer-generated images of men and women of greatly varying shapes, sizes and proportions.

The images are produced with the same sophisticated software used in computer games and by fashion designers to create human avatars.

The bodyLab team will analyse and compile the results and each month they will cull the least popular images and virtually “breed” a new generation of body shapes from “parent” avatars with features rated as most attractive.

To take part, go to the website:
<http://www.bodylab.biz/>

Less modesty for the Fig Tree

The humble Fig Tree Theatre is to get a \$400,000 internal upgrade.

The theatre, which is the birthplace of NIDA and has been used for performances since the early 1960s, will have new audio visual equipment and a refurbishment of the foyer and bar area by September. It recently had an external upgrade.

Meanwhile, patrons will be able to have a quick bite before a show with a new tapas bar across the courtyard at the refurbished White House.

“Sometimes we can have strange expectations that because women assume leadership positions, they ought to automatically be focusing more on gender issues and I don't think that makes a lot of sense when you think about what it takes for a woman to get to the top in politics.” – Associate Professor Sarah Maddison, Social Policy Research Centre on Julia Gillard's rise to Prime Minister, *The Sydney Morning Herald*

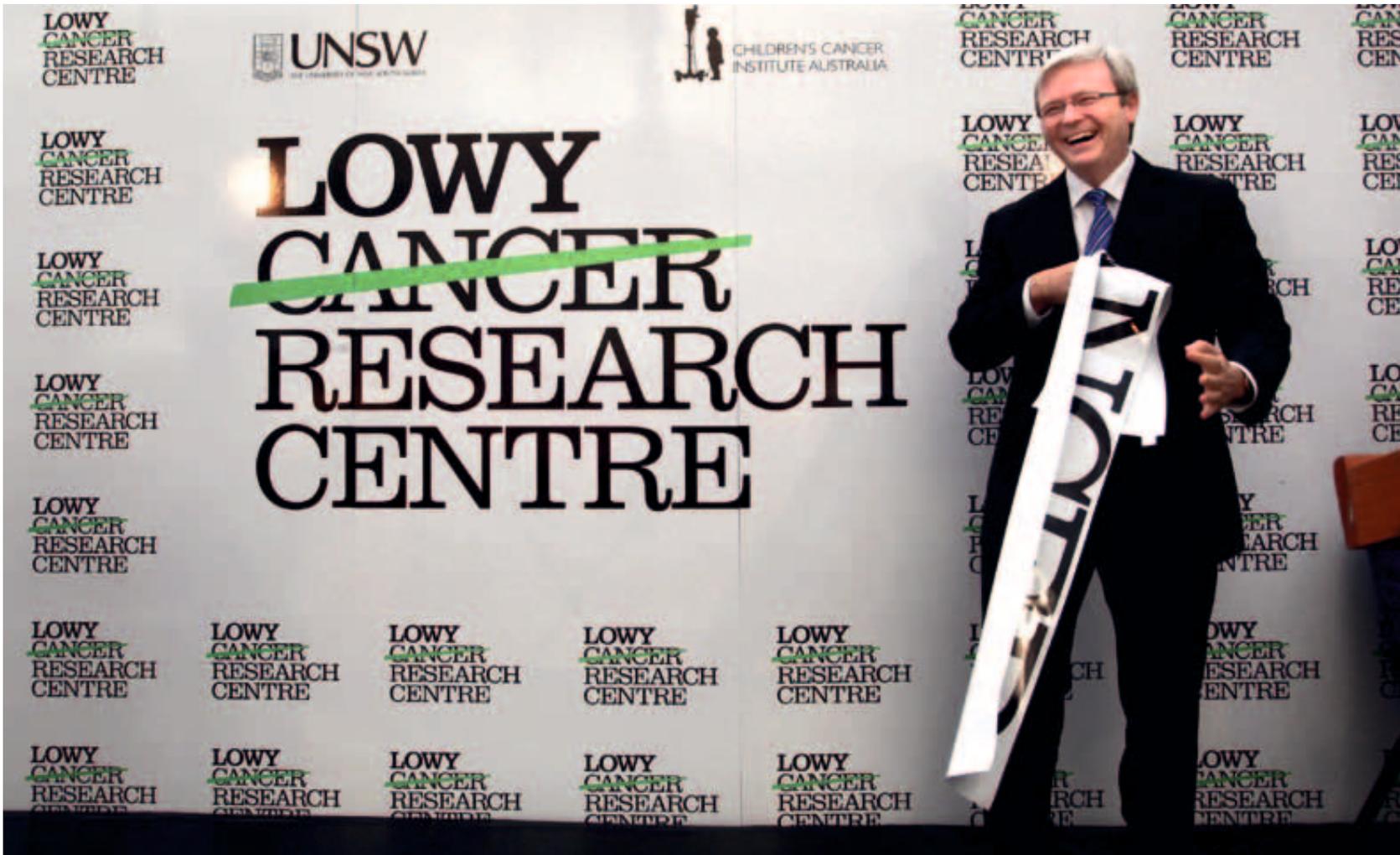
“We're basically controlling nature at the atomic scale. This is one of the key milestones in building a quantum computer.” – Professor Michelle Simmons, Director of the Centre for Excellence in Quantum Computer Technology on her team's development of the world's smallest transistor – just seven atoms, *The Age*

“They're making it accessible by dumbing it down to such an extent it wouldn't even be recognisable as visual arts.” – Dr Kerry Thomas, COFA lecturer, on the proposed changes to the national arts curriculum for schools, *The Australian*

“To identify a tenfold increase in psychiatric disorders among children was one of the most shocking statistics we uncovered.” – Senior Lecturer Zachary Steel, School of Psychiatry who studied the mental health of 10 families held at Curtin Detention Centre in Western Australia, *The Age*

“Managing menstruation is a drag. Many feel: why bother having periods at all? Young women are more active; they want control of their bodies.” – Dr Terri Foran, School of Women and Children's Health on using the pill to suppress menstruation, *The Good Weekend, Sydney Morning Herald*

“Given that scandal is inevitable [in rugby league], more consideration should be given to the strategy of embracement. Taking advantage of scandal to frame the messages around a product, image and brand means that sponsors are not under threat from scandal but actually take advantage of it.” – Dr James Connor from UNSW@ADFA, *Sun-Herald*



Making a mark on cancer

Medical researchers at UNSW and the Children's Cancer Institute Australia (CCIA) have been hailed as the true heroes behind the Lowy Cancer Research Centre by the man whose donation of \$10 million made the centre possible.

Frank Lowy and his family were joined by the then-Prime Minister, Kevin Rudd, the NSW Premier, Kristina Keneally, and around 200 dignitaries for the official opening of the world-class research facility that aims to give hope to children and adults with cancer.

Mr Rudd told the gathering while cancer claimed hundreds of thousands of lives each year, there was a sense of determination to do something about it. Mr Lowy's contribution was crucial to that effort, he said.

"Philanthropy plays a huge part. What [Frank Lowy] has done, not just here but in philanthropic works right across this country, is

support pioneering medical research."

But Mr Lowy played down his role. "All we did was sign a cheque ... we did it willingly and with pleasure. But the people that are working here ... they are the true heroes," he said.

The \$127 million centre is the first facility in Australia to bring together childhood and adult cancer researchers.

It is home to up to 400 scientists from UNSW's Faculty of Medicine and CCIA in a collaboration that will take translational cancer research in Australia to a new level. Translational research takes laboratory or research discoveries and turns them into clinical applications.

Two of the centre's researchers are former winners of the state's top cancer research prize and several of its leading scientists were recognised in this year's NSW Premier's awards for outstanding cancer research.

According to the inaugural director, Phil Hogg, the centre aims to lead the world in making a difference to the lives of cancer patients.

