Until next time

A word from the Director, David Ellis

This is the last issue of Muse before the Nicholson closes on 28 February 2020. We hope you will be able to join us for a number of public events between then and now, including a closing party hosted by the Friends of the Nicholson in February. Muse will take a break during an intensive period of exhibition development until the next issue in May 2020, at which time we will share up-to-the-minute details on the Chau Chak Wing Museum as it heads towards opening. The September issue will commemorate the much-anticipated opening in August.

This issue brings us up to date with our regular feature on the museum site. The builders, FDC, are making remarkable progress despite inclement weather, and in the process have broadened my technical terminology – in addition to the better known ‘rained out’, I have added ‘winded out’ to my vocabulary. Nevertheless, even before the building is finished, we are benefiting from the impact of the museum’s significantly raised profile on the cultural landscape of the University.

We are fortunate to have benefited from the extraordinary generosity of Neville Grace, whose bequest of 62 Australian impressionist paintings have made a transformative impact on the collection, many of which you will be able to see in the opening suite of exhibitions.

As a harbinger of our new museum, this issue of Muse draws together other insights from across the complexity of our collections. The latest in medical imaging technology continues to expose secrets from our antiquities collection, including the revelation that parsimonious ancient Greeks valued their olive oil too highly to commit unnecessarily large quantities to the tomb. Our faded Mer–Neith–It–es coffin regains its once-colourful surface, thanks to a combination of elemental analyses and visualisation software.

We will also share different scales of scientific journeys – from filtering out microbes (and in the process identifying the existence of viruses) to learning of the extraordinary voyage of HMS Challenger, the Victorian era’s equivalent to lunar exploration, and its 1874 visit to Sydney. Then there is the surprising interplay between big data and small insects.

During our consultation with Girringun artists we witness the strengthening connections to the past that are reviving traditional artefact- and art-making practices, and we observe insights into our European art via the Bauhaus as well as the op-kinetic art of Lily Greenham.

I hope you enjoy this issue of Muse, and we also look forward to seeing you in the Nicholson Museum soon, at an event or as a visitor before we close on 28 February.

David Ellis
Director, Museums and Cultural Engagement

Sydney University Museums
Comprising the Macleay Museum, Nicholson Museum and University Art Gallery

The Macleay Museum and the University Art Gallery are now closed as we prepare for the opening of the Chau Chak Wing Museum.

The Nicholson Museum is open until 28 February 2020: Monday to Friday, 10am to 4.30pm and the first Saturday of every month, 12 to 4pm. Closed on public holidays.

General admission is free.

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Muse is edited by Luke Parker.

This issue contains names and images of people who have died. We acknowledge that, for some people and communities, these may cause distress and sadness. Where possible, cultural permission to publish has been sought.

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Jacky Redgate, Light Throw (Mirrors) Fold series in the Bauhaus Now! exhibition at Buxton Contemporary, Melbourne, photograph © Christian Capurro
**Welcome to Shuxia Chen, China Gallery Curator**

We are very pleased to welcome Shuxia Chen to the team as curator for the Chau Chak Wing Museum’s China Gallery. Shuxia joined us in May and replaces Dr Stephen Whiteman of the Power Institute, who at the end of last year took another role at the Courtauld Institute of Art in London.

Shuxia is an art historian and curator of Asian art with a Master of Arts in Art History from the University of Sydney and a Master of Studio Art (Honours) from Sydney College of the Arts. She recently completed her PhD on Chinese photography groups in the 1980s, at the Australian National University. Shuxia’s research has been published in journals including *Trans-Asia Photography Review*, *Yishu: Journal of Contemporary Chinese Art*, *Made in China* and *Artforum*. Since 2007 she has worked with a range of museums and galleries in China and Australia as a curator and exhibition manager. She has already made a significant impact on the development of the opening exhibition for the China gallery.

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**Vale Jane Mathews AO**

The museum has lost a generous donor, and the University an illustrious alumna. In 2008 Jane Mathews generously donated two significant Emily Kame Kngwarreye paintings, one of which (pictured, UA2008.53) will be included in the introductory exhibition of the Chau Chak Wing Museum. Jane was a trailblazer in the legal world and a notable supporter of the arts. She was appointed NSW’s first female Crown Prosecutor in 1977 and a judge of the District Court in 1980, the first female judge in NSW. In 1987 she was appointed the first female judge of the Supreme Court of NSW, and in 1994 became a judge of the Federal Court of Australia. In 2001 she retired from the Federal Court and became an Acting Judge of the NSW Supreme Court. In 2005 she was made an Officer of the Order of Australia.

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**Blue Water Empire**

It was exciting to see Macleay Honorary Associate Dr Leah Lui-Chivizhe during the recent airing of *Blue Water Empire*, the Torres Strait-set dramatised documentary written by, directed by and starring a highly talented group of Torres Strait Islanders. Film history was made in the Torres Strait in 1898 with the first ethnographic footage ever filmed at Mer. Photographer Frank Hurley’s 1926 silent film *Hound of the Deep* was also shot in the Torres Strait, as was Chips Rafferty’s 1954 *King of the Coral Sea*. By the 1980s, Torres Strait Islanders had increasing opportunity to take control. Mabuiag Elder and linguist Ephraim Bani guided audiences in Francis Calvert’s documentaries. His son, playwright and actor Jimi Bani, features in *Blue Water Empire*. As producer/director/actor Aaron Fa’Aoso said of the expansive history, which stretches from the 1700s through to the present day, it is “the tip of a massive ‘iceberg’ – it’s only the start of a whole new set of stories Australia is yet to know”. Dr Lui-Chivizhe, who is a historian at Sydney, is close to publishing her history of turtle-shell masks and Islanders in the Torres Strait.
Chau Chak Wing Museum update

We have entered a new and exciting phase in the construction of the Chau Chak Wing Museum, with the internal propping and formwork removed from the basement and lower galleries.

