Grants in focus in this issue include:

- To root or not to root
- Exploring the health impact of arts engagement
- Urban ecology and transitions on Zanzibar
- The new direction of circus
- Unmasking Masks

Nunalleq; Yup’ik culture before contact
At the final Board Meeting of 2018, the Trustees made awards for a large number of Visiting Professorships, Research Projects, Philip Leverhulme Prizes and Arts Scholarships – worth some £31.5 million. A complete list of winners is included in this Newsletter. Congratulations to all concerned.

Grants worth a further £30 million were also awarded to fund three new Leverhulme Research Centres at the universities of Oxford, York, and Imperial College London. Each centre will embrace multi-disciplinary and international collaborations designed to bring the highest calibre of expertise to bear on exciting areas of inquiry.

The Leverhulme Centre for Wildfires, Environment and Society, at Imperial College London, will be led by Dr Apostolos Voulgarakis. Wildfire is of great importance for landscapes and livelihoods, and for the balance of the planet itself. However, the ability to predict wildfire is inadequate, and our attempts to manage fire are unsuccessful. This Centre will be the first worldwide to address wildfire challenges from a global perspective. Bridging gaps among scales and ecosystems, and integrating perspectives from the physical and social sciences, centre researchers will seek to produce the knowledge that is required for skilful fire prediction and representation in Earth system research, and for successful fire management by future generations.

Professor Melinda Millen will be the Director of the new Leverhulme Centre for Demographic Science, at the University of Oxford. Demographic research aids society, government and industry to prepare for demands related to population growth and shrinkage, climate change, migration, longevity and ageing, fertility and household change. The aim is to build an internationally-recognised centre of research excellence that will disrupt, realign and raise the value of demography. An unconventional approach is promised that will unite scientists from demography, sociology, criminology, economics, statistics, molecular genetics, biology, history, marketing and business, bringing ‘science’ into demography.

At the University of York, Professor Chris Thomas will lead the Leverhulme Centre for Anthropocene Biodiversity. The proposed Anthropocene epoch is commonly represented as a time of ecosystem degradation and mass extinction, yet humans may also be stimulating one of the world’s great diversification events. There is a clear need for an interdisciplinary exploration of different scientific and societal perspectives on the Anthropocene; this Centre will bring together world-leading researchers to understand the neglected societal and biological processes that underpin biodiversity gains, in addition to examining the causes and consequences of losses.

We welcome everyone who was involved in bidding successfully for the centres, and indeed all of our new award holders, to the Leverhulme research community.

Professor Gordon Marshall

**Scheme News**

**Upcoming deadlines**

All deadlines are 4pm unless otherwise specified.

28 February 2019

**Early Career Fellowships** – for early career researchers with a research record, but who have not yet held a full-time permanent academic position, to undertake a significant piece of publishable work: 50 per cent match-funding for the salary costs of a three-year post-doctoral research position (contribution of up to £25,000 pa, balance to be paid by host institution), plus £6,000 per annum towards research expenses.

21 March 2019

**Detailed applications for Research Project Grants** – up to £500,000 over five years for research on a project of the applicant’s choice, to cover salary and research costs directly associated with the project. Please note that an outline application must be submitted and approved in the first instance.

2 May 2019

**Major Research Fellowships** – up to thirty awards are offered to well-established, distinguished researchers in the humanities and social sciences, to complete a piece of original research. Fellowships are particularly aimed at those who are or have been prevented by routine duties from completing a programme of original research.

9 May 2019

**Visiting Professorships** – awarded to UK institutions that wish to invite an eminent researcher from overseas for an extended stay in the UK to enhance the knowledge and skills of academic staff or the student body within the host institution.

10 May 2019, 12pm

**Research Leadership Awards** – up to ten awards of up to £1 million, for staff salaries and associated costs, are offered to talented scholars who have launched a university career but who need to build a team to address a distinct research problem, and whose research may significantly change the established landscape in a particular field of inquiry. Each institution is limited to one bid only.

20 May 2019

**Philip Leverhulme Prizes** – up to thirty awards of £100,000 to recognise the achievement of outstanding researchers whose work has already attracted international recognition and whose future career is exceptionally promising. The subject areas for 2019 are Archaeology, Chemistry, Economics, Engineering, Geography and Languages and Literatures.

For full details and to apply please visit the Trust’s website www.leverhulme.ac.uk/schemes-at-a-glance
The use of the arts within health can be traced back 40,000 years, to figurines, cave paintings and bone flutes thought to have been used in fertility and healing rituals. This relationship has continued over the millennia since, including in Greek mythology, medieval monastic medical traditions, and in the rise of psychiatry in the nineteenth century. However, in the past few decades, these magical accounts have been replaced with scientific evidence revealing remarkable results: playing lullabies can help premature babies gain weight; magic tricks can help children with cerebral palsy to gain hand function; dancing can help patients with Parkinson’s disease to walk; and music can trigger memories in people with dementia.