"If we are to be very good at only one thing it will be our ability to translate our discoveries at the bench into new diagnostics and treatments for cancer," he said. •

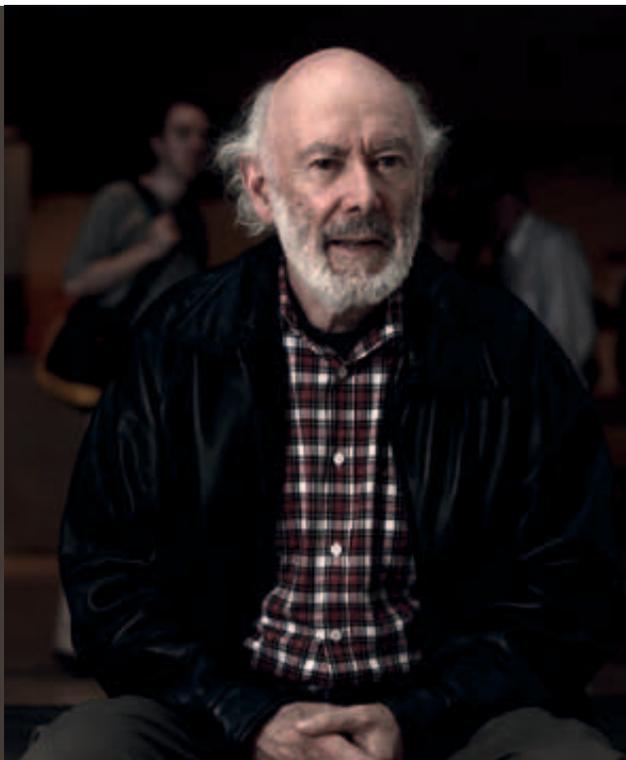
By Steve Offner

TV For the video story, go to the Health collection of UNSWTV at www.tv.unsw.edu.au

Above: The then-Prime Minister, Kevin Rudd, opens the Lowy Cancer Research Centre

Below (l-r): Vice-Chancellor Fred Hilmer with Shirley and Frank Lowy, inaugural Centre Director Professor Phil Hogg; the then-Prime Minister Kevin Rudd and NSW Premier Kristina Keneally speak with Associate Professor Maria Kavallaris; Chancellor David Gonski and Vice-Chancellor Fred Hilmer join the Lowys, the Premier and then-Prime Minister for the unveiling of the plaque.





Biennale honours Nick Waterlow

The memory of one of COFA's most prestigious art educators has been honoured with a Biennale of Sydney fellowship.

The two-year, full-time Nick Waterlow OAM Curatorial Fellowship will be awarded to a young curator who will be mentored by the artistic director and will work with the Biennale team on the planning, administration, programming and delivery of the 2012 event.

The fellowship, created by the Biennale in conjunction with the Australia Council for the Arts, provides a lasting legacy to Nick Waterlow, tragically killed last year.

The keynote address of the Biennale's Opening Week Forum was also named in Waterlow's memory.

Waterlow was the Biennale's most prolific artistic director, curating the 1979, 1986 and 1988 exhibitions and was Chair of the International Selection Committee in 2000. He also served on the Biennale's Board for 11 years (1994–2005).

Up until his death last year, Waterlow was the Director of COFA's Ivan Dougherty Gallery and a senior lecturer in the School of Art History and Art Education.

"The enormous contribution Nick Waterlow has made to placing Australian art into an international context has been repeatedly and generously recognised throughout the opening week of the Sydney Biennale," COFA Dean Professor Ian Howard says.

COFA continues to have a strong contribution to the Biennale, which runs until **1 August**.

Professor Ross Harley and COFA graduate Andrew Frost have produced a video work by German artist Christian Jankowski. The production, *Tableaux Vivant TV:LIVE from the Inside*, includes performances by Anne Fulwood, Angela Bishop, Kylie Kwong and Fenella Kernebone.

The production is being shown at the Museum of Contemporary Art and was aired on ABC TV's *Art Nation*.

Meanwhile, nine students from Art Theory, Art Education and the Masters of Art Administration at COFA are involved in a range of professional projects with the Biennale – from writing educational materials and liaising with artists through to taking guided tours around Cockatoo Island.

It is the second time COFA students have been involved with the Biennale of Sydney and follows student involvement in the Venice Biennale last year.

By Susi Hamilton

The photographer stripped bare

The moving performances of Sydney artist and photographer William Yang will become available to a new audience thanks to a visiting fellowship at UNSW.

William Yang, internationally renowned for his solo performances that combine photography with personal monologues, will be based in the School of English, Media and Performing Arts (EMPA).

The third-generation Chinese Australian has used photography to explore numerous subjects, including his cultural heritage, Sydney's gay community and creative milieu in the 1970s and 80s, and his friendships with author Patrick White and Sydney artists Martin Sharp and Brett Whiteley.

Yang will use the fellowship to digitise and transform seven of his existing performances into a small-screen format, to open them up to new audiences.

The pieces include: *Sadness* (1992), *Friends of Dorothy* (1998), *Blood Links* (1999), *Shadows* (2002), *Objects For Meditation* (2005), *China* (2007) and *My Generation* (2008).

"This is a new area of exploration for me because more people watch things on a small screen or the internet now," says Yang. "I've realised the importance of having a product that people can access more easily."

Yang has an established relationship with EMPA's Creative Practice and Research Unit having used the Io Myers studio as a rehearsal space for the past 10 years and inviting students to observe his performances.

Yang sees the digitised works as a way to preserve his performances, and make them more accessible as a teaching tool.

"The completed performances will be archival but most importantly, educational," says Yang. "If they exist then people can teach from them."

"Student involvement is an essential part of seeing this project to completion – the students will be my crew."

Faculty of Arts and Social Sciences Dean Professor James Donald says Yang's involvement "will provide a unique opportunity for some of our students to work with an extremely talented artist and assist in archiving performances that are of great significance to Sydney's cultural and social history".

By Fran Strachan



An eye for detail ... Photographer William Yang in his work *Alter Ego* (2000)

An Australian first

UNSW international law expert Megan Davis is making history as the first Australian Indigenous woman to be elected to a UN body. By Dani Cooper.

Megan Davis has spent the past decade travelling the globe – yet she has never taken an international flight for a holiday. The 34-year-old’s jetset lifestyle is, instead, the product of a life working for the United Nations.

Now with her recent election to the UN Permanent Forum on Indigenous Issues, Davis, director of the UNSW Indigenous Law Centre, will soon consider New York a second home.

It is a far cry from growing up poor in commission housing in Brisbane’s outer suburbs. Yet spend any time talking with Davis and it becomes clear her stellar career is founded in the politics of poverty.

Davis, of the Cobble Cobble people, based around Warra in south-west Queensland, spent her early life moving around as her Indigenous father, a railway worker, was sent from job to job.

However when her parents separated, Davis and her four siblings moved with their mother to Brisbane. Despite the poverty, Davis recalls a life rich in education and culture.

There was poetry, other languages (courtesy of their mother, Dawn, who spoke French), *Time* magazine and national newspapers, and a home lined with bookcases. “We came from a poor family, like a lot of Indigenous people [but] Mum always said the only way to achieve social mobility is through the education system.”

Davis says her mother Dawn, who she still talks to at least twice a day, was the major inspiration in her life and is still a role model.

“She was tough, she was courageous, she was brave [and] she devoted her life to getting us through school,” she says.

But more than that, says Davis, there was “unconditional love”.

“Unconditional love is incredibly important,” says Davis. “It means you can do anything.”

Although her father died in 1997, Davis remains close to the extended family, who live around the Hervey Bay region in Queensland.

Her close-knit family and work in Indigenous communities has shown her the value that support and love play in social mobility, but she also highlights the importance of the welfare system in Australia in getting children out of poor circumstances.

“Australia is a country where so many kids can take those opportunities if they have strong support behind them.