By Paul Donnelly

For the first time, we have been able to see uncluttered interior spaces, and can imagine the galleries populated with exhibitions and the basement filled with more than half the collection, all in the best possible environmental conditions. The 4.5 m high level 1 gallery space will feature exhibitions drawn from across the collections.

The museum is very much a building site subject to limited access restrictions, but client inspection tours have confirmed the commitment to quality and elegance expected for a public gallery destined to exhibit our significant holdings.

One site tour in May included the Design Review Panel (DRP). This evaluative process is a new requirement for planning authorities in NSW to promote “good design and amenity of the built environment” in the planning of “state significant projects”. The panel provides a consistent, statewide approach to reviewing and raising the design quality of state-significant projects.

The Chau Chak Wing Museum’s panel consists of Di Leeson, Project Control Group Chair; Michael Tawa, University of Sydney Professor of Architecture; Angelo Candalepas, Candalepas Associates architect; Kim Crestani, Order Architects architect; and Juliette Churchill, the University’s Campus Planning Manager.

In addition to viewing the overall building visible at that time, the DRP was particularly concerned with inspecting the concrete sections poured specifically to test the colour and texture of the distinctive cantilevered top ‘box’ section.

The two-storey test element, erected on the boundary of the site, consists of three different pours and mixes of concrete. The test informed the best choice for this important and complex feature that will house the 6.5 m high temporary exhibition gallery, staff offices and boardroom. The DRP was impressed with the progress of what promises to be a very special building on campus.

With testing of the in situ concrete complete, the casting of the box has been the focus of work during June and July. We won’t be able to properly appreciate the outcome of this accumulated effort until the removal of the exterior scaffolding – the next major phase to anticipate.

Dr Paul Donnelly is Associate Director, Museum Content.
Pinned down: big data and entomology

Big data is being transformed into striking visual representations, revealing new ways of understanding the Macleay Collections.

By Jude Philp, Cory Aitchison and Sasha Jenner

Under most of the insect specimens in the Macleay Collections is a tiny, fragile paper label. Some are highly detailed, handwritten, folded missives; others barely contain a legible word. Like the insects, many are more than 200 years old. These labels are our ‘entomology register’.

Since 1892 and the opening of the Macleay at the University, many lists of the entomology collection have been made and published from a taxonomic rationale. This century, a digital ‘label list’ was made, the first comprehensive listing of the whole 300,000+ collection.

Entomology curators need to intimately know their collections, no matter how big they may be. Storing specimens by taxonomic ordering solves part of this problem. From the mid-1700s, the index card was used to divide and group tens of thousands of species, and to capture information not included on the pin. In the 20th century, punch cards and simple computerised listings were adopted. Computing has now advanced to such an extent that huge data sets can be manipulated towards increasingly sophisticated outputs. For this, the quality of data is key; the Macleay entomology list was ‘bad quality’.

What makes the label list ‘bad quality data’ is also what makes it so special: over 250 years, diverse people have handwritten labels and pinned them to the insects. Consequently, the information is highly varied and historically specific, which offers an excellent opportunity for research on a singular animal or genus. But we wanted more from the ‘label list’ information – could big data be the answer?

A chance meeting with Di Warren and Sam Clarke from the School of Mathematics and Statistics turned the useful museum list into a digital humanities challenge for first-year data science undergraduate students. With an overview of the collection and a general introduction to natural history museum practices, the students were given the data to construct and answer intelligible and useful questions. From there, each student designed an illustrative visual so the raw and problematic data could reveal information about the collection.
Two of the ‘data miners’, Cory Aitchison and Sasha Jenner, felt they were creeping and crawling their way into the past through the label lists. Here they explain their research.

The image of pincers, legs and wings has never quite sparked fascination for either of us. Yet, tasked to analyse and draw conclusions from the Macleay insect database, we soon found ourselves ensnared by its interconnected webs of adventure and trade.

First, the data had to be ‘cleaned’. Older taxonomies and historical geography posed the most significant issues. Most boundaries and borders had shifted dramatically since the 1760s. For example, NSW once encompassed Queensland, Tasmania, Fiji and New Zealand. Species names and classificatory boundaries have changed countless times as new scientific advances were made.

Next, we had to try and make sense of the data. In doing so, we found that a subset of the insects’ labels provided us with dates for when each specimen was known to science – for example, the label ‘Acacicis atomarius (Chapuis, 1869)’ refers to a bark beetle described by Félicien Chapuis in 1869. Using this bibliographic information, we constructed a timeline of the periods when specimens were classified internationally, and the geographical distributions of these samples varied over time.

Interestingly, the collection holds a geographically diverse range of insects classified prior to 1850, including considerable numbers from Africa, the United States and Europe. This truly highlights the extent of imperial exploration and natural history trade – from Hobart to Holland and almost everywhere in between.

We also explored the intriguing global distribution and habitats that typify a single taxonomic order, such as Lepidoptera (butterflies and moths). Analysing the data, we found that the Nymphalidae, Papilionidae and Lycaenidae families are greatly represented in the collection. They were acquired from similar regions around the world but in differing concentrations, with South America, the southern United States and Southeast Asia the major hotspots.

We then used a temperature API (application programming interface) – a kind of coding translator for computers. The API we used was mapped to each location to discover the habitat conditions for each family. We found that Lycaenidae butterflies were habituated in areas with a median temperature of 27°C, which was on average 6°C higher than that of the other two main families. It truly drew us closer to the study of insects, seeing the kinds of environments best suited to the most successful of animal species: beetles, bugs and butterflies.

Our next step is to make the visualisations robust enough for use in the Chau Chak Wing Museum. We hope that visitors will be able to explore, as we did, the great distances traveled by the individual insects, following the story of international trade in natural history that was enlivened through the classificatory work of Carl von Linné (1707–77), imperial exploration and a frenzy in collecting, legitimated through ‘natural theology’. Renditions of the temperature data will lead visitors to consider the ecological settings that the diversity of animals in the collection came from.

