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VOICE ONLINE

Katherine Smith

MANAGING EDITOR

The Life of I: The New Culture of Narcissism

Written with the pace of a psychological thriller, The Life of I is a compelling account of the rise of narcissism in individuals and society.

Anne Manne examines the Lance Armstrong doping scandal and the alarming rise of sexual assaults in sport and the military, as well as the vengeful killings of Elliot Rodger in California. She looks at narcissism in the pursuit of fame and our obsession with ‘making it’. She goes beyond the usual suspects of social media and celebrity culture to the deeper root of the issue: how a narcissistic character-type is being fuelled by a cult of the self and the pursuit of wealth in a hypercompetitive consumer society.

The Life of I also offers insights from the latest work in psychology, looking at how narcissism develops. But Manne also shows that there is an alternative: how to transcend narcissism, to be fully alive to the presence of others; how to create a world where love and care are no longer turned inward.

Anne Manne’s latest book shows the destructive elements of narcissism at work in a culture obsessed with itself.

Far from being the work of a madman, Anders Breivik’s murderous rampage in Norway was the action of an extreme narcissist, according to Manne. As the dead lay around him, he held up a card asking for a Band-Aid.

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About the author

Anne Manne is a Melbourne writer. She has been a regular columnist for The Australian and The Age. More recently her essays on contemporary culture such as child abuse, pornography, gendercide and disability have all appeared in The Monthly magazine. Her essay ‘Ebony: The Girl in the Room’, was included in The Best Australian Essays: A Ten-Year Collection. Her book, Mothership: How Should We Care for Our Children?, was a finalist in the Walkley Award for Best Non-Fiction Book of 2006. She has written a Quarterly Essay, ‘Love and Money, The Family and the Free Market’, and a memoir, So This is Life: Scenes from a Country Childhood.

This month’s featured MUP publication is The Life of I: The New Culture of Narcissism, by Anne Manne.

MUP Publications

Congratulations to Meg Rennie of Brighton, who was the first Voice reader to correctly identify that The Great Ocean Road is the largest official war memorial. It commemorates soldiers who died in World War 1.

To win a copy of The Life of I: The New Culture of Narcissism email your answer to the following question by Monday 13 September 2016 to voice-competition@lists.unimelb.edu.au

Q: What is the name of the standard classification publication – and who publishes it – which defines the personality disorders, of which narcissistic personality disorder is one of the more commonly occurring conditions?

WIN!
Believing in an innovative future for immunology

Chris Weaver profiles eminent scientist and Melbourne Nobel Laureate Professor Peter Doherty.

Laureate Professor Peter Doherty AC is one of just 13 Australians to have won the Nobel Prize, which he received (along with Swiss immunologist Professor Rolf Zinkernagel) in the category Physiology or Medicine in 1996, in recognition for discovering the nature of cellular immune defence.

Originally trained as a veterinary scientist, Professor Doherty was drawn to research at an early age.

“I always intended to do research and I intended to do research on diseases in large, domestic food-producing animals,” he says.

“I was inspired by a cousin who had done medical research – he was a medical epidemiologist who discovered the Ross River virus.”

Another early inspiration was Sir Macfarlane Burnet, the Nobel Prize-winning Australian virologist and immunologist who predicted acquired immune tolerance.

“Burnet wrote some very clear and lucid books that I found to be quite inspiring,” Professor Doherty says.

“Then when I did my PhD at Edinburgh, I became intrigued by the antibody-forming cells that we found were going to the brain.”

Professor Doherty realised there were limits to his immunity knowledge, returning to Australia to study further.

“I went to the Australian National University to discover more about the T cells – and that was that,” he says.

“I would have ended up in the CSIRO lab at Geelong, but made a very big discovery and so spent the rest of my life in medical research.”

Today Professor Doherty spends around nine months of the year based at the University of Melbourne, with much of the remainder of his time spent at St Jude Children’s Research Hospital in Memphis, Tennessee, where he holds a Chair in biomedical research.

He is a Campaign Patron for Believe – The Campaign for the University of Melbourne, the most ambitious philanthropic campaign in Melbourne’s history.

“I see the Campaign as very important towards development of the University,” he says.

“It gives the University some flexibility in its operations and ensures it is not dependent on government funding alone.”

Professor Doherty is a champion of scholarships and bursaries for bright students – one of the Campaign’s core targets.

“I would like to see more scholarships,” he says.

“It’s very characteristic of American universities that if you have the ability, your capacity to pay quite frankly doesn’t matter.”

Professor Doherty is now the namesake of the Peter Doherty Institute for Infection and Immunity also the Institute’s new multi-storey building on the corner of Elizabeth and Grattan Streets.

The Doherty Institute houses a new coalition of microbiology and immunology experts to lead the fight against infectious human diseases. It will be a world-leading centre of infectious disease research.

“What’s truly unique about the Doherty Institute is that it’s not just housing the academic department – it will also bring in affiliated bodies such as the state virus diagnostic laboratory, the bacterial diagnostic laboratory, the Royal Melbourne Infectious disease physicians and the WHO (World Health Organization) influenza centre,” Professor Doherty says.

“With the exception of parasitology, we will concentrate the infectious disease experts associated with the University of Melbourne.”

Located in Melbourne’s renowned Parkville Precinct, the Doherty Institute will be part of a healthcare, research and education hub using research to inform and enhance medical practice. In turn, that practice informs further research.

“The aim is that the Institute will give us this mix of the practical, applied and best available basic science,” Professor Doherty says.

“It will be unique for Australia and – quite frankly – most places in the world.”

Professor Doherty remains excited by the prospect of interdisciplinary, collaborative research available at the Institute.

“A lot of the developments that are really novel happen at an interdisciplinary level,” he says.

“If you interface two different areas, you challenge a lot of assumptions, which is very important – particularly in medical science.”

An innovative future awaits infectious disease research in Australia.
Antibiotic resistance: the global public health threat of the 21st century

With the rapid and widespread emergence of resistance to antibiotics, many drugs crucial to controlling life-threatening diseases—such as pneumonia, bloodstream infections and urinary tract infections—are becoming less effective. By Elizabeth Brumby.

In April, the World Health Organization released its first comprehensive review of global antimicrobial resistance. The findings of the report revealed that antimicrobial resistance—the ability of bacteria and other bugs to resist the effects of an antibiotic to which they were once sensitive—is now a major threat to public health around the world.

According to WHO, “far from being an apocalyptic fantasy, a post-antibiotic era in which minor infections and common injuries can be deadly is a very real possibility for the 21st century.”

Professor Mike Richards, Director of the Victorian Infectious Disease Service (VIDS) at the Royal Melbourne Hospital and the Doherty Institute, says as a result of antibiotic resistance, diseases that were easily treatable in the past have the potential to be life-threatening. In particular, resistance is occurring across infectious agents responsible for many common, serious diseases, like bloodstream infections, diarrhoea, pneumonia, urinary tract infections, gonorrhoea and tuberculosis.

These multi-drug resistance pathogens—commonly called ‘super bugs’—pose significant challenges both in the community, and in particular, in hospital settings.

Intensive antibiotic therapy is often needed for the support of patients in intensive care units, patients who have undergone major surgery, and patients who are immunosuppressed for the treatment of cancer or organ transplantation.

“Bugs that are almost untreatable with antibiotics are not just a problem for people getting pneumonia in the community, they are a particularly challenging problem to deal with in our hospitals,” Professor Richards says.

“If we have super bugs in our intensive care units and oncology wards, this will threaten our ability to treat cancer patients who develop bloodstream infections. It will threaten our treatment of multi-trauma patients, and it will threaten our ability to treat patients undergoing organ and bone marrow transplants.

“It’s a huge threat to healthcare internationally. Overseas, we have already seen scenarios where intensive care units have had to close due to treatment failure and high mortality of antibiotic resistant infections.”

The development of drug resistance is thought to be accelerated by the inappropriate use of medicines—such as a patient failing to finish a course of antibiotics, healthcare professionals prescribing and dispensing antibiotics to treat viral infections, or doctors using broad spectrum antibiotics when simpler, narrow spectrum agents would be equally effective.

The WHO report also identified that although the issue is gaining traction on the international health agenda, major gaps remain in global knowledge and consensus around how to address drug resistance and improve public health interventions to stop its spread.

The establishment of the Doherty Institute, Professor Richards says, is an opportunity for Australia to play a leading role in fostering innovation and research and development of new strategies to tackle antimicrobial resistance.