“Coming from a low socioeconomic environment I’ve seen what life looks like if you don’t work hard at school and what can happen if you don’t get an education.”

Apart from her mother, Davis cites Indigenous issues and the “horrendous policies” inflicted on her people as strong motivations behind her life. Politics was an everyday part of the young Davis’s education and she recalls an early fascination with the constitution. Her mother fed that passion, buying her a second-hand copy of *Matters for Judgement*, former governor-general Sir John Kerr’s account of the Whitlam sacking, when she was sick at home.

That early fascination with constitutional law led her to a law degree at Queensland

University. On graduation she won a prestigious UN fellowship in Geneva, which Davis jokingly refers to as the “pinnacle of my career”.

For the girl supposedly born on the wrong side of the tracks the fellowship was a game changer. “Suddenly I was working in an environment with different cultures – it was a massive challenge and had a massive impact on my life.”

It also instilled in her a strong belief that the UN is the “best possible system to deal with international relations and security and peace in the world”.

In her latest role, Davis hopes to also raise awareness around the issues of Indigenous women and violence.

“There is an assumption in international law that men and women have the same experiences,” she says.

“But [Indigenous women] experience very different lives and understanding that is very important in how we come to understand the collective rights of Aboriginal people.”

With her appointment – the first Indigenous Australian woman to be elected to a UN body – Davis is now very much a role model in her own right. She has packed her 34 years to the brim and now has one of her biggest roles ahead of her.

But the Cobble Cobble woman is undeterred and happy enough to put off that international holiday until her work is done.

“I don’t feel like I’ve missed out at all. I’ve enjoyed all of it.” •

The fossil hunters

A window has been opened into Australia's rich biological history. As Bob Beale reports, 15-million-year-old fossils have been perfectly preserved in this country's first discovery of amber.

Photo: Michelle Young/Lantern Studio

Buried treasure ...
Professor Mike Archer
with a piece of amber

They've dug for fossils in deserts, squeezed into caves, tramped the jungles of Indonesia, scoured mountains in Patagonia and used explosives to carve into fossil-rich limestone boulders. Adventure for UNSW's palaeontologists is, after all, just part of the hunt into discovering how Australia's unique animals evolved.

Yet when the team found themselves sharing their latest expedition with large sharks and even bigger saltwater crocodiles even they blanched.

The most recent field trip was to some of the most remote and isolated beaches of eastern Cape York.

The dangerous wildlife was just one of several challenging aspects behind their search for the source of one of the more startling local finds in recent years – the fossilised plant resin known as amber.

It takes at least seven million years for amber to form, but under the right conditions what was once sticky stuff oozing from a tree hardens to become a durable polymer that takes its colour from its original chemistry and the conditions under which it was buried.

Australian amber was discovered thanks to the sharp eyes and adventurous spirit of a Queensland commercial fisherman, Dale Wicks, and his partner Beth Norris.

Wandering these beaches in 2003, the couple found what looked like coloured plastic stones among the flotsam. Was it amber, they wondered?

They collected some and later contacted a foreign expert who said their hunch was wrong – there was no amber in Australia. It wasn't until they sent some to Professor Mike Archer, who was then-Dean of the Faculty of Science that their guess was confirmed.

This revelation prompted an eager follow-up from the team from UNSW's Palaeosciences Laboratory in the School of Biological, Earth and Environmental Sciences. Led by Dr Sue Hand, and joined by Australian Museum entomologist Dan Bickel and Queensland Museum palaeobotanist Mary Dettmann, the team won an Australian Research Council Discovery Grant to begin investigating the significance of the discovery and to try to find the source of the amber.

The UNSW team's decades of field work at the Riversleigh World Heritage Fossil Site in Queensland's Gulf Country had already unearthed a spectacular array of prehistoric animals that lived in biodiverse forests over the past 24 million years.

But amber promised something more: the exciting prospect of finding "inclusions" with complete preserved Australian insects and other soft-bodied creatures, along with plant remains, pollen and even bubbles of prehistoric air – precious pieces of ancient Australia that were either rare or impossible to find at Riversleigh.

Amber is regarded as a time capsule because of its capacity to trap animals as they were at the moment of death and that provides unparalleled opportunities to investigate



Golden glory... lead researcher Dr Sue Hand with Henk Godthelp

intimate details of creatures that would otherwise have perished without trace.

When Hand, Godthelp and Archer visited Beth Norris in 2006 on their way to Riversleigh they were unprepared for what they saw. “Spread across the kitchen table was a mind-boggling collection of amber in a dazzling array of colour,” recalls Hand. “Not just the orange amber we’re more familiar with in jewellery, but the whole spectrum of the rainbow: greens, reds, yellows and an almost psychedelic blue. It wasn’t just scientifically important; it was beautiful!”

Even more exciting, they could see that most of the paler, translucent pieces had many inclusions that promised plenty of new discoveries. Some of the deep red amber was too opaque, though, so whatever other treasures were hidden within these pieces would meanwhile remain a mystery.

The team was immediately hooked, and Wicks and Norris were enlisted to become part of the planned scientific study. Amateurs rarely become formally involved in professional science projects these days, but the pair’s discovery of the material and their knowledge and enthusiasm to help research the find made that decision easy.

Before long a steady stream of amber was making its way to the team’s UNSW lab, which now has more than 100 pieces of scientific importance for study as well as many other pieces that are opaque.

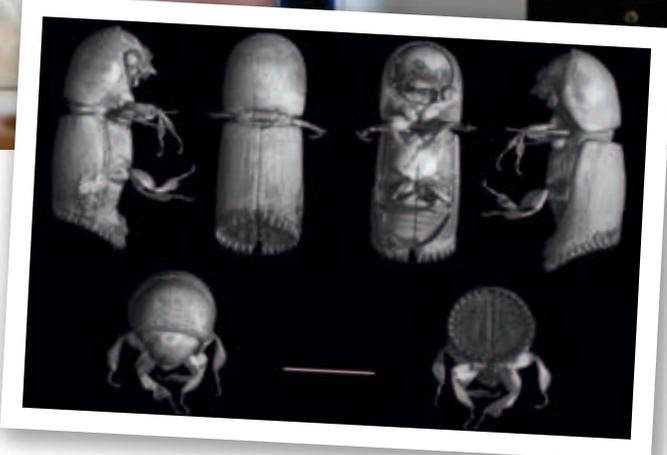
Fortunately, new synchrotron technology has now made it possible to “see” through these opaque pieces as if they were glass – something no human eye could ever do. The

team consulted Paul Tafforeau, the resident palaeontologist at the European Synchrotron Radiation Facility, in France, who has pioneered use of the technology to scan opaque amber and generate extraordinarily detailed, three-dimensional images of everything hidden inside.

In that first test run with opaque pieces of Cape York amber, Tafforeau found a beetle that looked a bit like a Dalek out of a *Dr Who* episode. It was a species entirely new to science. Better still, using associated instruments, he was able to make a giant-sized exact plastic replica called a “3D print”. Even the finest hairs on the beetle’s rear end were perfectly reproduced (see inset).

That success took team members – along with colleague Allan Jones of the University of Sydney – to Grenoble last year with more than 100 opaque pieces from Cape York. After a steep learning curve in how to use the synchrotron beam, the team logged the discoveries as they came thick and fast. “We were amazed at the variety of things that emerged on the screen,” says Hand. “There were ancient air bubbles of interest to climate researchers, more strange beetles, a millipede, two species of ants, butterflies, spiders, many different kinds of flies, wasps, pseudoscorpions, termites and even a tuft of hair from what I suspect is an ancient marsupial.”

The team’s most recent trip back to the remote location in Cape York was to resolve the puzzle of where all this amber was actually



A clue to the past ... an ancient beetle found in the amber

coming from. As Creaser points out: “If you can’t find the source, you can’t be sure about the age of the fossils, or for that matter that they came from Australia. Amber floats; it might even have come from New Guinea.”