This unexpected alliance between big data and entomology seems to be en route to encourage people to better appreciate not only the heritage of the natural history trade that initiated the collection, but also the advantages of having this collection in our own backyard.

Dr Jude Philp is Senior Curator, Macleay Collections. Cory Aitchison and Sasha Jenner are undergraduate students from the School of Mathematics and Statistics at the University of Sydney.
Intergenerational consultations

Girringun artists are strengthening connections to the past by revitalising traditional artefact- and art-making practices.

By Matt Poll
Pouandai, as Hinchinbrook Island was known to the Biyaygiri peoples, is the largest island on the Great Barrier Reef. It became separated from the mainland 18,000 years ago, but for the peoples connected through the Girringun Aboriginal Corporation managed by Phillip Rist, Pouandai sits on the coast of Cardwell as a shield sits off the body of a warrior.

Artists from nine interconnected language regions located between Townsville and Cairns are represented through the Girringun Aboriginal Art Centre. A map of these connections is as complex as reading the aesthetics on the surfaces of the *bigg-unn* (shields), made from the same Moreton Bay fig tree (*damun* in the Gadigal language) as the ones that grow on the grounds of the new Chau Chak Wing Museum site.

During recent consultations as part of the Chau Chak Wing Museum exhibitions development, Phillip Denham, artist and traditional owner, generously shared his memories of watching his father’s generation making shields, explaining how some shields clearly show that they were painted by two artists, not one.

Four *bigg-unn* from the Macleay Collections, acquired in the early 1880s by JA Boyd, the owner of a plantation, are particularly intriguing objects for Phillip Denham.

The clan affiliations of the makers included in the shields provide avenues to investigate further, such as what the combinations of symbols depict.

In 2013 Professor Rosita Henry, from James Cook University, undertook detailed and fascinating research into the Boyd collections, noting that the acquiring of the shields was in some regards a negotiation between the collector and the shield owners. Arrangements were put in place to allow the owners to borrow their shields from Boyd when they were participating in local tournaments.

“Guyurru (brown pigeon) created the Jibirrji (Murray Falls). Guyurru cut a steep wall out of the rock with a tomahawk, making the waterfalls. Guyurru filled the circular pools at the bottom with witchetty grubs wrapped inside leaves. The cold waters of the falls kept the witchetty grubs fresh.”

**Signage at Murray Falls, Girramay National Park**
Boyd was mainly a collector of natural specimens, but one diary entry records the purchase of artefacts in 1882. In 1884, Boyd documents the name of the tribe on whose country the plantation was located as Wahgamai (Warrgamay).

Abe Muriata, who visited the Macleay Collections’ jawun (bicorunal basket) collections in 2018 as part of recent consultations, met with Prince Charles during his November 2015 visit to the National Museum to view the Encounters project. In 2016, Girringun artists presented their work at the Oceanographic Museum of Monaco, including enormous 8 m high representations of the bagu (body) and the jiman (stick), depicting knowledges of fire-making practices in wet rainforest environments.

Representing these historical collections to new generations of community members can be fraught with difficult, complex questions of how, why and where the collections were amassed. But increasingly it is the community, not museums, who are seeking out the stories of these objects and using the information they embody to empower new generations of artists.

During other recent consultations, for the forthcoming Ambassadors exhibition for the Chau Chak Wing Museum, I spent the day visiting one of the few practitioners of contemporary bigg-unn making, Phillip Denham, and his son Nephi Denham at the Jibirrji (Murray Falls).

Nephi, a ceramicist and photographer, took the opportunity to use his father’s string-making workshop, in the picnic area of the falls, as his photography subject. He examined the abstract details of the handmade strings, stretched by his father’s hands as he deftly wove different thicknesses while explaining their purposes. Fire is an essential element in finishing off very fine strings, which are made for personal adornments. Rougher, thicker strings are used in making eel and turkey traps, and fishing nets.

Matt Poll is Assistant Curator, Museum Collections and Repatriation, Macleay Collections.

“Every bit of your hand is an instrument that you use, whether you are moulding or whatever, weaving ... holding them all in their place.”

Phillip Denham, Girramay traditional owner
The newly acquired Cambitoglou Amphora, NM2018.136, Bigg-unn, Nyawaygi or Wargamaygan people, Herbert River, North Queensland, collected by JA Boyd c.1885, Macleay Collections, ETH.1122.
Termed ‘filter candles’, these modest porcelain cylinders were one of the key inventions of the 19th century, transforming public health, hygiene and scientific study. Invented around 1884 by Charles Chamberland (1851–1908) to strain liquids, they were once the central component of a Pasteur–Chamberland filter.

In 1875, Chamberland began working with famed scientist Louis Pasteur (1822–95) as his laboratory assistant, soon becoming a collaborator in his research. Having already demonstrated through his experiments that fermentation and the spoilage of wine, beer and milk were caused by microorganisms, Pasteur had become a proponent of ‘germ theory’ – the idea that diseases were caused by microorganisms. His research focus had turned to diseases in humans and animals, and with Chamberland’s assistance he sought a means for their prevention, and further proof of germ theory.

For his various experiments, Pasteur required the ability to separate microorganisms from the liquids that contained them. For this purpose, Chamberland devised the filter candle, an instrument with a long body of unglazed porcelain and a glazed spout, giving it a candle-like shape. The unglazed portion was porous enough for liquids to pass through while holding back microorganisms.

Realising the potential for his invention to be used beyond the laboratory as a water filter, Chamberland perfected and adapted the device, presenting it to the French Academy of Sciences in 1884. For water, the filter candle was inserted into a metal tube that was directly attached to a

Simply ingenious: Chamberland’s filter candles

A modest invention helped transform the health we enjoy today.

By Kelsey McMorrow
tap. Pressure in the pipes would force the liquid through the candle’s body, with drinkable water flowing out its spout. The entire apparatus was called a ‘Pasteur-Chamberland filter’ (being jointly patented by the two scientists), and was soon made commercially available to a public increasingly concerned with germs.