“For some time, Australia has had an international strategy outlining how we would address a flu pandemic. Now, in an important next step, we’re beginning to develop a comprehensive strategy for how we are going to, as a nation, address the problem of antimicrobial resistance. This strategy is necessarily multi-disciplinary and multi-dimensional.

“The partners in the Doherty Institute with other collaborators are leading initiatives for surveillance of infections in hospital settings, identifying resistant bacteria and using state-of-the-art genomics to understand why resistance is developing,” he says.

“At the same time, infectious diseases physicians, pharmacists and epidemiologists are leading innovative programs on ‘antimicrobial stewardship’ – the promotion of optimal use of antibiotics. We are international leaders in this area.”

The Doherty Institute will work closely with other groups in the University and the Parkville precinct, including the Faculty of Veterinary Science. A growing area of concern is the growing use of antibiotics in healthy livestock and poultry and the impact this has on resistance.

“Human health and animal health are intimately linked,” Professor Richards says.

“There is a growing recognition that we need to bring vets and doctors together in our research. Even larger volumes of antibiotics are used in animals than in people. Antibiotic resistance develops in animals, and these resistant bugs may end up in our food chain, and are occasionally transferred to us from companion animals.

“There have been no new classes of antibiotics developed in the past 25 years, and the development of new drugs could take more than a decade, according to experts.

“With a threat and challenge of this scope, says Professor Richards, the existence of institutes like the Doherty – which combine surveillance, laboratory capacity, and leadership in promoting eradication among health practitioners and policymakers – is more important than ever.

The Doherty Institute will work closely with our partners in the Australian Government, state and territory governments, and other nations around the world, to ensure that our research can be translated into new treatments and interventions to stop the spread of drug resistant bacteria and viruses.”

What can we learn from the African Ebola outbreak about the global threat of infectious diseases?

In an ever-shrinking world, Australia has a lot to learn from the current Ebola outbreak. Kate Dukes speaks to the Doherty Institute’s Mike Catton and Julian Druce about their work in keeping us safe from infectious diseases.

The current Ebola outbreak is the largest outbreak to date. Spanning four West African countries, it has already killed more people than the total number of people who have previously died from the disease.

Normally, Ebola outbreaks are quite similar and start with a general cluster which is quickly contained. Although this outbreak currently has a mid-range fatality rate compared with other outbreaks, the reality of the virus spreading from third country to fourth country by air travellers highlights that things could have been different if this outbreak had been quickly contained.

The head of the Victorian Infectious Diseases Reference Laboratory (VIDRL) based at Melbourne Health and now part of the Doherty Institute, Dr Mike Catton, emphasises that we have to be vigilant to the threat of infectious diseases.

“We live in a small and ever-shrinking world, so although West Africa is still a long way from Australia, which is helpful in relation to the West African Ebola outbreak, we are a very connected globe. There are other viruses like Middle Eastern Respiratory Syndrome virus (MERS) and SARS which are closer and probably greater threats to us. As such, vigilance and preparedness is very important and amplifies a key role for places like the Doherty Institute,” Dr Catton says.

VIDRL, in its role as a diagnostic and public health lab, houses one of only three high-security PC4 suit labs with the highest level of containment in the southern hemisphere. The PC4 lab has restricted access and to enter people must wear a heavy-duty suit with a dedicated air supply. After leaving the lab, a chemical shower is required to ensure that diseases aren’t brought back into the outside world.

Having this lab within the Doherty Institute enables senior scientist Dr Julian Druce and his team to test for infectious diseases, including dangerous ones like Ebola, without risk of harm to the scientists or the public.

It also bestows important responsibility on the Doherty Institute and VIDRL, which plays a number of important roles to ensure that we are safe from the constant threat of infectious diseases on a state, national and international level.

“A current priority for Dr Druce’s team is fulfilling general public health responsibilities and testing for infectious diseases such as measles, which is still an issue despite it previously being eradicated from Australia. Technology has changed the speed of delivery and enabled a high degree of accuracy in testing for these diseases.

“We can do very rapid tests that can turn around an answer in a few hours from the sample arriving at the front door to going through whatever containment facility that is needed, to initial processing, to an answer coming out — whether it be from an adjacent suburb or on the other side of Australia,” Dr Catton says.

“We can also now go from a virus being newly detected somewhere in the globe to having a test that we’re confident will work quite quickly, in a matter of days.”

Dr Druce’s team also does testing for travel-related viruses such as dengue fever, and local viruses including influenza. The Doherty Institute houses the WHO Collaborating Centre for Influenza to which Dr Druce’s team provides samples to identify the virus strain to put into the next year’s flu shot.

“This highlights the importance of the Doherty Institute’s structure, which has already provided opportunities for collaboration with other teams in the new building.

“Our infectious diseases physicians and clinicians used to be based in the Royal Melbourne Hospital but have since moved to the Doherty Institute, which immediately created a better relationship as we regularly see the scientists in the tea room,” Dr Catton says.

“Having these facilities means that Australia can be better prepared for combating infectious diseases, like those we’ve seen in West Africa.”

www.mdhs.unimelb.edu.au

www.doherty.edu.au
Elizabeth Brumby speaks with the inaugural Director of the Doherty Institute, Professor Sharon Lewin.

SL: Great advances in Science and Medicine in all need teamwork – there’s just no such thing as working in isolation in your laboratory, in your institution, in your city, in your country. It’s all about collaboration: working with the best people, with the best technologies. All of our researchers in the Doherty are top-level investigators who have numerous collaborations across the city, country and world.

VOICE: What is the Doherty Institute?

SHARON LEWIN: The Doherty Institute is a joint venture of the University of Melbourne and Melbourne Health (The Royal Melbourne Hospital) to establish a world-leading institute in infection and immunity. Our vision is to be the world leader in responding to and managing infectious diseases, combining research into infectious diseases and immunity with teaching excellence, reference laboratory activities, diagnostic services, epidemiology and clinical care.

VOICE: What is the significance of co-locating the multiple disciplines involved in controlling and eliminating infectious diseases in the one building?

SL: We often talk about bench to bedside and bedside to bench research, and in infectious diseases it’s that much more complicated because it involves communities and populations. The Doherty Institute is working across the spectrum of biomedical science, public health, population and clinical science, responding to known and emerging infectious diseases with the overall goal to develop and test novel vaccines and treatments. So to have all that expertise co-located in one building is tremendously powerful.

For example: in the case of an emerging or re-emerging infectious disease, like SARS, Ebola, tuberculosis, hepatitis, influenza, HIV. Despite the extraordinary advances of the 20th century, old and new infectious diseases remain a major cause of morbidity and mortality worldwide. We've seen new and more virulent forms of disease such as SARS, and the Middle Eastern Respiratory Virus; we've seen new and more virulent forms of disease such as Ebola, we've seen the re-emergence of old diseases, such as tuberculosis; and we've seen the emergence of drug-resistant organisms. I think what we've learnt is that we can't be complacent with infections. They're going to remain with us, and many of them are smarter than we are.

VOICE: How might the Doherty Institute change the way the world diagnostically and treats infectious disease?

SL: There's a lot of incredibly interesting work being done here on HIV, hepatitis, influenza, tuberculosis, drug-resistant bacteria – and understanding how the immune system works. Each of those infections require new strategies for management; some of those require long-term treatment and have no known cure, such as HIV and hepatitis B; others have a vaccine but many more advances are required to develop better vaccines, such as influenza; many of them have no vaccines; and finally, drug-resistant bacteria are a significant problem for hospital-related care. I think we can make some very significant contributions in how infectious diseases are treated and controlled.

VOICE: How will the Doherty approach teaching?

SL: The Doherty will play a leading role in teaching and training the next generation of public health physicians, clinicians, immunologists and virologists. This will happen through teaching at an undergraduate and postgraduate level through the University as well as providing opportunities for PhD, vocational training and specialist qualifications. Given the huge amount of expertise we have at the Doherty, we would also like to play a very significant role regionally in training at all levels, at the undergraduate, postgraduate and professional level as well.

VOICE: What will be the benefit to patients of having infectious disease clinicians embedded within the Doherty?

SL: The Doherty Institute includes basic research scientists, public health laboratories and clinicians who largely work at Royal Melbourne Hospital but also at hospitals across other hospitals in Victoria. I think having clinicians alongside basic researchers is a great model. It's in the corridors of institutes like the Doherty that often problems of major significance are discussed. For clinicians to understand what's possible in the laboratory, and for scientists to understand what's possible in the clinic, will lead to much stronger collaborations and hopefully significant improvements in the way we look after patients with infectious diseases across the country.

SL: What do we need to do in order to deal with the problem of drug-resistant bacteria?