That possibility was highlighted by the depressing sight that greeted them on the beaches. Expedition coordinator Godthelp says: “This should have been an unspoilt tropical paradise but it was a reminder of what we’ve done to the planet: along every beach was an appalling strandline of plastic refuse commonly five to 10 metres in width – plastic bottles, ropes, floats, fishing nets with radio transponders, toy soldiers ... It’s disgusting. But the challenge for us was that we had to paw through all this rubbish to find the amber because it floats with the plastic.”

While scouring the shoreline soon after arriving, Archer tasted some water seeping out of the foredune and, finding that it was fresh, climbed the dune to see where it was coming from. At the top he came to a “black lagoon” where several four- to five-metre-long cros

were watching him approach. Other crocs were seen in the breakers, as well as on the beach where they camped. One hiding just off shore from the camp seemed to be waiting for one of the team to forget the danger: needless to say, no-one did.

Fortunately, these “black lagoons” turned out to be perched lakes held up by beds of lignite – the blackened remains of tree trunks and other plant materials that can, given enough time and pressure, turn into coal. And where there is lignite, the team knew because of similar situations around the world, there could be amber.

But it wasn't until the last day of the trip that team member Chris Cannell suddenly saw reflected sunlight burst up through a honey-coloured lump of amber as he picked his way through a fortunately dry and croc-free lignite bed a little further south. Cannell, better known to the team as “Lizard”, is a Tasmanian geologist who has been a valued member of almost all of UNSW's fossil expeditions.

“It's opening up a whole new window into a crucial period in our prehistory that led to Australia becoming the arid continent we know today.”

This was not only the evidence they needed for concluding that the amber was indeed Australian in origin, but if enough information could be obtained about the plants in the lignite, the exact age of this amber could be tied down.

“We haven't dated this material, although we think it's about 15 million years old,” says Archer. “If we can get a more precise date from the lignite, that will be great. Clearly it overlaps with some of the fossil deposits we have from Riversleigh. At that time the continent was still well watered, with inland rainforests. But 15 million years ago there seems to have been a decline in rainfall that marks the beginning of increasingly drier conditions. The great thing about the amber is that it's opening up a whole new window into that crucial period in our prehistory that led to Australia becoming the arid continent we know today.”

For Hand, the discovery also sheds new light on creatures that could have migrated between Australia and New Guinea.

“This is a fabulous find,” she says. “Not only are these the most significant amounts of amber ever found in Australia but they occur where Australia and New Guinea were once joined by a land bridge and until now we had almost no information about what was living there at the time. Now we can study some of the actual animals.” •

Photo: Stephen Frink, Corbis



Molecular biologists believe they can clone the properties found in traditional medicines to produce sustainable sources for treating diseases common in local communities, such as HIV, malaria and tuberculosis. Bob Beale reports.

You might find them gathering the leaves of native plants in Sydney's bushland or digging among the roots of a rainforest tree, or even sampling the mysterious displays in a Chinese herbalist's store.

Wherever they go, you can be sure that Professor Brett Neilan's team of researchers and students will be looking at the natural world as if it were a living library, a vast resource of genetic material with all manner of potential benefits to medicine and industry.

Just as important, this pioneering team of UNSW molecular biologists is consulting another library as well – the store of knowledge acquired over many generations by some of the world's oldest cultures about treating human ailments with natural products.

“A lot of Western medicine was based on traditional knowledge,” says Neilan, from the School of Biotechnology and Biomolecular Sciences. “Many of the remedies we use today have their origins in medicinal plants.”

Neilan's attention at the moment is focused on the wild reaches of Papua New Guinea, where he recently led a team of scientists and PhD students in search of marine sponges. The team is part of an international collaboration involving the universities of Utah and Papua New Guinea.

“For a scientist it's like [Portuguese explorer] Ferdinand Magellan sailing around the planet going bang – oh new country – you can't help but discover things in a place like PNG,” he says.

Marine sponges are of special interest

because their physiology and lifestyle – soft-bodied creatures unable to move – has prompted them to develop some potent chemical defence systems against predators from higher kingdoms.

“Marine sponges are home to communities of bacteria that produce drug-like molecules that could ultimately be used to fight cancer, bacterial diseases such as tuberculosis and viruses such as HIV,” says Neilan.

Away from the field Neilan and his team are hoping to isolate the drug-like molecules from bacteria to use as an ongoing source.

“For a scientist it's like Ferdinand Magellan sailing around the planet going bang – oh new country – you can't help but discover things in a place like PNG.”

“If we can isolate the bacteria and genes of interest, it means we don't need to harvest large quantities of the sponges themselves, which could threaten species, survival and compromise their ecosystems,” says Neilan. “So this approach also benefits conservation and sustainability efforts.”

PhD students Kristin Miller and Shane Ingrey are using the same philosophy in their studies of traditional healing. For Miller her focus is Chinese medicine, while Ingrey is harvesting the knowledge of Indigenous Australia.



Ethics in the garden of eden

How can traditional knowledge of natural products be utilised ethically? That question is exercising the mind of Dr Daniel Robinson, a lecturer in the UNSW Institute of Environmental Studies and author of *Confronting Biopiracy: Challenges, Cases and International Debates*.

A case in point is the Australian native fruit, *Terminalia ferdinandiana*, known as Kakadu plum, for which an American company has applied for a patent to gain a 20-year monopoly on the use of the fruit in cosmetics.

“It is well documented that the Kakadu plum has a long history of traditional use as both a food and medicine by Indigenous Australians,” says Robinson, who is questioning the patent application.

One of the main reasons the company is applying for the patent is because it has very high levels of ascorbic acid, or vitamin C – reputedly 60 times more than is found in a typical orange. In combination with other ingredients, the company asserts that it would be beneficial for skin care.

“Concerns about the patenting of biological materials and the extracts of plants, microbial or animal products has heightened in recent years as the life science industries expand and as international legal agreements condone the intellectual property protection of these materials across the globe,” says Robinson. “In particular, many biodiverse ‘developing’ countries have been seeking to minimise the opportunity for grant of spurious patents, or patents that are based on traditional knowledge without obtaining prior informed consent and/or establishing benefit-sharing arrangements.” •

Miller is going through the vast stores of traditional Chinese medicines and trying to determine if they contain the potential for use in fighting cancer or as anti-bacterials.

“Our hypothesis is that it’s actually the bacteria and fungi living inside the herbs that is producing the bioactive compounds and so we are hoping to isolate those compounds from the bacteria and fungi so that we can use them as a source of producing compounds in the long term,” she says.

Her work importantly reinforces the need to tap into traditional knowledge.

“Finding the reason why traditional medicines are used is exciting, it’s like validating the traditional medicine that’s been used for two centuries,” she says.

But although the knowledge may be new to us, Ingrey is quick to point out nature has been developing these “cures” since ancient times.

Ingrey is shedding light on how Australia’s first people used local plants medicinally with

the hope, again, of finding treatments for modern disease.

“A lot of people just look at our medicine plants as hoodoo or whatever, but it’s good that you can take these back to the lab and prove there was actually medicinal properties and finding out that they can still cure certain diseases today,” says Ingrey.

Along with Neilan and Miller, his focus is on ensuring a supply into the future, which is where technology is providing answers.

“The great thing about microbiology and genetic technology is you only need very, very small samples, you don’t need to rape the forest per se,” Ingrey says.

“So it really is harvesting the knowledge and I guess the diversity of nature – the beauty of what’s just evolved over billions of years.” •

 For the video story, go to the Science and Technology collection on UNSWTV at www.tv.unsw.edu.au



Above: Professor Brett Neilan and the team discuss bush medicine with a PNG local (centre).