The experiments of Pasteur, Robert Koch and others had improved public acceptance of germ theory over previous explanations for the causes of disease, including imbalances in the body, emotions, individual characteristics, lifestyle, personal morality and ‘miasmas’ (toxic vapours in the air, characterised by foul odours). This, coupled with the public’s growing desire to avoid disease in the face of typhoid and cholera epidemics, meant interest in Pasteur-Chamberland filters was high. Though not the first water filter, its bold claim to filter out all microorganisms was clearly appealing, and it quickly sold throughout France, England and the United States. The filter was in use in Australia by 1886.

With each disease outbreak across Australia, hospitals and public health officials urged households to use the filter to obtain drinking water, the recommendations being widely published in local newspapers. The University’s own Thomas Anderson Stuart, then Dean of Medicine, Professor of Physiology and president of the Board of Health, had this to say: “there is only one kind of domestic filter which is really and scientifically efficient, and that is ... the Pasteur-Chamberland Filter.” All other filters, he stated, were “perfectly useless and even worse” (The Sydney Morning Herald, 25 January 1896).

The praise and commercial success of the filter were certainly deserved. Various scientists had tested the claims of the Pasteur-Chamberland filter, experimentally proving its effectiveness at straining out the smallest microorganisms then known. Further, it had been reported that use of the filter had been adopted in the French army as well as in schools, resulting in drops in cases of typhoid and cholera. Undoubtedly the widespread use of the Pasteur-Chamberland filter improved public hygiene and health, lessening the spread of deadly disease. However, the significance and success of the device does not end there.

In 1892, microbiologist Dmitri Ivanovskv found that extracts from diseased tobacco leaves could still infect healthy plants after passing through one of Chamberland’s filter candles. In doing so, as botanist Martinus Beijerinck would confirm just a few years later, he had unwittingly discovered a new kind of microorganism. Initially termed ‘filterable viruses’ owing to the way they were uncovered, today they are simply referred to as ‘viruses’. This discovery and the research it spurred – all thanks to Chamberland’s filter candle – helped pave the way to establishing the field of virology.

**Kelsey McMorrow is Curatorial Assistant, Macleay Collections.**
The arrival of HMS Challenger in Sydney on Monday 6 April 1874 caused quite a stir. Newspapers were full of stories of the ship’s adventures. Its arrival was highly anticipated by the public, who had been following the ship’s achievements for months. William John Macleay mentioned the Challenger in his diary as early as January, noting that “Professor Thomson who is in command of the scientific staff on board the Challenger is now probably near the South Pole and may be expected here by May.”

The excitement generated by news of the Challenger was justified. Starting from Portsmouth, England, in December 1872, it had been circumnavigating the globe, gathering scientific information about the ocean and dredging the ocean floor to uncover lifeforms. This was the first trip of its kind and would lay the foundations for the sciences of oceanography and marine biology.

The expedition was the brainchild of Sir Charles Wyville Thomson, a Scottish natural historian. The idea to explore the deep ocean was in part a reaction against fellow Scottish naturalist Edward Forbes’ theory that the ocean was azoic (without life) – he posited that below 300 fathoms was an abyss where no life could exist. The expedition was also motivated by a desire to provide evidence in support of Charles Darwin’s theory of evolution through natural selection: it was possible that marine organisms that existed only as fossils on the land could be found alive in the deep ocean.

The expedition was supported by the British Admiralty and also the Royal Society, via Thomson’s friend William Carpenter, its vice-president. In the summer of 1868, Carpenter convinced the Admiralty to allow Thomson use of HMS Lightning.

Two important discoveries were made during this trip. Firstly, the crew managed to dredge remnants of organic life at a depth of greater than 600 fathoms. Secondly, they learned that below 200 fathoms, water temperatures were no longer...
related to latitudinal patterns like the surface of the ocean. This discovery was evidence that the deep ocean contained water currents that have their own temperature and physical characteristics unaffected by conditions on the surface.

This success was followed by three further expeditions, leading to the ambitious Challenger voyage. HMS Challenger was a corvette – a small, fast naval vessel ranking in size below a frigate. There were 300 crew and six scientific staff led by Thomson. The captain was George Strong Nares, a Royal Navy officer with a lot of experience in scientific exploration. Nares was recalled in November 1874, and Frank Tourle Thomson took over the role of captain until the expedition’s completion in May 1876.

During the three years, the scientists made measurements and observations at more than 300 individual ‘stations’ in the ocean. The goals were to produce a comprehensive record of the world’s oceans through temperature and depth measurements, chemical and physical analysis of the seawater, specimen collection and to conduct natural history observations. A 50-volume report was produced at the end of the expedition.

HMS Challenger’s visit to Sydney was marked by a number of social events, including a ball held at the Masonic Hall. Thomson and Nares dined with Macleay and his friends: “We had a good dinner and spent a most delightful evening and had a look at some of the curious things collected. It was 11 o’clock before we left.” During the two months that the ship was in Sydney, the crew actively engaged with the locals.

The scientists on board visited Macleay’s entomology collection and discussed crustacea and other marine animals. Although Macleay did not participate in the dredging, his friend Dr James Cox did, bringing Macleay a number of specimens. The visit had a lasting effect on Macleay; following the visit he expanded his interests and subsequently began collecting a wide range of marine life.

The Macleay collection contains a number of items relating to the expedition, including specimens, photographs and lantern slides of illustrations from the report. These are evidence of a remarkable act of human achievement that some people have compared to the moon landing of 1969. The expedition caught the public’s imagination through regular reports via telegraph – the Victorian era’s internet – and continues to inspire future generations seeking new knowledge. The Space Shuttle Challenger, launched in 1986, was named after HMS Challenger.

Chris Jones is Assistant Collections Manager, Sydney University Museums.
Bauhaus Now!

A new exhibition in Melbourne examines the ongoing influence of the Bauhaus on contemporary artists.