SL: What do we need to do in order to deal with the problem of drug-resistant bacteria – to actually track the origin of that drug-resistant bacteria? The only way to do that is to have the capacities in place before a problem even starts to emerge. Within the Doherty Institute, we are working with the Department of Health and Human Services to try to ensure that when a problem first arises we have the capacity to deal with it, to prevent that problem from then spreading around the world.
Wittgenstein on thinking about thinking

The Tractus Logico-Philosophicus, by Ludwig Wittgenstein, was the latest text explored in the 10 Great Books series. Professor Greg Restall discussed this text that has influenced Twentieth Century philosophers and linguists alike. By Laura Soderlind.

**The Tractus Logico-Philosophicus** is a 1919 work by Austrian philosopher Ludwig Wittgenstein. This was one of his early works, written when Wittgenstein was only twenty, while he was in the trenches and a prisoner of war during the First World War, fighting for the Austro-Hungarian army.

“Wittgenstein was a loner and an outsider and a provocateur,” Professor Restall says.

In this little book, he thinks he has solved all the problems of philosophy. It’s an amazingly bizarre and provocative book.

“Wittgenstein was a loner and an outsider and a provocateur. That’s what makes him so useful to philosophers,” Professor Restall says.

In this book, Wittgenstein took into account the technical advances in the late 19th and early 20th centuries as well as the prevailing mathematical logic.

“Wittgenstein thought it was really important to know how logic, information and knowledge works. But it was really important to know its limits,” Professor Restall says.

The language and structure used by Wittgenstein, somewhat austere and precise to the point of each sentence being numbered and categorized, reflects some of his sentiments about language and communication.

The final breath and sentence of Tractus Logico-Philosophicus is: “What we cannot speak about we must pass over in silence.”

“Wittgenstein was only twenty, while he was in the trenches and a prisoner of war during the First World War, fighting for the Austro-Hungarian army. He looks at the conceptual structure of the different movements of thoughts and what’s involved and the assumptions we make, and how language hooks onto the world. This book explores a new way of thinking about thinking.”

Laura Soderlind

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Squawks, cheeps, chirps and twitters: what does it all mean?

Andi Horvath asks the experts to translate the sweet sounds and raucous cacophony of birds.

**Have you ever wondered?**

As the day draws to a close around dusk, there are certain clusters of trees at particular locations around the suburbs that seem to attract large numbers of birds.

You can’t often see the birds in the trees but you can certainly hear the cacophony of bird chatter. It has the excitement of a schoolyard, the intensity of a sports match with tones of chatter. It has the excitement of a schoolyard, and it is my group, and in the case of territorial birds the Noisy Miners ‘This is my group’, and in the case of territorial birds like the Noisy Miners ‘This is my turf’.

The Noisy Miners are aptly named. These honeyeaters are very vocal, gregarious birds. They also display aggressive male-to-male and female-to-female conflicts. Chicks will also demand unrelated adults nearby feed them. That’s a lot of chatter.

While some species like the Noisy Miners adapt to urban habitats, many species have become extinct or are endangered by habitat destruction.

Dr Rowes works on monitoring species numbers, not with binoculars but by developing a system that places recorders in specific locations and software that recognizes birdcalls.

“Like the phone app Shazam that identifies ‘What song is that?’,” That way we can keep an eye and ear on numbers of these essential members of our ecosystem.

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**Why twilight? What is the yelling match about?**

The dusk gathering cacophony is a phenomenon called communal roosting, and is relatively common among bird species that live in flocks. Dr Hall says: "Birds like starlings, sparrows, various species of crows and parrots can also roost communally at night."

“Possible functions of roosting communally are reducing heat loss (thermoregulation) and safety from predators. In other words, there is safety in numbers, from predators like owls.”

Diurnal birds (those active during the day and inactive at night) can’t see very well at night, so they need to settle into their roosting spot before darkness falls.

“In some cases, the noise may be related to a bit of jostling and conflict over the best locations in the tree. Another possible function of communal roosting is information transfer. Examples could include information about nearby foraging opportunities or simply social information like finding out who is around.”

Dr Karen Rowe, bird researcher and post-doctoral fellow at Museum Victoria says the birds roosting at the Heidelberg supermarket car park appear to be introduced Indian Mynas.

“What is interesting is when you look up into the tree it’s quite difficult to see them, making this perhaps an excellent choice of tree for them.”

Dr Rowe says bird chatter is so diverse because “different species have evolved nuances in their conversations, but in general the bird noises are warnings like ‘Hey everyone, threat approaching’, or courting signals like ‘Hey ladies check me out’.” They are also social like ‘Where is my group’, and in the case of territorial birds like the Noisy Miners ‘This is my turf’.

“Here Wittgenstein is almost peering at something through a microscope looking at something further and further and in finer details,” Professor Restall explains.

The book questions what ideas and thoughts can be put into words and what cannot. "Wittgenstein is almost peering at something through a microscope looking at something further and further in its finer details,” Professor Restall explains.

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**REAL ALONG WITH TEN GREAT BOOKS**

www.zoology.unimelb.edu.au

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Beyond bushfires

In the aftermath of natural disasters like Black Saturday, longitudinal research studies can be effective in alleviating distress in the short term and lay the groundwork for a more productive response over time. Gabrielle Murphy reports.

For much of Black Saturday, Lesley Bebbington was unaware of the disaster unfolding in her hometown of Kinglake. She, along with husband Gregg and younger daughter Georgia, had come down from the mountain early in the morning to help settle her father into residential care in Epping in Melbourne’s northern suburbs.

So it was not until around five that afternoon that she and Georgia got access to a radio and heard the horrifying news of fires raging across Victoria and, by six, that the Kinglake township had suffered devastating loss of life and property.

What then followed was an agonizing wait for news of the safety of Gregg (who’d left them at eleven that morning to return home), and older daughter Virginia who they discovered was in Wondong, unable to leave the house she was in, and surrounded by fire.

The mental anguish the Bebbingtons suffered in the face of, on the one hand widespread destruction and on the other of not knowing specific details, was experienced by untold numbers of people affected that day. Shared, too, was the horror of living through the unprecedented heat, wind, noise and anguish at the time, and loss and displacement thereafter.

For Ngaire Walhout, the separation anxiety involved her caring for two of her grandchildren alone at home in Castella, while her husband and son-in-law were outside somewhere fighting the fires, and daughter Bonnie was away at work at the smoke-filled ‘Yea Hospital dealing with the stream of people seeking treatment and safe haven from the surrounding fires. None of them knew whether their loved ones or homes were safe.

In response to the terrible events of that day in February 2009, the University of Melbourne turned its collective thoughts to how its expertise could be harnessed to help the people, including staff and students, who had and would continue to be affected.

Elizabeth Walters and Lisa Gibbs from the School of Population and Global Health were two such researchers whose ‘Beyond Bushfires’ study was carried out with a range of government and community organisations funded by the Australian Research Council in order to shape decisions about government policy and services required at the local level.

Now in its penultimate year, emerging research findings will be showcased at a seminar to be held at the University of Melbourne on 30 October.

“The major findings fall into two categories – the impacts of the disaster experience, and understanding what makes a difference afterwards,” says Associate Professor Gibbs, Deputy Director of the Jack Brockhoff Child Health and Wellbeing Program.

She explains for example that, while most people were not showing signs of psychological distress three to four years afterwards, in highly affected communities which experienced varying levels of fire impact, as well as in-depth interviews with people with a range of experiences,” says Professor Elizabeth Waters, Jack Brockhoff Chair of Public Health.

The study, exploring the medium to long-term impacts of the Black Saturday fires on individuals and communities, has a focus on mental health and social connectedness.

“The major findings fall into two categories – the impacts of the disaster experience, and understanding what makes a difference afterwards,” says Associate Professor Gibbs, Deputy Director of the Jack Brockhoff Child Health and Wellbeing Program.

She explains for example that, while most people were not showing signs of psychological distress three to four years afterwards, in highly affected communities which experienced varying levels of fire impact, as well as in-depth interviews with people with a range of experiences,” says Professor Elizabeth Waters, Jack Brockhoff Chair of Public Health.

If people like Ngaire Walhout and Lesley Bebbington, academic research studies such as Beyond Bushfires are vital.

“As for the disaster research to be conducted, both now and in the long term. Whether it’s fire or flood or other natural disasters, these things happen and we need to know how better to deal with them and adjust our responses more appropriately if we are to help and to heal.”