Photos: Alper Yasar

COPING WITH INVISIBLE WOUNDS OF WAR

For many US veterans of Iraq and Afghanistan the war never ends. Marion Downey reports on a program to help veterans put the trauma behind them.

Away from the front-lines in Afghanistan and Iraq there is a grim statistic that shows the deadly toll of these so-called wars against terror.

In 2008 around 115 US veterans, having survived the horrors of battle, returned home and suicided. It was the highest annual suicide rate yet recorded – with another estimated 300,000 veterans suffering post-traumatic stress disorder (PTSD).

Now a trial, involving UNSW researchers, is being launched in the US to turn around these statistics by treating PTSD, and its often concurrent problem, drug and alcohol addiction, simultaneously.

The five-year, \$2.1 million trial of the COPE treatment is due to start this month with 90 veterans and if successful will be offered at veterans' medical centres across the country.

One of the academics behind the program, Dr Katherine Mills, senior lecturer at UNSW's National Drug and Alcohol Research Centre, acknowledges the combination of PTSD and addiction is hard to treat.

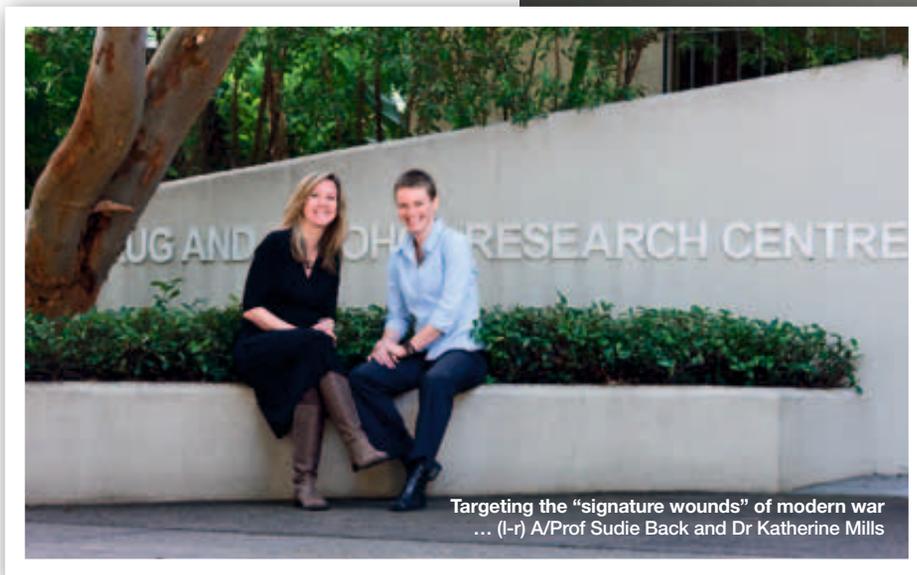
However for this battle, Mills and collaborator Associate Professor Sudie Back of the Medical University of South Carolina (MUSC) are armed with the results of their three-year, global trial of the COPE program for patients with PTSD and substance use disorders. COPE involves exposing clients to their traumatic memories in regular treatment sessions and treating their drug use at the same time and in the same setting.

Preliminary results from the COPE trial that involved civilians look promising. Those receiving prolonged exposure therapy and concurrent treatment for drug use show significant improvements in PTSD symptoms and reduced substance use.

Research by Mills in Australia, shows civilians with alcohol or drug problems are 6.5 times more likely to have PTSD. Among individuals with alcohol dependence, it is estimated as many as 70 per cent may have PTSD at some point. But outside a small group of researchers and drug and alcohol professionals the issue has received little publicity.

"Ironically it is the tragedy of the veterans that has increased public awareness of the issue and accelerated the desire for something to be done," says Back.

The RAND Center for Military Health Policy Research in the US has described traumatic brain injuries (TBI) and PTSD



Targeting the "signature wounds" of modern war ... (l-r) A/Prof Sudie Back and Dr Katherine Mills

as the "signature wounds" of the Iraq and Afghanistan wars. Of the 1.64 million troops deployed in those two countries between 2001 and 2008, more than 20 per cent were exposed to TBI mainly as a result of exposure to a blast from an improvised explosive device. Over a third had some mental health problem – the most common of which was PTSD. In a recent report, RAND called for treatment of these issues to be made a national priority.

"It's been a very, very different type of war," says Back. "People have survived roadside blasts and trauma that they would not have survived in other wars. Most of them have been exposed to violence and attacks and many have witnessed someone being killed."

In addition to the very high rates of PTSD attributable to combat, substance use disorders are five times as high in veterans compared with civilians – about 18 per cent of veterans have a substance use issue compared with three per cent in the general population. The consequences are dire.

"I have worked in some very tough areas but I have not seen people as impaired as our military service personnel who are grappling with substance use issues and PTSD," says Back. "Their physical health is terrible and they have high rates of homelessness, unemployment, social isolation and domestic violence."

Back says the veterans are more comfortable talking about their substance use than their PTSD.

"I have been amazed that the first time that returning veterans may have spoken about their trauma is in our studies," said Back. "They are often embarrassed by having PTSD. They feel it means they are weak. Mental health issues were not something they were expecting."

The current practice of treating the two conditions separately leaves sufferers on a treadmill of using substances to cope with their PTSD and with little chance of permanent relief, say Mills and Back.

Prolonged exposure treatment, a behaviour-based therapy, involves encouraging clients to confront situations and memories that trigger anxiety and avoidance, in order for them to develop more effective coping skills and reduce symptoms of PTSD. But it has not been used with people who have substance use issues as well.

"Traditionally, exposure therapy has been avoided in substance-using clients as there is a perception that you will do more harm in these vulnerable populations," says Mills. "However, our study is showing this is quite a resilient group and the opposite is true – that substantial decreases in substance use and



“Returning veterans are often embarrassed by having PTSD. They feel it means they are weak.”

PTSD symptoms occur when you address the trauma. In fact, you are probably doing more harm by not addressing the issues.”

Mills and Back are now cautiously optimistic the tide is changing in favour of effective treatment.

“For a long time there has been nothing to really help this group of people suffering two or more very serious disorders,” says Mills, who has been awarded a National Health and Medical Research Council early career development grant to continue her research.

Back has recently returned to the US and will start work on the veterans’ trial this month. The study and the publicity it will generate will benefit potentially thousands of civilians and military personnel around the world.

As a sign of good faith the US Department of Veterans Affairs has mandated that every regional VET centre should have a PTSD and substance use coordinator.

Back and Mills both agree that the door to change is open.

“There has been a momentum in the past few years. The ultimate will be when we see a change in practice,” says Mills. •

COMING OUT OF THE HURT LOCKER

“Michael” is a 22-year-old who served two tours of duty in Iraq. While serving in Iraq he experienced more than 50 combat firefights, saw dead and mutilated bodies and was seriously wounded twice. Before enlisting he was planning to enrol in college, had a robust social support network and no significant psychosocial or medical problems.

While in Iraq he was injured by an improvised explosive device (IED), leading to loss of consciousness, shrapnel injuries to his face and neck, a perforated ear drum and short-term memory loss. Two months later he experienced another blast, leading to vertigo, confusion, severe headaches and loss of hearing for several days. On both occasions he was diagnosed with traumatic brain injury (TBI). The symptoms of the TBI dissipated within weeks.

When he returned from Iraq and was referred for treatment he was getting drunk every day and blacking out twice a

week. He also met criteria for PTSD: daily recurrent nightmares, avoidance of thoughts associated with the trauma, flashbacks and emotional numbness.

He was treated with exposure therapy over 11 weeks, during which time he was supported to face situations and memories that elicited intense emotional responses. The treatment particularly addressed the avoidance which is a major symptom of PTSD and eventually he was able to face memories of the trauma without experiencing anxiety.