By Ann Stephen
The carnivalesque aspects of the early Bauhaus Weimar were brought back to life in Melbourne in July this year, when a lantern parade marched through the city to celebrate the centenary of the school as part of the Bauhaus Now! exhibition at Buxton Contemporary.

The parade was the culmination of a lantern-making workshop organised by artists Mikala Dwyer and Justene Williams. After the parade, the lanterns went on display in the gallery, along with other artworks by contemporary artists inspired by the Bauhaus.

In the central gallery, Dwyer and Williams created Mondspiel (Moon-play), a new collaborative work that embodies the regenerative possibilities of those cast out as weeds – a fitting metaphor for the Bauhaus diaspora that is the central theme of this work. A thistle garden is visited by the lost souls of four Bauhäuslers, resurrected via video, who perform a zombie dance in a boxing ring. Dwyer and Williams channel irrational, expelled and repressed elements of the Bauhaus, reworking them as a feminist performance/installation for the 21st century.
Upstairs, the exhibition included a recent Bauhaus-inspired weaving series by Elizabeth Pulie that intersects art with questions of gender and material studies. Pulie taught herself to weave on a handloom in a deliberate procedure of amateur self-education, creating a series of five body-referencing works from recycled clothing. As Bauhäusler Anni Albers observed, “by playing with material amateurishly” and “unburdened by any consideration of practical application”, the Bauhaus weavers on their antiquated handlooms developed an “unprejudiced attitude towards the materials.”

Rose Nolan also scavenges from the litter of domestic life, using old cardboard boxes and other cast-off packaging for her strangely beautiful and witty architectural models. Both artists embody the advice of Johannes Itten who, in his preliminary course on material studies, encouraged students to discover “a whole new world” by rummaging “through the drawers of thrifty grandmothers, their kitchens and cellars” and ransacking “the workshops of craftsmen and the rubbish heaps of factories and building sites”.

The interdisciplinary field of projected coloured light was another offshoot of Bauhaus ideas developed by Ludwig Hirschfeld-Mack, a renowned Bauhäusler who was transported to Australia as an enemy alien in 1940. Artist Michael Candy has reconstructed Hirschfeld-Mack’s Farbenlichtspiele (Colour-Light Play) of 1923, a machine for interactive play. Candy’s version allows for various levels of interactivity, from the casual museum visitor who turns the handles to manipulate the lights, to musicians who improvise on the play of colours.

Other Bauhaus experiments with colour, light and photography have been reprised by Jacky Redgate. As the artist explains, “it is the Bauhäusler Florence Henri’s work that intersects with my interest in Mondrian”. Henri’s photography used prisms and mirrors, as her teacher László Moholy-Nagy explained, to exploit “the ambiguities of present-day optical creations.”

“Our future demands human beings who have the logical and truthfully working brain of an engineer and, at the same time, [can] develop the soul and mind of the artist.”

Ludwig Hirschfeld-Mack
The series of four new monochrome works in the exhibition, entitled *Light Throw (Mirrors) Fold*, comprises works in the three primaries and a black-and-white version.

These contemporary artists offer ways to reimagine the Bauhaus. To leave the final words to Hirschfeld-Mack, who saw the urgency to reconcile such a rupture: “our future demands human beings who have the logical and truthfully working brain of an engineer and, at the same time, [can] develop the soul and mind of the artist”.

**Dr Ann Stephen is Senior Curator, University Art Collection**

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The Bauhaus Now! exhibition will tour to the Museum of Brisbane in 2020 and then to our new Chau Chak Wing Museum in 2021. The exhibition and related book, *Bauhaus Diaspora and Beyond* (see Muse issue 23), are based on research undertaken as part of an Australian Research Council Discovery Grant (DP160103820), ‘Bauhaus Australia: Transforming Education in Art, Design and Architecture’, with Professor Philip Goad (University of Melbourne), Professor Andrew McNamara (Queensland University of Technology), Dr Ann Stephen (University of Sydney), Professor Harriet Edquist (RMIT University) and Professor Dr Isabel Wünsche (Jacobs University, Bremen).
Hidden depths

Recent CT scanning of a Greek lekythos at the University’s new Sydney Imaging Hybrid Theatre has uncovered a curious secret.

By Candace Richards and Zoe Williams
Lekythoi (singular lekythos) are a distinctive type of oil or perfume vessel with a long, cylindrical body, a very thin neck and a bowl-shaped mouth. Their decoration varies, but a distinctive type called white-ground emerged in the late 6th century BC and was used throughout the 5th century BC as a special type of grave offering and in funeral rituals.

The white-ground lekythos received in 1948 (NM48.15) has faded considerably. The once-black gloss that bordered the figurative scene is now a dull red, and a large uneven hole is visible in the lower portion. The main scene depicts a woman, her dark hair tied into a bun, wearing a dark-coloured himation (cloak) standing in front of a tymbos (funeral mound or tomb), her outstretched arm either holding a ribbon or pouring a libation over the grave.

The pouring of libations, or liquid offerings, was a routine part of many rituals in Ancient Greece. It was performed at religious festivals, as part of prophecies and before banquets, and was an important part of funeral rites and subsequent visits to tombs. Lekythoi were often used for libations: their precious contents poured over the grave, the containers left as offerings to the dead. The quantity of liquid could be monitored by putting a false bottom within the container. In around 470 BC, the workshop belonging to the ‘Bedlam Painter’ introduced a short, secret chamber within the body of the lekythos, invisible to the outside eye. While some scholars suggest the chamber was intentional deception, others have theorised that it was merely put in place as an added control for libation use.

Not all lekythoi have a false bottom or were used for libations. More commonly they were used as simple grave offerings, either full or empty, or were intentionally broken at the funeral and burnt on the pyre with the body. To determine whether a lekythos has a false bottom, there is one telltale sign. The sealing of the lower portion of the vessel, due to the insertion of a short container, needs a ventilation hole; otherwise the ceramic would explode during the firing process. These were often discreetly placed in the shoulder of the vessel near the handle, or sometimes near the foot of the vessel, in the portion covered in deep black to disguise the hole and thus the vessel’s true internal structure.