The Beyond Bushfires research study is led by the University of Melbourne and conducted in partnership with health and community organisations in local areas including Australian Centre for Posttraumatic Mental Health, Australian Red Cross, Australian Rotary Health, Centrelink, the Victorian Department of Health & Human Services, and the University of NSW, Flinders University and Swinburne University. Emerging research findings will be showcased at the University of Melbourne on Thursday 30 October.

www.beyondbushfires.org.au

‘Road to Recovery’, Bonnie Patterson’s poignant and powerful photograph of two-year old son Sam walking hand-in-hand with his great-grandmother Freda Fraser, captures 90-year old Freda’s willingness to look ahead, Sam’s to look back, and together to move forward on their journey with hope and courage after living through the Black Saturday fires which devastated their hamlet of Castella in 2009.
THE UNIVERSITY OF MELBOURNE

THE UNIVERSITY OF MELBOURNE

New symphony for ANZAC centenary

Louise Bennet talks to one of Australia’s most celebrated composers who has just marked his 70th birthday with the debut of his latest composition, ANZAC, at the Melbourne Conservatorium of Music.

B

arry Conyngham had a late start for a composer, barely writing a note before his 20s.

“I was a jazz musician during my first couple of years studying law at university until I heard all of Bartók’s six string quartets played by the world-renowned Hungarian Quartet. That was literally the moment when I said: I want to do that. Someone said to me that I’d had an epiphany. I had to go away and look up the words, but that’s what it was!”

Conyngham returned to university to study music formally where he met the internationally renowned Australian composer, Peter Sculthorpe.

Conyngham studied harp under Sculthorpe and through him met Toru Takemitsu who is generally accepted as the modernist Japanese composer of the 20th Century.

“I just love Takemitsu’s music. It’s exquisite, it’s just so beautifully poised. Complicated, but also very atmospheric.”

Conyngham studied Takemitsu in Japan where he was inspired to compose a violin concerto that became his first big break, Ice Carving.

“I saw an ice carving festival in Tokyo and thought it was such a poetic experience, carving these beautiful objects and then leaving them in the sun to melt.”

Ice Carving made it into the top three pieces of the International Rostrum of Composers in 1973. The annual forum organised by the International Music Council offers broadcasting representatives the opportunity to exchange and publicise pieces of contemporary classical music.

Conyngham’s next big break was in the early 80s when he was commissioned to write a double concerto for violin, piano and orchestra to celebrate the ABC’s 50th anniversary.

The piece, Southern Cross, was performed by concert pianist Roger Woodward, violinst Wanda Wilkemyska and the Sydney Symphony Orchestra. It also won an ARIA award, which was presented to Conyngham by Sir Elton John.

“Yes, journalists love that!” he says when asked about the presentation.

A very Australian piece about the Southern Cross constellation, it also included variations on Waltzing Matilda.

“I’m still rather obsessed by Waltzing Matilda. In the 70s, under Whitlam, there was a chance to create a national anthem apart from God Save the Queen. They selected Advance Australia Fair but the other candidate was Waltzing Matilda.”

“I think it would be fantastic to have a national anthem that, albeit about a bum and a thief, is so symbolic and poetic and evokes such strong Australian nostalgia.”

Conyngham went from strength to strength also writing symphonies for opera and ballet, film and documentary. Virtually all the orchestras in Australia, the London Symphony Orchestra and orchestras in greater Europe, Asia and America have played his music.

Conyngham’s music is about being Australian and in 1997 he was made a Member of the Order of Australia.

“I often said to Peter [Sculthorpe] that for him it was about Australian landscapes and people, while I’ve tried to explore what it feels like to be an Australian, whether you’re an immigrant or your predecessors go back seventy-thousand years.”

“Last year, on ANZAC Day, I was living opposite the War Memorial in Melbourne. I don’t know why, but I woke up at about 4am and remembered that it was ANZAC Day. I had never been to a dawn service so I decided to go. It was an extraordinary experience.”

Not leaving behind his prejudice about the inherent craziness of war, Conyngham couldn’t deny how powerful the experience was.

“It is an amazing human activity to have someone go off and fight in a war. The depth of emotion and the shared experience, not only by the people who fight but by the people who belong to the people who fight. Whether they are children, parents or friends.”

“One other thing that I found fascinating is that now the parade includes former enemies. It seems a kind of acknowledgement that this isn’t a glorification of war but a genuine attempt to give homage to all the people affected by war.”

“The ANZAC tradition has become a very genuine and unusual national gathering. It’s the one truly unifying day our country has but it’s got this strange history. It’s about a battle that was essentially a disaster, fought in a war the only reason we were involved in was because we were a part of the British Empire.”

“I had in my mind, as a composer, that at some stage I might explore this musically and as next year is the 100th anniversary of the Gallipoli landing, I felt this was the right moment.”

ANZAC is a full symphony with nine soloists, beginning with ‘Dawn’ and ending with ‘Dusk’. Each section of the piece contains a soloist or group of soloists representing a type of mood or atmosphere. Cleverly arranged both musically and structurally, the soloists guide the audience through the experience.

“Rather than simply have nine principal musicians, I wanted to create the space for nine soloists with their own concerto to take the audience through the narrative of the piece.”

The soloists are like characters who can cut from mood to mood with parts ranging from fearful – whether waiting for a battle or waiting for news – to bucolic.

“One of the other things that I find fascinating about the issue of war and battles is that it takes place in nature. Birds are singing and plants are growing and humans are busily trying to kill each other.”

The premiere also showcased the very best that the Melbourne Conservatorium of Music has to offer.

“I’ve used virtually all the full-time instrumental teachers of the conservatorium as soloists and the orchestra is made up almost entirely of University of Melbourne orchestra students. ANZAC was conducted by Brett Dean, another renowned Australian composer, violist and conductor.”

“My attitude to being a composer has always been about creating and relying on really good people. Sometimes I’m not even sure I’m a musician, to me musicians are the wonderfully talented technical people who execute something while I think of music more as an invention you create.”

voice.unimelb.edu.au
Talking up the importance of preserving our urban heritage

Zoe Nikakis talks with Professor Gerard Vaughan, convenor of an international conference exploring the preservation of urban built heritage.

Before Melbourne had historic building legislations, plenty much anyone could pull down anything they wanted, according to Professor Fellow in the University of Melbourne’s School of Culture and Communication, Gerard Vaughan. "There were massive changes to Melbourne in the 1950s, 60s and 70s: as a schoolboy I watched whole parts of Melbourne disappear before my eyes," Professor Vaughan says.

"In those days the National Trust in Victoria led the charge, and fought heroic battles, most of which were unsuccessful. The heritage debate has been raging ever since," he says. Strong debate continues today concerning how the heritage planning system works, the role of the Minister for Planning, Heritage Victoria, and the Melbourne City Council, in the context of needing to balance the protection of the past urban built heritage with the need for new buildings and facilities in a major commercial centre.

So it’s a good time to explore the issues and, Professor Vaughan says, the University of Melbourne is ideally placed to host a forthcoming conversation between local, interstate and international experts, bringing together the heritage lobby, politicians and bureaucrats, architects and architectural historians, and the property development sector.

It will also be an opportunity for members of the community with a general interest in built heritage to get an informed and up-to-date perspective on these issues.

Presented by the Australian Institute of Art History, based at the University of Melbourne, ‘An International Conference to explore approaches to the preservation of urban built heritage, with a focus on Melbourne,’ will take place over three days: 30 September, and 1-2 October.

"It’s not about criticising the process of new developments; it’s about working with it,” Professor Vaughan says.

"The University is a very natural host for such a discussion, which is intended to be a civic discourse, gathering together all the stakeholders.

"The University is part of the city of Melbourne, geographically embedded in the city, and it also manages significant heritage stock of its own. And, like the city of Melbourne, it has its own chequered history in relation to its historic buildings.”

Professor Vaughan says this conference is about trying to understand what the issues are, what the processes are, what their history is, and whether there might be better, more efficient ways of dealing with the heritage debate, in a better informed civic arena, so that decisions about what can and can’t be changed, altered and demolished are presented and argued transparently.

"There appears to be a lot of uncertainty, and if that can be replaced with certainty then we’ll be in a much stronger position in terms of managing the architectural future of the city of Melbourne.”

In the spirit of this aim, the Lord Mayor Robert Doyle and the Minister for Planning, Matthew Guy, are focusing on the respective roles of the City of Melbourne and the Minister. The City of Melbourne has also provided a grant to enable several high-profile international speakers to attend the conference and speak about heritage concerns and processes overseas, and there will be a special emphasis on urban heritage in Asian cities on the first day.