After the treatment he reduced his symptoms of PTSD, his drinking dropped to less than once a week and he no longer drank to avoid memories of the trauma. He was enjoying meaningful relationships, getting As and Bs in college and planning to apply to medical school.

This is an edited version of a clinical case discussion: Peter Tuerk et al, *Journal of Addiction Medicine* 2009;3: 189–195

Veiled threats

There is violence underlying the language used by those who would ban the burqa, argues Dr Helen Pringle.

The way we dress is no small matter. It is a social matter as well as an individual choice. Algerian writer Frantz Fanon wrote in 1959 that “the way people clothe themselves, together with the traditions of dress and finery that custom implies, constitutes the most distinctive form of a society’s uniqueness”. One of the most important protocols of dress and finery concerns how and when we cover – and uncover – our heads and faces.

In the past few years, passionate disagreements have arisen around the question of the dress of Muslim women. Scarf, foulard, chador, jilbab, burqa, niqab: whatever the exact extent of the covering, the issue has become one of fervent argument. Many concerns feed into the issue, one of the most central being that of discrimination.

Those who generally oppose these forms of women’s dress tend to phrase their concerns in terms of women’s equality and emancipation. That is, so the argument goes, the veil is discriminatory because women and women alone are forced to cover – and even if they are not forced, the choice still doesn’t count as authentic because it flouts norms of democratic citizenship mandating equality. On the other side, the argument is that the choice to cover should be respected equally with the choice not to do so, and that failure to extend such respect is discriminatory against Muslims and Islam more broadly.

Arguments on this issue often get caught up in the question of why Muslim women cover, and whether veiling is mandated by the Qur’an. Hence the spectacle of various non-Muslims holding themselves out as experts in theological interpretation, is as farcical as if I ventured into pronouncing on what the Bible mandates that Jews do in regard to the laws of Kashrut, which govern the preparation of kosher foods.

What is less frequently examined however, is why the motivation to dress in a certain way should be a matter of public concern at all. Granted, there certainly are legal and cultural norms about dress in our society. The young man who conducted the experiment for a Tropicfest film of “how far can you wear your underpants from the beach” pushed against the limits of those norms. But it was his dress, or lack of it, that caused concern, not his motivations for flying to Uluru in his undies.

Criticism of the dress of Muslim women, by contrast, seems to be primarily concerned not with the dress itself, but with the meaning of the choice to wear it. When France outlawed the conspicuous display of religious affiliation by students in public schools, President Jacques Chirac characterised the foulard or headscarf as a form of aggression and political extremism, connected in turn to women’s subordination.

Photo: Toby Zerna, NewsPix



In Australia, Bronwyn Bishop offered her own interpretation of the veil as “a sort of iconic item of defiance”. President Nicolas Sarkozy now characterises the wearing of the burqa as a sign of “subservience”.

But let’s turn the question around: what is the meaning of moves to unveil women? The language of proponents of a ban on the wearing of the burqa, for example, is often phrased in terms of “tearing away the veil”. This language at times turns almost pornographic, in its desire to see what lies “behind” the veil. André Gerin, the chair of the recent parliamentary commission into the question of the veil in France, proclaimed that “there are scandalous practices hidden behind this veil”, practices Gerin is evidently determined to unmask.

There is a very long history of fascination with what lies “behind” the veil, and of how what lies behind it might be revealed. A favourite subject of Orientalist painters in the 19th century for example was a covered woman, with the veil pulled back suggestively to hint at a lascivious mystery in which the viewer was invited to participate. Painters such as Delacroix and Ingres portrayed women of the East in order to reveal what was otherwise hidden or sheltered from their view. One of Ingres most famous paintings, *The Turkish Bath*, is shaped like a



“The language at times turns almost pornographic, in its desire to see what lies ‘behind’ the veil.”

keyhole through which the viewer can peep into an otherwise concealed scene. With the advent of cheap portable cameras and of postcards, every tourist to the East could indulge in a similar voyeuristic fantasy.

Writing about French policy in Algeria in the late 1950s, Fanon stressed the sexual frisson of the strategy of unveiling women. Fanon argued that the policy of unveiling was presented as a criticism of barbaric Muslim attitudes to women, at the same time as unveiling the Algerian woman was a way of “baring her secret, breaking her resistance, making her available for adventure”. A seductive conquest, in other words.

Too often even today, the language of unveiling has this undertone of violation, of a desire to lay bare what is private and hidden from view. Women as well as men writers speak of “tearing the veil off” or “lifting the veil” on Muslim practices, with little apparent understanding of the history of this type of language and the role it played in imperial conquest.

Perhaps it is time for proponents of unveiling to be a little more self-conscious about their own motivations for measures of unveiling. •

Dr Helen Pringle is Senior Lecturer in the School of Social Sciences and International Studies.

Playing the identity card

Banks are unwittingly turning consumers into cyber-security threats, writes Professor Michael Frater.

The recent media coverage of alleged attacks by Chinese hackers on Australian mining companies and Google’s email service has moved discussion of cyber security out of the IT section and into the mainstream news. This is entirely appropriate for an issue of such importance to society.

A negative side to this coverage is that it reinforces the impression that it is the “baddies out there” who are the source of the problem, especially in consumer protection. Consumers are also often blamed for their apparent stupidity or carelessness. At least in consumer protection however, banks, phone companies and other service providers have to take a large part of the blame: they are the ones who train us to help the hackers.

I recently received a call from a mobile phone company. They wanted to sell me a new phone – a mild irritant that we have all become used to. What surprised me, however, was that even before the sales pitch, I was asked to provide my date of birth and other personal information. Shocked at the privacy intrusion, I asked, “How do I know who you are?” “I can give you my phone number to call back.” This got me thinking: this (probably legitimate) sales call was training me to hand over my personal data without question, leaving me vulnerable to identity theft. What better training program for victims could there be?

The fundamental problem is that the phone company places a high value on establishing my identity, but no emphasis on helping me to establish their identity. Protecting my personal data requires both: in other words, identity is a two-way problem.

Phone companies are not alone in this misguided approach to cyber security: financial institutions of all sorts show the same misguided dependence on one-way identification. A quick survey of online banking sites shows a strong focus on how the bank identifies the customer. You cannot login without a user name and password. Often, other forms of identification are required as well. Amazingly, only one bank provides enough information for a customer to identify the bank.

Credit unions are worse: many set up their online banking so that it is impossible for the customer to identify the credit union.

In a shopping mall, the problem is much easier. The physical presence of a retailer, with a sign on the door, makes identification much easier. It also makes policing easier: if I set up a shop impersonating Telstra, Optus or Vodafone, the police will shut me down very quickly. Online, the identity problem is more difficult, and more care is required. What is not required is for phone companies and banks to train us to help the hackers.

The direct cost of fraud to Australian consumers has been estimated by the Australian Institute of Criminology at more than \$1 billion per year. Overseas estimates are even higher. Surely it is time for banks and phone companies to stop being part of the problem, and to become part of the solution.

And no, I didn’t buy the new phone. •

Professor Michael Frater is in the School of Engineering and Information Technology, UNSW@ADFA



Intelligent design

On sea and land, UNSW students are showing invention truly is the mother of all genius. By Peter Trute.

UNSW graduate Samuel Adeloju is determined to become a lifesaver and a recent award has moved him a step closer to his dream without getting his feet wet.

The industrial design student recently won the Silver Medal in the 2010 James Dyson Awards, the student category of the Australian International Design Awards, for a lifesaving device that can be shot to a drowning victim's location.

Adeloju's Longreach buoyancy deployment system fires a flotation device at 137 km/h to someone in danger of drowning at sea.

It received an enthusiastic response from the award judges, a panel of Australian design experts.

"They said it was an innovative and very practical design that had great potential to protect people and save lives," Adeloju said.