The hole in the lower portion of this lekythos is irregular for a ventilation hole, as it is large and not at all as discreetly placed as one might expect. However, its presence was worthy of further investigation. A quick skewer test through the neck of the vessel did not extend to the depth expected but was obstructed at a depth of roughly 13 cm.

To determine whether our lekythos was indeed an example of one with a false bottom, we turned to our colleagues at the Sydney Imaging Hybrid Theatre. The facility has a variety of medical imaging equipment that can be accessed by researchers from any discipline. In the past two years the Nicholson Museum has been working with the facility to gain a deeper understanding of Egyptian animal mummies, Fayum funerary portraits, Bronze-age offering tables from Jericho and even a Roman-period leather shoe.

Using cone beam computed tomography (CT) and X-ray imaging, we were able to scan the lekythos and view a full 3D reconstruction within minutes. Using this non-destructive technique we were able to virtually slice through the lekythos and visualise the interior structures and surfaces. Almost instantly we confirmed the presence of an internal chamber. It is one of the few times when a result has been so startlingly clear and immediate.

Future questions will further our collaboration with the University’s leading research centres. Residue analysis, volumetric studies and pigment characterisations are all new avenues that we can explore to delve deeper into the use and importance of this vessel in antiquity.

Candace Richards is Assistant Curator, Nicholson Museum. Zoe Williams is Senior Technical Officer, Sydney Imaging.
“Why do we wish to create?” asked the artist, performer and sound poet Lily Greenham (1924–2001) in 1995. Facing her mortality, though not for the first time, she sought to question the role of the artist in society and her own position as an artist.

It is this question, among others, that has been the basis of my research degree in art history at the University of Sydney. In June and July of this year, I made a research trip to London and to Vienna and Graz in Austria, to meet and interview a number of Greenham’s friends who are artists, performers and musicians, and to visit numerous archives and collections in both countries.

My particular curiosity about Greenham stems from a work held in the Power Collection of the University of Sydney, titled *Study in visual perception* (1962–65). It was one of four works by female artists acquired by curator Gordon Thompson in the Power Collection’s inaugural year, 1967, and it is Greenham’s only work held in an Australian collection. The work was previously shown in the groundbreaking exhibition *Lumière et mouvement* at Musée d’Art Moderne de la Ville de Paris in 1967.

Curiously, given the provenance of the work and the fact that Greenham was represented by legendary gallerist Denise René, we had very little information on file about the work or about Greenham herself. In 2017, I began to research the artist. What I have discovered to date has been remarkable. I am slowly uncovering the complex life and work of the enigmatic Lily Greenham.

Born in 1924, Greenham spent her childhood in Vienna before fleeing Nazi-occupied Austria after the Anschluss in 1938 for the relative safety of Denmark, where she commenced singing lessons and started performing publicly (her mother was a renowned opera singer). In the 1950s she returned to Vienna and studied music at the Akademie für Musik und darstellende Kunst Wien (University of Music and Performing Arts). She came into contact with the Wiener Gruppe (the Vienna Group), an experimental theatre group of Austrian poets and writers, and met and performed the work of Gerhard Rühm, co-founder of the group and an influential author, composer and artist who became a close friend.
Greenham sets up an environment where the spectator activates the work by navigating into the ideal position to uncover the hidden patterns.

In the late 1950s Greenham moved to Paris, initially training as a painter, and made contact with several European neo-avant-garde groups including the Lettristes, Groupe de Recherche Visuel (GRAV) and Nouvelle Tendance. It was during this period that she was included in the seminal exhibition *The Responsive Eye* (1965) at the Museum of Modern Art (MoMA), New York, curated by William C. Seitz.

The exhibition was a defining moment in art history and a phenomenal success for the recently refurbished MoMA, drawing the largest single-day crowd in the museum’s history up to that point in time. It saw Greenham exhibited alongside significant artists including Josef Albers, Carlos Cruz-Diez, Ellsworth Kelly, Agnes Martin, Bridget Riley, Frank Stella and Victor Vasarely. This was followed by major group exhibitions in Paris, Vienna and London, and solo exhibitions in Germany.

Frank Popper, the French art historian and theorist of the European neo-avant-garde, was an early advocate of Greenham’s work, viewing her as an artist of huge potential, an early adopter of the use of light, and an innovator within the Op/kinetic scene of the 1960s.

*Study in visual perception* is the culmination of a substantial amount of research that Greenham undertook in perception, observation, communication and light. She also assumed personal study in the areas of philosophy, psychology and aesthetics. Her consideration of the role of the spectator was always forefront in her mind, and the work is conceived as a whole-room environment.

It comprises a collage on board with three vertical sections, each consisting of a geometric pattern in luminous green and purple. It is intended to be viewed from a distance of 10 m, from where each section appears to have an identical pattern. However, on closer inspection each section reveals an altogether different geometric pattern, only apparent as you move closer to the work. Greenham sets up an environment where the spectator activates the work by navigating into the ideal position to uncover the hidden patterns, and also adds coloured lights to increase the optical effects.

Perhaps feeling restless and wanting to explore new possibilities, in 1972 Greenham made another change, moving to London where she created poetry-sound compositions that she edited into electro-acoustic soundscapes. She called her music ‘lingual music’, using her own voice in many of her compositions and drawing on words, sounds and phrases from several languages in which she was fluent, including English, French, German, Spanish and Danish.

In 1974, as a guest of the BBC Radiophonic Workshop, she created her best-known sound work, *Relativity*, an electroacoustic piece for six voices in stereo, using linguistic material drawn from Albert Einstein’s Special Theory of Relativity. Her involvement with the BBC Radiophonic Workshop brought her into contact with new audiences, and *Relativity* has continued to be a touchstone for renewed interest in her work.

Katrina Liberiou is Assistant Curator, University Art Collection.
A collector’s gift

Paintings by several major Australian artists will soon go on public display for the first time, thanks to a generous bequest.