The keynote speaker, Professor Andrew Saint, is a senior adviser to English Heritage, and currently General Editor of the influential Survey of London. He is a former Professor of Architecture at Cambridge University.

University speakers include Professor Jaynie Anderson, head of the Australian Institute of Art History, as well as Professors Kate Darian-Smith, Philip Goad and Don Bates from the Faculty of Architecture, Building and Planning, and Shane Carmdoy of the Bailleu Library.

While Dr Vaughan’s professional interests have been concerned with management of museums, he grew up in Melbourne and has a longstanding interest in both his historic and contemporary architecture, so this is an issue of great interest to him.

"It’s worth reflecting on the history of the urban heritage debate in Melbourne. If you look at the history of architecture in the CBD, every generation has replaced buildings of the previous generations.

"The buildings of the 1850s and 60s were replaced in the property boom of the 1880s. A lot of good buildings were then pulled down after 20 or 30 years, and that’s gone on ever since.

"We need to accept there will be a mixture of old and new buildings in a commercial centre like Melbourne, but it’s about asking ‘How can this process take place in an ordered, predictable and reasonable way?’

"It’s about certainty, which is crucially important. On one hand, we have a legislative structure that supports it, on the other, we have unending public outcry concerning the demolition of historic buildings.’

The conference will be a forum for contributors and attendees to speak their minds and voice concerns, to get everyone talking to each other.

"We would like to see discussion about the quality of architecture in the City of Melbourne,” Professor Vaughan says. “Today’s new buildings will be tomorrow’s heritage. We need a renewed sense of a civic vision for Melbourne’s architecture.”

One and three-day conference tickets are still available. For more information and registration: www.artinstitute.unimelb.edu.au/events/urban_heritage

Learning and facing

The renowned Tjanpi Desert Weavers have visited the University for a series of three masterclasses for Fine Arts students. The Weavers worked with undergraduate, postgraduate and PhD students from the Victorian College of the Arts (VCA) and the Melbourne Conservatorium of Music (MCM).

Building on the traditions of using natural fibres to create objects for medicinal, ceremonial and daily use, the Tjanpi – or ‘dry grass’ – Weavers are women who come together to visit sacred sites and traditional homelands, hunt and gather food for their families and teach their children about country while collecting grasses to sculpt and weave.

Students worked directly with the accomplished artists to learn new techniques and expand upon their own diverse disciplines in painting, drawing, music, sculpture and spatial practice as well as film and television.

Sculpture student Tia Mavariie said the visit was a highlight: "I feel honoured to have had the opportunity to learn the ancient art of weaving first hand from those special women."

"I’m finding it to be an extremely rewarding and meditative practice.”

Tinku Onus, lecturer in Indigenous Knowledge and Cultural Practices at the Wiin Centre for Indigenous Arts and Cultural Development, said the masterclasses were a precious experience for budding artists.

"Too often there is a false distinction drawn between craft and fine art,” she says.

"The women from the Tjanpi Desert Weavers are contemporary fine artists, as well as seasoned teachers, performers and cultural ambassadors who not only maintain traditions within their own art form but also innovate upon them.”

Today there are over 400 women across 28 communities making baskets and sculptures out of grass. Working with fibre in this way is firmly embedded in Western and Central Desert Indigenous culture.

— By Louise Renet
Translating ideas into action: Carlton Connect

When we think about some of the challenges the world is facing today, and will face over the next century, it’s easy to look at them as being too big, too complex and too overwhelming to tackle.

For instance, the United Nations (UN) predicts that by 2030, the demand for food will be 60 per cent higher than in 2012. Population growth, agriculture, urbanisation, and climate change also pose great challenges to the sustainable use and management of water.

Tackling these ‘grand challenges’ will require connections, collaboration and innovation across different academic disciplines, industry sectors, and levels of government.

The Carlton Connect Initiative, led by the University Of Melbourne, is an ambitious strategy to unite talented people who share a desire to tackle some of our biggest sustainability and social resilience challenges, as well as a passion for designing new ideas and technologies to help secure Australia’s future.

From September 30-October 2, the Carlton Connect Conference (#14CCC) will bring together industry, government and academia to discuss how we can approach some of these grand challenges and the innovative and solution-driven partnerships required to solve them.

Featuring keynote lectures, panel discussions and networking events, speakers and attendees at #14CCC will explore the grand challenge (as identified by the United Nations Sustainable Development Goals 2015-2030) of Sustainability and Resilience, and specific issues such as those relating to Food, Water, Energy, and Urban Futures. The conference will also consider the status of efforts to respond to climate change, as well as the opportunities and threats presented by pervasive information technologies.

With speakers who are experts in their field from organisations such as the Climate Change Authority, Asian Development Bank, the United Nations and Victorian State Government, the conference will also look at the ways in which our ideas and technologies can be translated into action – the essence of that much over-used word, “innovation”.

The challenges to be examined at #14CCC do not respect traditional disciplinary and organisational boundaries. Therefore, in order to effect change, the Carlton Connect Initiative seeks to foster a collaborative approach, connecting people across organisations, allowing each partner to focus on what they do best rather than expecting a single partner to do everything. This conference aims to bring together representatives of key organisations to continue the process of building such partnerships.

Early bird tickets to the conference are on sale until 12 September. For more information, a conference program and to register your place: www.carltonconnect.com.au/conference

Anne Rahilly looks into the experiences of ‘flying dentists’ … dental students who recently spent a day working with the Royal Flying Doctor service.

Three University of Melbourne Bachelor of Oral Health final year students were recently in the heart of the Mallee giving free dental advice to locals.

The students were part of a Royal Flying Doctor Service outreach service at the annual Mallee Machinery Field Days in the town of Speed. The Flying Doctors are bringing more services to Victoria, particularly the Mallee, and this year’s field days at Speed were part of the program.

Farmers from outlying areas and the local community accessed free oral health check-ups in Speed, as part of RDFS Victoria’s Mobile Dental Care program and also learned about the mobile eye care program based at Ouyen.

There were also blood pressure and diabetes checks allowing the opportunity for holistic approaches to health care in one setting.

Associate Professor Julie Satur from the Melbourne Dental School said the local community took advantage of free oral health check-ups, risk assessment and preventive advice in conjunction with a range of other primary health care checks.

“As part of the oral check-up, our young oral health therapists along with dentists from the mobile dental care program also provided advice and a basic assessment which included teeth, gums and general oral health,” Associate Professor Satur says.

“Our students are keen to be involved in this sort of community engagement. They are doing this work as part of a final year subject with a focus on providing dental services for rural and remote and other high needs communities.”

People who live in rural and remote communities have higher levels of gum disease, more untreated decay and more tooth loss than those living in metropolitan areas.

Fluoridation of water supplies is lower and access to oral health care is poorer because most dental and oral health practitioners work in metropolitan areas. This has been recognised by the Commonwealth Government which now funds well-supported graduate year programs to encourage dentist and oral health therapist graduates to work in rural areas.

In their final year, our dentistry and oral health therapy students also rotate through residential clinical placements in Shepparton and Moe, which prepares them well for rural practice.

These positive experiences allow students to consider the broader context of the Australian health care system and results in more graduates choosing to work in rural settings.

Bachelor of Oral Health students graduate as oral health therapists after taking a three-year degree program at the Melbourne Dental School.

Oral Health Therapists are registered dental practitioners who provide dental check-ups, preventive treatments, fillings, extractions of primary teeth, cleaning and treatments for gum disease and importantly, work to promote oral health in the community.

They work alongside dentists to increase the capacity of our dental care system, particularly for those who have poor access to services.

“This is a fabulous partnership between our school and the RDFS which places our students in communities where there is high need for dental care and helps extend the great work the RDFS is doing in bringing health services to those in the bush,” Associate Professor Satur says.

www.dent.unimelb.edu.au

Flying dental checks for Mallee community

Cristen Teen previews the forthcoming Challenges, Partnerships, Solutions: Carlton Connect Initiative Conference.
Sir Isaac Newton – regarded as one of the greatest minds of modern science – was also an avid practitioner of alchemy – the ‘ancient science’ of channeling higher powers to turn base metals to gold and silver, and finding the Elixir of Life. Following is an edited extract of a lecture on the History and Philosophy of Science about Newton’s alchemical practice, delivered recently by William R Newman, Distinguished Professor in the History and Philosophy of Science at Indiana University, Bloomington, US.

Isaac Newton: the last magician

I

saac Newton, like Albert Einstein, is a quintessential symbol of the human intellect and its ability to decode the secrets of nature. His fundamental contributions to science include the quantification of gravitational attraction, the discovery that white light is actually a mixture of immutable spectral colours, and the formulation of the calculus.