He is now seeking to further

"My invention creates a safer environment for cyclists and hopefully will get a lot more people on the roads". The Firefly featured recently on ABC TV's *The New Inventors* and was shortlisted at this year's Dyson awards. James is now working with UNSW's commercialisation company, NewSouth Innovations, to bring the Firefly to market.

While they may not be saving lives, four students from the School of Mechanical and Manufacturing Engineering are helping save the planet.

Farhan Qureshi, Kai Chen, Christopher Chare and David Chau developed the BIND (Binder Interlock Neat Device) paper-binding system for the Global EcoEasy Challenge.

Sixty teams from 14 universities around the world submitted designs to the challenge, which was set up to promote sustainable office

"My invention creates a safer environment for cyclists and hopefully will get a lot more people on the roads."

develop the Longreach and looking for financial backing to help take it into production.

Another industrial design graduate with an eye on saving lives is James Morton, who is generating significant interest with his "Firefly" bike light.

The light automatically illuminates a cyclist when traffic gets too close.

"Cycling is becoming increasingly popular in Australia but poor visibility and awareness means far too many cyclists are hit by motorists, resulting in serious injury or death," says Morton, a keen cyclist.

Morton, who also studied in the Faculty of Built Environment, designed the Firefly to detect approaching vehicles via inbuilt infrared sensors, then trigger brilliant light-emitting diodes that flash on to the back of a rider.

The device also illuminates the ground beneath a rider, giving motorists a greater ability to judge their distance from the cyclist.

equipment design.

The UNSW team's concept – a flexible nylon ring-binding system – not only won a \$25,000 first prize, but may also be put into commercial production by the competition sponsor Staples.

Farhan, a fourth-year manufacturing engineering student, said inspiration for the design was close at hand.

"Our assignments have to be well presented and not everyone is going to have a binding machine at home – if it gets to 5pm and the printing shop closes we pretty much can't submit. The BIND is a flexible system that lets you present documents in whatever way you choose," he said.

The BIND has the potential to replace many stationery items such as lever-arch and ring-binder folders, with the only tool needed being a hole punch. They are re-usable, recyclable and can also be used in place of cable ties. •

Hoping to save lives ... Samuel Adeloju (top) and James Morton



Vietnam's social revolution

Vietnam's most vulnerable people will have their lives transformed by an overhaul of the social-work system. Fran Strachan reports on UNSW's involvement.



The Vietnam that's glorified in the travel pages isn't the one I've experienced in the past six years," says Professor Richard Hugman from the School of Social Sciences and International Studies.

Working as an international consultant to UNICEF and the Vietnamese government, Hugman has divided his time between UNSW and Hanoi and Ho Chi Minh City over the past six years developing the country's first modernised, social-work system in more than 50 years.

It's meant witnessing the dark side of Vietnam – the trafficking of young women and children, HIV/AIDS, drug abuse, prostitution and severely disabled children living below the poverty line – the hard-core social issues that tourism brushes under the carpet.

After the unification of Vietnam in 1975, social work was deemed unnecessary. It was only when the country moved to a market economy in the mid-1980s and traditional community support networks broke down that the government recognised the need for a state-sponsored system.

"Social work in Vietnam is still very much in its infancy and the existing social services are provided by the government and volunteers who have very limited education and training," says Hugman.

Called "barefoot social workers" these volunteers are highly respected and offer invaluable support to families and individuals in need, but their skills are dwarfed by the monumental problems with which they deal.

Hugman admits his background as a practising social worker in the UK and subsequent years teaching students did not fully prepare him for the confronting situations he observed in Vietnam.

"It took Australia 30 years to develop a social-work system – so to do this in a decade will be a huge achievement."

"I met a single father and his quadriplegic daughter who were existing on less than a dollar a day," he says. "The young girl's world was limited to what she could see from the mattress she lay on – there was no money for food, let alone a wheelchair, and only an untrained support person to offer them advice."

It's estimated that only 50 to 60 people hold degrees in social work in a country of 85 million people. Although there are now 30 approved undergraduate social-work programs in Vietnam, there simply aren't enough qualified people to teach and no institutions offer postgraduate degrees.

"Part of my role with UNICEF is to create a coherent strategy for creating professional social work in Vietnam. I'd like to think that in 10 years' time the father and daughter I described will receive the financial, emotional and educational support they deserve, from a professional social worker," says Hugman.

But there are more issues to tackle than just training. The main focus of Hugman's work has been to assist in devising appropriate structures for the effective provision of social-work services to individuals and communities.

"The relevant services need to grow as well; health, support, education. The current plan is for social work to be a key part of the social services network," he says. "In an ideal world social workers would be part of the public health system, as they are in Australia."

The roll-out of the program will take Hugman to Vietnam periodically for the next 10 years.

"It took Australia 50 years to develop a professional social-work system, and the UK took 50 years – so to do this in a decade will be a huge achievement," he says.

"There's a commitment from all the people involved in this project to make Vietnam a better place to live, using approaches that are appropriate for the country. Ultimately, the goal is to give social work in Vietnam a Vietnamese face." •

New books by UNSW staff

A selection of titles that are hitting the bookshelves.

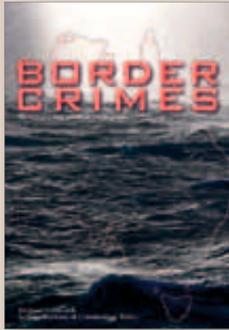


Author: Professor James Franklin from the School of Mathematics and Statistics.

Title: *What Science Knows and How It Knows It*

In *What Science Knows*, James Franklin explains in captivating and straightforward prose how science works its magic. He examines the limits of science, giving special attention both to mysteries that may be solved by science, such as the origin of life, and those that may in principle be beyond the reach of science, such as the meaning of ethics. *What Science Knows* will appeal to anyone who wants a sound, readable and well-paced introduction to the intellectual edifice that is science.

Publisher: Encounter Books



Author: Dr Michael Grewcock from the Faculty of Law

Title: *Border Crimes*

In this powerful and compelling book, Michael Grewcock eloquently exposes the organised criminal abuses and violence perpetrated by states against one of the world's most vulnerable populations. Through the lens of a state crime framework he traces the political and historical antecedents of Australia's asylum policy and practice. Intelligently written and thoroughly researched, *Border Crimes* persuasively argues that Australia's treatment of asylum seekers could itself be regarded as a criminal act.

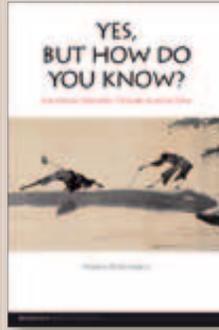
Publisher: The Federation Press

Author: Professor Stephen Hetherington from the School of History and Philosophy

Title: *Yes, But How Do You Know?*

Yes, But How Do You Know? is an invitation to think philosophically through the use of sceptical ideas. Hetherington challenges our complacency and asks us to reconsider what we think we know. How much can we discover about our surroundings? Can we trust our own reasoning? Hetherington addresses these questions and more, using scepticism to illuminate many perennial philosophical puzzles.

Publisher: Broadview Press

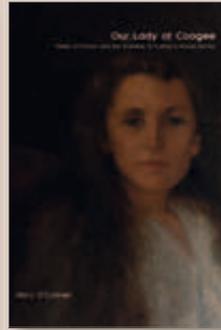


Author: Dr Mary O'Connell, External Relations Administrator in Civil Engineering

Title: *Our Lady of Coogee*

In 1911, 19-year-old Eileen O'Connor established Our Lady's Nurses in an effort to provide free nursing care to the poor in Sydney. She co-founded the charity with her spiritual partner and local priest Edward McGrath. Their close relationship and Eileen's position of spiritual leadership within the Catholic community created great unrest within the Sydney Church hierarchy. This book is a story of resilience and devotion in an uncompromising social and religious structure.