By Ann Stephen

It is an unforgettable experience to see a finely honed art collection hung in its owner’s home. In November 2017, Sydney lawyer and noted art collector Neville Grace invited me and David Ellis, Director of Sydney University Museums, to see his paintings. At Grace’s Elizabeth Bay penthouse, grand harbour views competed for attention with exquisite coastal landscapes.

Since the 1970s, Grace had been collecting works by the finest Australian painters from the colonial era through to early modernism. He loved seascapes and still lifes.

It came as a shock when, less than a week after our visit, Grace died. For some years he had indicated an interest in supporting the museum, and it later emerged that he had left 62 paintings – the bulk of his collection – to the University, where he had studied arts and law.

Several of Grace’s paintings will be on view when the new Chau Chak Wing Museum opens in 2020. Here is a selection of highlights.

Nicholas Chevalier, *South Seas Beauty*, 1881
UA2018.33
This work is an example of Grace’s fascination with European artists who looked beyond their own immediate world. Nicholas Chevalier, born in St Petersburg to a Swiss father and a Russian mother, studied in Munich, London and Italy before arriving in Australia in 1854. This painting from a voyage he took to Tahiti is closely related to a major work in the collection of the Art Gallery of New South Wales, *Race to the Market, Tahiti, Society Islands*, 1880.
Carrick Fox was an impressionist and this work, painted in the northern desert of Tunisia, shows all the spontaneity and vigour of *plein air* painting. It captures fleeting moments with bold splashes of colour. For decades, Carrick Fox’s work and reputation was overshadowed by that of her husband (she actively promoted his work after his death). Recent publications and exhibitions are beginning to recognise her individual vision.

An expatriate Australian painter drawn to France in the 1920s was Roy de Maistre. He first visited the Basque seaside town of St-Jean-de-Luz in southwestern France in 1923, after winning the NSW Society of Artists Travelling Scholarship. De Maistre was immediately drawn to the area’s dazzling summer light. He painted a number of views of the beach with its distinctive striped canvas sun shelters, using a high-key palette.
Some of Grace's first acquisitions were 19th-century works by such major artists as Nicholas Chevalier, Arthur Streeton and Tom Roberts. Grace favoured exotic subjects, like this rare orientalist portrait of an Arab man, painted by Roberts during his Spanish sojourn. The man's shimmering green costume is highlighted against a rough masonry wall. The only trace of Roberts' later interest in Impressionism is the more loosely painted laneway that frames the figure on the right.

Margaret Preston, *The French Jug*, 1929
UA2018.77
This still life dates to the heroic modernist decade of Margaret Preston’s career. Inspired by Aboriginal art, she flattened and simplified her still life compositions and favoured native plants as subjects. She arranged the aptly named coral tree flower with daisies and agapanthus in a jug from Quimper in Brittany, France, paying homage to the local and French sources of her modernism. The same jug also features in another Preston painting of flannel flowers – also held in the University’s collection.

Dr Ann Stephen is Senior Curator, University Art Collection.
Drawing on the past

New technology is helping to reveal and recreate lost details from the past.

By Bernadette Drabsch and Andrew Howells
As research illustrators working in academia at the University of Newcastle, the opportunities to work with inspiring and talented people on a diverse range of projects are what drives us. We were therefore very excited to be invited to collaborate with the Nicholson Museum under the supervision of Dr Jamie Fraser.

Our first collaborative venture was to produce an illustration for display in the Connections exhibition: a wall mural to provide context for a relief fragment of Thutmose III. The background design was based on the meticulous work carried out by Monica Dolińska and a team from the Polish Centre for Archaeology in Warsaw: the linework from their proposed scene became the foundation of our coloured reconstruction. The illustration is an artistic interpretation based on careful research into the original colour palette and aesthetics. Digital manipulation of many layers in Adobe Photoshop produced a complex design that corresponds with the fragments that are known and those that are still missing. The tableau was printed and displayed behind an original fragment held by the Nicholson Museum to provide more context for the spectacular artefact.

Our current venture is the recolouring of the Mer-Neith-It-es coffin. This ongoing practice-based research project challenges us to apply our skills in new ways. It presents many questions: What did the coffin originally look like? What hieroglyphs and designs were scribed onto its surface? How vibrant were the colours? Can we bring the handpainted surface designs back to life using modern digital techniques?

Our role in the larger collaborative team is to visually represent what the coffin might have looked like and digitally recolour the surface of the high-resolution 3D scans. It might sound straightforward, but it has proven to be a greater challenge than we ever anticipated. How can we bring back to life things that we cannot see? The coffin’s true colours, markings and finish quality have slowly disappeared over time. How can we recreate hieroglyphs that are virtually impossible to see with the naked eye, and what processes will we need to employ to repaint the designs back onto a massive multi-part digital file?

Fortunately, these sorts of challenges are not new to us. In our practice as research illustrators, we are often required to produce scientifically accurate works that are published in journals, textbooks and educational resources. In that process we collaborate with specialists, researchers and other creative practitioners to learn as much as we can about the subjects/objects, processes, themes and events that we need to illustrate before we start to make illustrations in response.
We often spend time observing in the field, through microscopes and from a wide range of resources and references. We study forms, proportions, structures, surface qualities and broader contexts to produce informed representations and narratives. Without this approach, our works couldn’t stand alone as visual representations of knowledge. While our visualisations will inevitably be interpretative, the goal is to remove as much subjectivity as possible and to let the work effectively communicate what is collectively known and understood.

In the case of the Mer-Neith-It-es coffin, the challenge was to better see the faded and damaged surface, and identify who might help us understand and interpret our observations. Fortunately we are privileged to be part of an expert team and, through regular collaborative sessions with various specialists, using a range of software packages, we now can see a little further back in time to what the faded designs might have looked like. The basis of our reconstruction is an incredibly high-resolution 3D laser scan of the coffin – a resource that enables us to explore the surface in ways we couldn’t through direct observation, while also providing numerous trials and challenges itself.