Yet there is another, more mysterious side to Newton that is imperfectly known, a realm of activity that spanned some 30 years of his life, although he kept it largely hidden from his contemporaries and colleagues.

In 1936, the world of Isaac Newton scholarship received a rude shock. In that year the venerable auction house of Sotheby’s released a catalogue describing 329 lots of Newton’s manuscripts, mostly in his own handwriting, of which over a third were filled with content that was undeniably alchemical.

These manuscripts, which had been labeled “not fit to be printed” upon Newton’s death in 1727, raised a host of interesting questions in 1936 as they do even today. Was the founder of classical physics an alchemist? And if so, what does this mean?

A large number of these manuscripts were purchased by the economist, John Maynard Keynes, who devoted a number of years to unveiling their secrets. In a famous article, Keynes claimed that Newton was not the first of the age of reason; he was the last of the magicians, the last of the Babylonians and Sumerians, the last great mind which looked out on the visible and intellectual world with the same eyes as those who began to build our intellectual inheritance rather less than 10,000 years ago.

Did Newton pursue his alchemical interests for scientific reasons, or simply because he was swept up in the old dream of transmuthing base metals into gold?

Did Newton discover a secret theological meaning in alchemical texts, which often contain the transcendental secret as a special gift revealed by God to his chosen sons? Or was Newton perhaps attracted to the graphic and mysterious imagery of alchemy, with its illustrations of hermaphrodites, couples copulating within flasks, poisonous dragons, green lions, and lying toads?

None of these questions is made easier by the fact that Newton’s laboratory notebooks, even the one containing the first full description of his brilliant discovery that white light is really a mixture of immutable spectral colours, are filled with recipes patently elaborated from the very alchemically sources that overthrew the manuscripts sold by Sotheby’s in 1736.

Here too, alongside sober explanations of optical and physical phenomena such as freezing and boiling, we find Neptune’s Trident, ‘Mercury’s Caducean Rod’, and of course the ‘Green Lyon’, all symbolizing substances derived from Newton’s alchemical readings. Whatever the ultimate purpose of Newton’s alchemical investigations may have been, it is clear that we cannot erect a watertight dam separating them from his other scientific endeavours.

Recent work in the history of science has shown that alchemy was synonymous with ‘chemistry’ in the early modern period. Chemistry included three basic domains. First, chemists laid claim to a large group of technologies ranging from the making of pigments and dyes and the manufacture of mineral acids to the distillation of ‘strange waters’ for drink.

While often supporting themselves by making these items of commerce, however, chemical practitioners were also at the forefront of early modern pharmacology, having placed a radically new emphasis on mineral-based drugs and an equally important stress on the use of laboratory technologies such as distillation and sublimation in their production. Chemical medicine, or iatrochemistry, was one of the important new fields of early modern science, and the second basic division of the discipline. Third and finally, the attempt to make gold from less precious materials, often referred to by the Greek term chrysopeia, remained a seemingly viable research project for many 17th century chemists.

Newton was involved in all three of chemistry’s major branches in varying degrees, and we make no attempt to impose an anachronistic division of the discipline into modern categories. It is important, rather, to see how chemical technology and medicine were connected to Newton’s involvement with the ‘Great Work’, just as it is important to see how his chemistry was related to his other intellectual and technical pursuits.

http://www.shaps.unimelb.edu.au/history-philosophy-science

[Image]

Laureate Fellowship for historian of child refugees in Australia

W

orld-class research into the history of child refugees in Australia has been rec

ognised by the Australian Research Council (ARC), who recently an

ounced Professor Joy Damousi as a recipient of an Australian Laureate Fellowship.

She joins only 15 other distinguished researchers around the country in receiving this award.

The Australian Laureate Fellowship is the most prestigious individual fellowship the ARC awards. It attracts world-class researchers and research leaders to key positions, and creates new rewards and in

centives for the application of their talents in Australia.

The University of Melbourne’s Deputy Vice-Chancellor Research Professor David McGarvey said these were major fellowships.

“Applicants have to demonstrate not just the outstanding world-class achieve

ments of their research, but the way in which they are well-supported in their own environment – we can see they will be able to build there,” he says.

“The University of Melbourne is com

mitted to research that informs and assists the community and our new ARC Laureates are key leaders in their fields.”

In addition to the Laureate Fellowship, Professor Damousi received the Kathleen Fitzpatrick Award to undertake an ambas

da-diplomate to promote women in hu

manities, arts and social sciences research.

Professor Damousi is from the School of Historical and Philosophical Studies. Her research project will look at the history of child refugees in Australia, and how the past can inform us about current and future approaches to humanitarian immigration.

She joins eight other current Laureate Fellows, all the University exploring big questions in biology, chemistry, engineer

ing, mathematics, physics and health.

Current University of Melbourne Laureate Fellows include: Professor Lloyd Hollenberg (quantum imaging in biology), Professor Peter Taylor (modeling of random phenomena), Professor Frank Caruso (engineering nanomedicine materials), Professor Ivan Marusic (modeling turbulence), Professor Peter Hall (new directions in statistical science), Professor Stuart Wythe (understanding the first galaxies in the universe), Professor Arif Hoffmann (pest control under climate change), Professor Paul Mulvaney (molecular plasmonics).

http://www.arts.unimelb.edu.au

http://www.shaps.unimelb.edu.au
Where is my Quantum computer laptop?

Quantum computing looks to harness the power of individual atoms or superconductors to perform memory and processing tasks and has the potential to take computing to the next level. By Andi Horvath.

While there are no encouraging signs that our hover board or jet packs are on the horizon, we have seen computing power progressively make yesterdays' computers hard rubbish.

Computing has skyrocketed from kilobytes to terabytes, from bulky grey boxes to mobiles, from software to updates, from highways to clouds, changing devices more often than our wardrobes.

Around fifty years ago Gordon Moore, co-founder of the Intel Corporation, predicted technological and social changes ahead as he noted that the number of silicon-based transistors on microprocessor chips doubled every two years. Following on from that, chip performance would in fact double every 18 months.

That's roughly what happened, but recently this growth rate has reached a limit. Industry professionals suggest we reached the turning point in 2013, as we are still growing but at a now slower rate as we approach the physical limits of silicon chips.

We have heard on the grapevine that physicists, mathematicians and engineers are exploring a whole new paradigm in computing at the quantum level. Its touted as smaller and faster computing that is just around the corner, but according to quantum researchers this scenario is not quite right.

There are a lot of public misconceptions about quantum computing, suggesting that it is much faster and much smaller but both of these things are actually false," says Dr Austin Fowler, a physicist who divides his time between the University of Melbourne and the University of California Santa Barbara.

"At the moment the experimental models of quantum computers actually run significantly slower than a conventional computer and they are currently bigger in size too, but they run in a very different way.

"Your current classical computers process numbers quickly but one at a time, however with a quantum computer that has different hardware you can process many things simultaneously. So this new device will eventually solve complex research problems, in a way that no current computer or future computer with silicon chip technology could do.

You are not going to run windows on this type of computer.

"Classical computers use 'bits' which are ones and zeros, whereas quantum computers manipulate special quantum bits (qubits) that can be both one and zero at the same time. A register containing 32 qubits can represent over 4 billion different binary numbers, and this number doubles each time you add a qubit. Each operation in a quantum computer is slower but it changes the value of every number in the register. This type of parallel computing would be very useful for breaking encryption."

Dr Fowler suggests to keep in mind that scientists are still trying to build a quantum computer. "We're not there yet.

"We have small prototypes and people are often surprised there are many physical technologies because there are different approaches under investigation. There are two leading technologies. One is superconducting circuits. The other is ion traps where you have single atoms moving in a magnetic field and manipulated by laser beams or microwaves. They build on atomic clock technology.

"My colleagues and I look at superconducting technology. Our quantum bit technology can be a fraction of a millimeter or sometimes even a centimetre in size, which is quite big, and they operate at no more than 100mK."

"It just goes to show that the popular misconception that quantum must mean small and fast is not true as we actually want our quantum device to be larger. So we can get the wiring in, and the physics sets speed limits that are hard to break.

Dr Fowler says the current experimental research challenges are to build more quantum bits (qubits) and make them more reliable.

"On the theory side, I have a mathematician student working on using fewer qubits to compute, which turns out to be the problem of compressing a particular 3D structure to the smallest possible volume.

"I have another student who is looking at qubits that vanish, for example light (photons) that can get absorbed, so we are working on software that can handle that phenomenon and still achieve reliable computation.