Publisher: Crossing Press



Author: Dr Peter Schrijvers from the School of History and Philosophy

Title: *Liberators – The Allies and Belgian Society, 1944–1945*

In the autumn of 1944, Belgium was liberated at lightning speed. Yet Allied troops continued to dominate much of Belgian society until late 1945. This revisionist account reveals that during that time, strong currents of discontent began to build beneath the waves of gratitude and admiration. Despite all this, however, the countries and cultures that the Anglo-American troops represented still exerted substantial attraction and influence, causing them to have a lingering impact on Belgian society in ways that would set the tone for the remainder of the turbulent twentieth century.

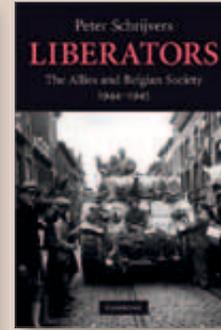
Publisher: Cambridge University Press

Editor: Craig Stockings from ADFA

Title: *Zombie Myths of Australian Military History*

Zombies are very hard to kill. And no matter how many times you try, they keep coming back to life. Just like zombies, Australian military history is peppered with myths that refuse to die. In this book, leading military historians tackle the ten most enduring myths such as there being no Aboriginal resistance to occupation, the Gallipoli landings being in the wrong spot and the triumphal success that was East Timor.

Publisher: NewSouth Books



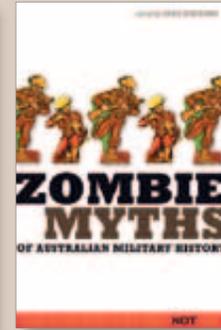
Author: Dr William Walker from the School of English, Media and Performing Arts

Title: *'Paradise Lost' and Republican Tradition from Aristotle to Machiavelli*

This major interdisciplinary study re-examines the political thought of John Milton, one of the celebrated proponents of the "Commonwealth and Free State" that was established in England in the mid-seventeenth century. Walker shows that in his epic poem, *Paradise Lost* (1667), Milton presents a heterodox Protestant vision of politics. This vision differs radically from the vision of politics presented by republicans from Aristotle to Machiavelli, and by Milton himself in his major political prose.

Publisher: Brepols Publishers

Suggestions for new books to include in the next issue of *Uniken* should be sent to uniken@unsw.edu.au.



Diary

- 28 July** Utzon Lecture Series: Urban Nation – Australia's Planning Heritage. RSVP to 9385 4800
- 27-28 July** Hothouse: Cultural ecology and sustainable urban environments, hosted by COFA's National Institute of Experimental Arts at the Opera House. Bookings through the Opera House.
- 6 Aug** Lunch Forum – Boards in the New World – Australian Board Leadership. enquiries@agsm.edu.au. Bookings essential.
- 6 Aug** Lunchtime Concert of Film Music, 13.10 to 14.00. Location: Sir John Clancy Auditorium, free. UNSW Orchestra plays music from movies including *Raiders of the Lost Ark* and *The Pink Panther*.
- 11 Aug** Utzon Lecture Series: E-waste Designing out Obsolescence. RSVP to 9385 4800
- 24 Aug** Human Factors in Aviation. RSVP to 9385 6912
- 28 Aug** Australian Defence Force Academy (ADFA) Open Day

For further information about events, go to www.unsw.edu.au/events.



5:00 minutes with ...

Kathy Bail, Chief Executive of UNSW Press

She's had her name on some of this country's most well-known publications – from *Rolling Stone* through to *The Bulletin*, *HQ* and most recently *The Australian Financial Review Magazine*.

Now Kathy Bail has made the leap to the world of publishing, as the chief executive of UNSW Press.

"I don't think I'm leaving journalism behind," she notes. "I'll continue to work with journalists who are interested in writing books."

She admits to having her eye on a few writers she's already worked with, but the biggest challenge is the launch of a range of e-books towards the end of this year.

The e-book and print-on-demand services will ensure the survival of some academic works with smaller audiences, she believes.

"I want to maintain a mix of general serious, non-fiction books – like you'd find in Gleebooks or Borders – as well as some scholarly and reference books," she says. "The trick is in getting the balance right."

"If the list was all scholarly books, which require subsidy, it wouldn't work financially."

"At *Rolling Stone*, I shared a pipe with Hunter S Thompson."

If you get appealing non-fiction books out into the trade, chances are you will get positive sales and do well with them."

This approach has been successful for Melbourne University Publishing, where Bail was a board member from 2005 to 2006.

"I think a university press is an excellent way to reach out into the community," she observes. "You can make an intellectual and cultural contribution through books and websites. They are a shopfront for the university, if you like."

Bail points out UNSW Press is unusual because it is involved in all the stages of a book – from publishing to sales, marketing and distribution (NewSouthBooks) and retail through the UNSW Bookshop and the second-hand outlet on campus.

While Bail thought she was leaving deadlines behind, she has found when you are producing about 60 books a year, they keep coming.

Another of her journalistic skills has come in handy – she hasn't forgotten the power of a good cover: "I think it's important to get the format, colours and image of the book right. You don't want to let down strong words and information by putting them in a weak package."

What's one thing people might not know about you?

I try to make sure that there's more than one thing that people don't know about me.

What is one of your favourite movies?

We've been having a mini-Kurosawa film festival at home. I think he's an extraordinary filmmaker.

A book that changed your life?

Books changed my life. I can't imagine living without them. At the moment I'm reading manuscripts. One that's remained on my bookshelf is *Memoirs of Hadrian* by Marguerite Yourcenar. It resonates with me on many levels, particularly the way she writes about history and love. She explores ideas and emotions, which are meaningful in whatever times you live.

What is one story you remember in particular from *Rolling Stone*?

Sharing a pipe in the Manhattan office with Hunter S Thompson. I lived to tell the tale but it's a long one. Another memory is Kurt Cobain's suicide, which seems grim. We had an interview with Cobain at the printers. We had to say, "Hold the presses" and changed the cover line to "The final interview". What was surprising was what his act unleashed. There was a generation talking about social issues highly relevant to them that had received very little media attention. *Rolling Stone* and the alternative press captured their mood. From then on, there was more coverage of popular culture across the media. It made me realise the significance of being close to your readers and understanding what they want. I've carried that through ever since. •

By Susi Hamilton



Name: Dr Jaco Lok

Position: Lecturer

Faculty: School of Organisation and Management, Australian School of Business

Research: I'm looking at microfinance in developing countries, which involves small loans to farmers, shop keepers, and family businesses, applying capitalist logic to aid the poor. By borrowing they can develop a business, for example by buying more livestock. The success of the Grameen Bank, which now serves more than seven million poor Bangladeshi women, was a pioneer in the field. Now an increasing number of banks and NGOs are getting involved, trying different methods. Some banks may charge up to 100 per cent in loan interest, arguing that if they did not offer the money, borrowers would go to loan sharks, and be charged even more.

This reflects the tension between two different development philosophies: one based on creating a profitable financial infrastructure that is accessible to everyone and one that sees microfinance as a social good that should be tied to other development such as emancipation and education. I want to look at how the contradictory tensions between profit motivation and poverty alleviation are resolved on the ground, by examining how these play out between loan officers and small entrepreneurs.

Inspiration: I find any cultural field that is characterised by contradictory tensions fascinating and I am interested in how people and organisations resolve these tensions. In some of my earlier work I examined homosexual church ministers who have to resolve the tension of feeling called to a church that wants to exclude them from ministry, based on their sexual identity. In my research I try to expose the hidden power relations involved in cultural fields that marginalise some people, offering ways in which these relations can be changed to serve a broader social purpose.

Dr Jaco Lok has recently won the AGSM Teaching Excellence in an Elective Course Award as well as the Australian School of Business Research Award. He spoke with Julian Lorkin.