The digital file consists of two parts: a 3D model and a high-resolution photogrammetry scan (texture map) that documents the surface detail. The model arrived in numerous sections that had to be digitally reassembled with the corresponding sections of the texture map before we could carry out any further work.

The large digital scan could now provide us with the ability to amplify sections of the coffin’s surface and to examine the marks emerging out of the timber grain, while allowing us to adjust the image’s contrast and colour gamut to gather more visual data. To do this we have been using a combination of Photoshop and, more ingeniously, a software plug-in called D-stretch (which is more commonly used in rock art research) to produce a range of reference images that enable us to see the individual hieroglyphs and pictorial designs with more clarity. These are recorded as line illustrations, providing the Egyptologists with a comprehensive resource map enabling collaborative discussions that in turn inform the iterative design process.

To ensure that we produce the most accurate recolouring possible, we are liaising with the spectroscopy team from Sydney Analytical who,
The coffin’s true colours, markings and finish quality have slowly disappeared over time. How can we recreate hieroglyphs that are virtually impossible to see?

Through their carefully targeted samples, are providing insights into the materials used to decorate the coffin, its linework, colour palette and lustre.

As research illustrators we need to experiment with media, materials and techniques to arrive at the best approach to make an image. Recolouring the coffin is no exception. We have been experimenting with a process for recolouring using Photoshop, Illustrator, Substance Painter and Blender. We are considering what combination of digital brushes/tools, textures and lighting effects will enable us to represent, as faithfully as possible, the original handmade marks, grain and finish of the timber. We are currently working with our technical research assistant Luke O’Donnell to unwrap the texture maps from specific areas of the coffin to do experimental recolouration and animation tests.

We still have a long way to go, but the solitary faded timber coffin is now slowly coming back to life with colour.

Dr Bernadette Drabsch and Dr Andrew Howells are from the School of Creative Industries at the University of Newcastle.

The coffin and related illustrations will form a key feature in our new Egyptian galleries in the Chau Chak Wing Museum, opening in 2020.
The Nicholson Museum will close on Friday 28 February 2020, as we prepare to move all our collections into the Chau Chak Wing Museum.

Keep up to date with the project online: sydney.edu.au/museum
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Whether you want to view an exhibition or attend a talk, we have plenty on offer. To view the latest timetable, visit sydney.edu.au/museum and click on ‘What’s on’. Unless otherwise stated, all events take place at the Nicholson Museum.

Nicholson Museum tours
Free tours of the Nicholson Museum take place at 3.30–4.30pm each Monday.

October

Wednesday 2 October, 10am–4pm
School Holiday Activity Day: Ancient Rome
A free fun day of activities for children aged 5–12.

Saturday 5 October, 12–1pm
Geometric Greek pottery masterclass with Dr Stavros Paspalas
Cost: $25

Saturday 5 October, 2–3pm
Vivified Vikings
Dr Alix Thoeming, Educational Designer, University of Sydney
Cost: free

Wednesday 16 October, 6 for 6.30pm
Osirian Cult Songs: How noisy were Ancient Egyptian funerals?
Professor Martin Bommas, Macquarie University
Cost: $40**
Bookings: nicholson.museum@sydney.edu.au

November

Saturday 2 November, 2–3pm
Heat, History and Hummus: on the trail of the Crusaders in the Holy Land
Matthew Gibbs, President of the Friends of the Nicholson Museum
Cost: free

Thursday 7 November, 6pm
Is it possible to reconstruct ancient Greek music?
Dr Sylvain Perrot, Centre national de la recherche scientifique, Paris
Cost: free

Friday 8 November, 6pm
Being Collected Lecture 2019
Tina Baum, National Gallery of Australia
Cost: free

Wednesday 20 November, 6 for 6.30pm
Greek Theatre in early Sydney
Dr Laura Ginters, Performance Studies, University of Sydney
Cost: $40**

Friday 22 November, 2–3pm
Free Indigenous heritage walking tour of the University campus
Cost: free
Bookings: museums.education@sydney.edu.au
December

Friday 6 December, 6 for 6.30pm
The Sir Charles Nicholson Museum Lecture 2019: The Ark before Noah
Dr Irving Finkel, British Museum
Cost: $40**
Dr Finkel’s Australian visit is presented by the FNM, NEAF and AIA.

Thursday 5 December, 4–5pm
Saturday 7 December, 12–1pm, 1–2pm
Monday 9 December, 4–5pm
Cuneiform masterclass with
Dr Irving Finkel
Cost: $20

Friday 6 December, 2–3pm
Free Indigenous heritage walking tour of the University campus
Cost: free
Bookings: museums.education@sydney.edu.au

Saturday 7 December, 2–3pm
Troy: Beyond Homer
Dr Jennifer Lawless, Academy Travel
Cost: free

January

Wednesday 29 January, 6pm
Celebrating the remarkable history of the Nicholson Museum and its collection
Dr James Fraser, Candace Richards, Dr Craig Barker, Nicholson Museum
Cost: free

February

Saturday 1 February, 2–3pm
Derring Do and Derring Don’t: The Palmer Sinai Expedition of 1882
Dr James Fraser, Nicholson Museum
Sponsored by Academy Travel
Venue: General Lecture Theatre, Quadrangle
Cost: free

Wednesday 26 February, 6pm
Nicholson Museum’s Closing Gala Evening
Following the Friends of the Nicholson Museum AGM
Cost: free

* Part of the Travellers in Time series sponsored by Academy Travel
** $30 for Friends of the Nicholson Museum and their guests; $10 for students

At the end of February 2020 the Nicholson Museum will close, as we will be moving into the new Chau Chak Wing Museum, due to open in August 2020.

Find us online:
sydney.edu.au/museum
Twitter: /nicholsonmuseum
Facebook: search for Nicholson Museum

ALL details are correct at the time of publication; however, events may change due to circumstances beyond our control. Please visit our website for up-to-date information:
sydney.edu.au/museum
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