"My UCB colleagues are working on different aspects of implementing superconducting devices, from quantum amplifiers, to superconducting magnetic shields, to control electronics, to better isolation of qubits, to enable more to go on one chip.

"It’s an exciting time in quantum physics as its still not clear which combination of technology, or exotic design will allow us to produce this exciting new device. But we are making quantum leaps, pun intended."
Chemical and Biomolecular Engineering’s Professor Frank Caruso has won the 2014 Victoria Prize for Science and Innovation. By Annie Rahilly.

Professor Frank Caruso from Chemical and Biomolecular Engineering, University of Melbourne has won the 2014 Victoria Prize for Science and Innovation (Physical Sciences).

Professor Caruso leads a team of researchers examining the use of nano-materials for drug delivery, as well as better bio-imaging.

His ground-breaking work heralds a new era of research into nano-scale engineered particles that will improve healthcare and medical outcomes for patients suffering from a number of medical conditions.

He leads the Nanostructured Interfaces and Materials Science Group in the Melbourne School of Engineering.

“My work is varied and complex but it is research that will make a difference to the way we deliver therapies in the future,” Professor Caruso says.

“I am proud and honoured to be given this award and it is a credit to my research team and the support I receive from the University of Melbourne.”

As well as being responsible for many journal papers, Professor Caruso has been recognised internationally and across Australia.

He is ARC Australian Laureate Fellow and in 2012 was awarded the Royal Society of Victoria Medal for Excellence in Scientific Research in the Physical Sciences.

In 2013, he was awarded the prestigious 2013 CSIRO Eureka Prize for Leadership in Science – this category recognises an Australian individual who has demonstrated an outstanding role and impact on science.

Recently, Thomson Reuters announced its Highly Cited Researchers for 2014, listing the world’s leading thinkers in science and engineering whose research papers rank among the top one per cent most cited for their subject field and publication year, earning them the mark of exceptional impact.

Professor Caruso was listed as the top Australian in the Materials Science category. As a member of the Highly Cited Researcher list, Professor Caruso is also included in Thomson Reuters’ 2014 World’s Most Influential Scientific Minds.

Professor Ashley Bush from the Florey Institute of Neuroscience and Mental Health and a University of Melbourne alumnus, has won the 2014 Victoria Prize for Science and Innovation (Life Sciences).

Professor Bush was recognised for his work exploring how key proteins and metals interact to contribute to degenerative brain diseases such as Alzheimer’s.

The award ceremony was hosted by the Victorian State Government, through the Veski program.

The Victoria Prize, worth $50,000 was first awarded in 1998 and celebrates leadership, determination, endeavour and creativity as well as highlighting the many ways in which research and development of international significance are conducted in Victoria.

www.chemeng.unimelb.edu.au/
Visions mini documentaries
Thunderstorm in a laptop. It used to be that computer models of weather events such as thunderstorms could only be run using powerful – and expensive – supercomputers. Now, however, these kinds of models can be run on the humble laptop. Visions explores the democratisation of weather modelling using the example of a spectacular thunderstorm called ‘Hector the Convector’. Available on iTunes, YouTube or via http://visions.unimelb.edu.au

Up Close Podcast
http://upclose.unimelb.edu.au
@upclosepodcast

Putting a price on it: determining the value of the natural world, and its implications for public policy
Conservation ecologist Associate Professor Brendan Wintle considers the difficult questions and dilemmas that arise in decisions around species and ecosystem conservation, and questions whether a monetary value can or should be applied to nature. He also discusses the role of public policy in conservation. Presented by Dr Dyani Lewis. Associate Professor Brendan Wintle is based at the School of Botany at the University of Melbourne. He’s also Deputy Director of the National Environmental Research Program Environmental Decisions Hub.

Online 12 September

Life altering sequence: how discoveries in the life sciences are changing our identities and our politics
Sociologist Professor Nikolas Rose explores how scientific developments have changed conceptions of human identity and governance, and what this means for our political, socio-economic and legal futures. Presented by Lynne Haultain. Nikolas Rose is Professor of Sociology and Head of the Department of Social Science, Health and Medicine at King’s College London.

Online 19 September

Pop economics: how globalisation and asset bubbles produce boom-bust cycles
Economist Professor Jaume Ventura discusses how deep financial integration, a key feature of globalisation, interacts with asset bubbles to produce boom and bust cycles. Presented by Elisabet Lopez. Professor Jaume Ventura is based at the Centre de Recerca en Economia Internacional (CREI) in Barcelona.

Online 26 September

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September Timetable

SUBVERSION
WEDNESDAY 10 SEPTEMBER
6:30PM
Subverting Democracy: Neo-Liberalism, Narcissism and the Care Deficit by Anne Marine
Art lecture
Bookings: http://alumni.online.unimelb.edu.au/whitby
Enquiries: tamsm07@unimelb.edu.au, 8344 8985
PUBLIC LECTURE THEATRE, OLD ARTS BUILDING

TEN GRAND CHALLENGES
THURSDAY 11 SEPTEMBER
1PM
A healthy planet? Ten grand challenges to improving global health by Professor Alan Lopez (University of Melbourne). Medicine, Dentistry and Health Sciences lecture
Bookings and enquiries: http://alumni.unimelb.edu.au/alanlopez, moths.rsp@unimelb.edu.au, 8344 9860
AUDITORIUM, MELBOURNE MUSEUM CENTRE, KENNETH MAYER BUILDING, 30 ROYAL PARADE, PARKVILLE

WHITER UNIVERSITIES?
THURSDAY 18 SEPTEMBER
6:45PM
What’s Happening to Universities? Historical and Comparative Perspectives by Professor Steven Collini (Cambridge University). Arts Dean’s lecture
Bookings: http://alumni.unimelb.edu.au/stefanocollini
Enquiries: tamsm07@unimelb.edu.au, 8344 8985
PUBLIC LECTURE THEATRE, OLD ARTS BUILDING

ECO FUTURE
THURSDAY 25 SEPTEMBER
6PM
Consumerism, Society and our Ecological Future by Professor Tim Kasser (Knox College at Galesburg, Illinois). Sustainable Society lecture
Bookings: http://kasser.eventbrite.com.au
Enquiries: catherine@unimelb.edu.au, 9035 3203
THEATRE 1, 207 BOULVERSE STREET, CARLTON

TUESDAY 9 SEPTEMBER
6PM
Improving the Impact of Evidence-Based Practices: Tied Tier Systems of Support by Dr George Suga (University of Connecticut). Education lecture
Bookings: http://alumni.unimelb.edu.au/George_Suga
Enquiries: o.millick@unimelb.edu.au, 8344 4069
THEATRE 230, LEVEL 2, 234 QUEENSBERY STREET, CARLTON

THURSDAY 11 SEPTEMBER
1PM
What’s Our Story? Environmental Education and Education for Sustainable Development in a Climate of Reform in India by Sivya Arinella (Mohanty University). Australia India Institute lecture
Bookings and enquiries: siva.ai.unimelb.edu.au, akhopra@unimelb.edu.au, 9305 7538
SEMINAR ROOM, AUSTRALIA INSTITUTE, 147-149 BARRY STREET, CARLTON

THURSDAY 11 SEPTEMBER
6PM
From Blitzkrieg to Total War: Germany’s War in Europe by Dr Jürgen Förster (University of Freiburg, Germany). Arts lecture
Bookings: http://alumni.unimelb.edu.au/jfoerster
Enquiries: student@alumni.unimelb.edu.au, 9305 8909
NORTH LECTURE THEATRE, OLD ARTS BUILDING

THURSDAY 18 SEPTEMBER
6PM
Building Information Modelling: Opportunities and Challenges for the Building Industry by Mr Peter Bowtell (Arup). Engineering lecture
Bookings: vanceng@eng.unimelb.edu.au/enetics
Enquiries: events@vanceng@eng.unimelb.edu.au, 9344 1521
THEATRE A, ELISABETH MURDOCH BUILDING, PARKVILLE

TUESDAY 23 SEPTEMBER
5:30PM
PhD Up-and-Comers – meet our next crop of neuroscience-related PhD students
Neuroscience lecture
Bookings: https://eventsupandcomers.eventbrite.com
Enquiries: leith+mcc@gmail.com
AUDITORIUM, MELBOURNE MUSEUM CENTRE, KENNETH MAYER BUILDING, 30 ROYAL PARADE, PARKVILLE

TUESDAY 16 SEPTEMBER
6PM
Drawn from the Ground by Dr Jennifer Green (University of Melbourne). Arts lecture
Bookings: http://alumni.unimelb.edu.au/jgreen
Enquiries: enquiries@events@alumni.unimelb.edu.au, 9305 8909
NORTH LECTURE THEATRE, OLD ARTS BUILDING

TUESDAY 23 SEPTEMBER
5:30PM
POP economics: how globalisation and asset bubbles produce boom-bust cycles
Economist Professor Jaume Ventura discusses how deep financial integration, a key feature of globalisation, interacts with asset bubbles to produce boom and bust cycles. Presented by Elisabet Lopez. Professor Jaume Ventura is based at the Centre de Recerca en Economia Internacional (CREI) in Barcelona.

Online 26 September

TUESDAY 25 SEPTEMBER
6:30PM
Antirealism: a Hazard of Philosophy by Professor Michael Devitt (City University of New York). Arts, Barry Taylor and David Lewis Philosophy Lecture
Bookings: http://alumni.unimelb.edu.au/mdevitt
Enquiries: elisabet@alumni.unimelb.edu.au, 8344 1521
THEATRE A, ELISABETH MURDOCH BUILDING, PARKVILLE

TUESDAY 30 SEPTEMBER
6:30PM
Philosophy as Therapy and Self-Transformation in Seneca by Professor Emeritus Aldo Setaioli (University of Perugia). Arts lecture
Bookings: http://alumni.unimelb.edu.au/aldogether
Enquiries: elisabet@alumni.unimelb.edu.au, 8344 1521
THEATRE C, OLD ARTS BUILDING

The University has used its best endeavours to ensure that material contained in this listing was correct at the time of release. We recommend users of this listing check the information provided with the relevant faculty or department.
Why we care about equality and why we should

Dr Jeremy Moss, Director of the Social Justice Initiative at the University of Melbourne, reflects on why we care about equality.

PUBLICLY SPEAKING

Much has been written recently about the dramatic rise of inequality. Thomas Piketty in his recent work *Capital in the Twenty-First Century*, claims that the “One percent” are steadily increasing their wealth and income to levels not seen since the 1930s. Piketty claims that except for a brief period after World War II, inequality of income and wealth has typically been substantial, and has increased since the return of capital-friendly policies in the West since the 1980s.

Piketty tells us that if we look back to France at the turn of last century we see that the top 10 per cent of the population controlled 80-90 per cent of the wealth. This kind of inequality of wealth far from being a thing of the past, is where we may end up if these trends continue.

This is indeed a state of affairs that concerns many of us. Yet, one of the things that Piketty tells us is why people are living the way they do. Yet, one of the things that people are struggling to live their lives. Yet, one of the things that people are struggling to live their lives.

One of the main reasons that inequality of income and wealth are important is because of their effects, and it is their effects on other kinds of goods that we should have access to. For example, education, healthcare, good jobs etc. So we ought to be clear about why we care about these things.

One of these things are why we care about inequality because of its connection with fairness. For instance, the right to a fair hearing in a court requires that everyone has an equal chance to present their case. Determining what this fair process is requires that we compare them with other people’s access, and without a further principle to regulate the process, this implies an equal opportunity.

So inequality of income and wealth can be unjust both because it has bad effects and because it is unfair in certain circumstances. But if this is correct, then we should expand our conception of equality to include more than just income and wealth. If inequalities of income and wealth matter in part because of their impact on other important goods, then we really should be concerned with whether we have those goods (health, education etc) to an equal degree.

We should really care about is what we are able to do with the resources available to us. As I noted above, it is in part the effects of income and wealth that matter. Having equal income matters less than being able to move about equally well. For example, achieving equal mobility for those who have difficulty walking will require better designed public and private spaces as well as a range of aids.

All this is not the same as equal wealth. Similarly, giving children an equal opportunity in education is not the same as equal income and wealth. It will require that we spend more on some than others to overcome disadvantages. While it is true that gross inequalities of wealth and income will cut against this aim, it is important to be aware that what we really care about is another type of inequality. In this case, what we care about is not how much money someone has but what that money does: what Amartya Sen and others have called our ‘capabilities’ to do and be various important things, such as being educated or mobile.

Another dimension of the debate that seems to perennially reappear whenever the unemployment rate starts to rise is that inequality is OK because people bring it on themselves. So when the Federal Treasurer starts talking about ‘learning or earning’ or ‘leaners and lifters’ it is invariably about softening us up for greater inequalities. The idea here is simple: if you are responsible for your inequality then the state shouldn’t intervene. Whereas, if you are not, then you are entitled to assistance.

Yet one thing that is rarely argued for is why responsibility should always ‘trump’ equality. It is not at all clear that making people accountable for their choices is more important than living in a society that is equal in the kind of ways described above.

What Piketty and others who work in the field of inequality demonstrate is that we ought to care about substantial kinds of inequalities (not just formal ones) that impede the living of good lives. Yet, important though income and wealth are for understanding the barriers to achieving equality, what really matters is the effects of these inequalities and the unfairness of many kinds of unequal divisions. Understanding the goods and relations in terms of which we should be equal is a broader task than removing inequalities of wealth.

Dr Jeremy Moss is Director of the Social Justice Initiative at the University of Melbourne. He is the author of *Reassessing Egalitarianism and Climate Change and Justice* (Cambridge UP forthcoming), and will be speaking at ‘The Future of Welfare Reform’, presented by The Conversation.

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Great–great graduation

Sophie Curtis, the great–great-granddaughter of Lydia Harris – who was among the four women to be first admitted to the University of Melbourne in 1881 – graduated recently from the University of Melbourne, wearing her great–great-grandmother’s graduation colours. Ms Curtis has completed a Bachelor of Arts with a double major in Psychology and French and hopes to continue studies in psychology at honours and masters level. She said it was an incredibly moving experience for her whole family to wear Lydia’s hood while she graduated.

Although the first cohort of women numbered four, two did not complete their courses and although Lydia Harris and Bella Guerin completed together, Lydia needed to retake her exam in the history of the British Empire after failing at her first attempt. Her graduation was delayed, meaning her fellow student Bella Guerin is officially deemed the first woman to graduate from Melbourne. Today women and men are equally represented among the student body.
Events and Courses at the University of Melbourne

CONCERTS
- MCM Guitar Perspectives: Sheer Pluck
  Monday 15 September, 7.30pm
  Geoffrey Morris and Samantha Cohen perform a treat for lovers of early plucked instruments.
  Venue: Wyselaskie Auditorium, 29 College Crescent, Parkville.
  Admission: $20 full/$15 concession
- MCM Composition Concerts
  MCM undergraduate and graduate composers present a series of five concerts featuring brand new solo and chamber works performed by fellow students.
  Tuesday 16 September, 7.30pm - MCM graduate composers
  Tuesday 23 September, 7.30pm - Second year Bachelor of Music composers
  Venue: Melba Hall, Royal Parade, Parkville
  Admission: Free
  Thursday 11 September – Friday 12 September
  Exploring the 20th century revival of early music and its interactions with modernity, this symposium features Australian and international scholars, including a public lecture by eminent American musicologist Professor Jann Pasler (University of California, San Diego).
  Admission: Free
- MCM New Music Ensemble: Generations – Barry Conyngham at 70
  Friday 10 October, 7.30pm
  Curated by trombonist Benjamin Anderson, this program explores works by award-winning composer Charles Wuorinen and his student Stuart Greenbaum, highlighting the inter-generational links and lineage of compositional practice.
  Venue: Melba Hall, Royal Parade, Parkville
  Admission: Free
- Marvel: The 2014 Windsor Prize
  30 August – 14 September, 11am – 5pm
  Students from the Bachelor of Fine Arts (Visual Art) Honours, Master of Contemporary Art, Master of Fine Arts (Visual Art) and PhD transform Australia’s most cherished grand hotel.
  Venue: The Hotel Windsor, 111 Spring Street, Melbourne
  Admission: Free

EXHIBITIONS
- Marvel: The 2014 Windsor Prize
  30 August – 14 September
  11am – 5pm
  Students from the Bachelor of Fine Arts (Visual Art) Honours, Master of Contemporary Art, Master of Fine Arts (Visual Art) and PhD transform Australia’s most cherished grand hotel.
  Venue: The Hotel Windsor, 111 Spring Street, Melbourne
  Admission: Free

Burnley Information Day
Thursday 11 September
12 noon–7 pm
Set on 9 hectares of stunning heritage-listed gardens, Burnley campus offers a comprehensive range of short courses, associate and bachelor degrees, and local Infrastructure.
Course and Career advice • Classes • Lectures • Campus tours
unimelb.edu.au/burnley
dreamlarge