Over the last few years, my research has added to this evidence base. Studies I’ve led in partnership with hospitals and arts organisations have shown how music can reduce stress hormones and inflammation in the immune system, how singing can reduce postnatal depression in new mothers, and how group drumming can improve mental health in service users. However, for most of us, our engagement with the arts is not driven by our health needs but rather by pure aesthetic enjoyment. What has remained unknown is whether this ubiquitous arts engagement in daily life also has benefits for health and wellbeing.

My research over the last 18 months has been statistical analyses of national cohort studies that track tens of thousands of individuals from birth, to explore the long-term impact of arts engagement across the lifespan. Already, I’ve found longitudinal associations between active arts participation (e.g. dancing/singing/crafts) and cultural engagement (e.g. visiting museums/the theatre/concerts), and higher self-esteem in children; lower risk of social or behavioural adjustment in adolescence; lower risk of developing depression, chronic pain or frailty in older age; slower cognitive decline and lower dementia risk; and even a lower risk of dying prematurely. Excitingly, these results are found even when taking into account individuals’ socio-economic status, health, behaviours and other social engagement. I’ve consulted to UK government and the World Health Organisation on the role of the arts in public health and created films for the BBC on how the arts can be offered ‘on prescription’. The funding from a Philip Leverhulme Prize will enable me to expand my research group and delve deeper into these rich data sets to understand more about the psychological, physiological, social and behavioural ways the arts affect us.
Southwest Alaska is the most densely populated region of a larger Inuit culture area that stretches from Alaska across the top of North America on to Eastern Greenland. The Yukon-Kuskokwim Delta in Alaska is the homeland of more than 23,000 Yup’ik people, living in 56 villages of 200 to 1,000 souls. The Delta is an area larger than the island of Britain, but until recently, pre-contact Yup’ik culture was almost completely unknown to archaeology.

In 2008 I was contacted by residents of the Yup’ik village of Quinhagak, concerned about the presence of wooden artefacts that were washing up on local beaches. The following summer my crew and I followed a trail of artefacts along the high tide line to find the Nunalleq site, a prehistoric village dating from the sixteenth to the eighteenth centuries CE – which until then had been locked in permafrost, preserving an incredibly rich trove of rarely recovered organic artefacts.

The Nunalleq site, like others in the Arctic, is being rapidly destroyed by marine erosion and the combined effects of global warming. Without an immediate recovery effort this rich assemblage would be lost. My colleagues and I, at the University of Aberdeen, began a partnership with community leaders in Quinhagak to conduct what is now the largest archaeological excavation ever undertaken in Alaska. It remains a race against time; in the ten years since we began our work, the edge of the site has retreated 10–15 metres inland.

Eight field seasons have yielded an extraordinary collection of over 75,000 pieces: full-sized wooden masks, human and animal figurines, hafted tools, leather clothing, grass baskets, bowls, kayak parts, weapons, game pieces and much more, all in nearly pristine condition. Bioarchaeological remains; fur, hair, feathers, seeds and insects have also shed light on the Yup’ik past. It is likely the largest such collection ever recovered from a single site in Alaska and perhaps from arctic North America.

In the summer of 2018 the entire collection was returned to the newly constructed Nunalleq Culture and Archaeology Center in Quinhagak, where a conservation lab has been operational since 2017. Like the fieldwork, my research in this analytical phase of the project will be undertaken in constant consultation with community elders and tradition bearers. It is only fitting that the first detailed analysis of pre-contact Yup’ik material culture will take place only a few miles from where it was recovered, with and among the descendant community.
Duckweeds are flowering plants and closely related to well known species such as the peace lily. Although their ancestors were land plants, duckweeds have returned to an aquatic environment and in doing so have evolved a number of new traits. The most striking of these is their minute size. The smallest duckweed species can fit into the eye of a sewing needle. Another striking difference is a reduction in complexity. Most flowering plants are based on branched patterns that make the plant shapes that we are typically familiar with. But duckweeds have evolved a much simpler shape. They consist of a single flattened leaf-like structure. Whilst some species produce roots, some have evolved complete rootlessness.

We often think of evolution as generating new forms and features, but an important part of this process is also removing ancestral features that are no longer required or are detrimental. Indeed there are many instances where loss of certain structures has been instrumental in evolving new species; a clear example of this is limb loss in snakes. Compared with the evolution of limblessness in snakes, the loss of roots in duckweeds has been relatively recent. There is a range of species that have evolved different degrees of rootlessness, with some species producing many roots, some one root and others being completely rootless. This diversity in forms really lends itself to studying the process of evolution; I will explore the evolutionary trajectory of duckweeds and investigate the structure and function of roots in specimens from across the world. The results of this study will be beneficial in informing us about organ loss in other plants and animals less amenable for studying in a laboratory.

Recent warm summers in the UK have created an explosion of duckweeds, with canals and ponds becoming carpeted in green; whilst these miniature plants appear simple, Anthony Bishopp explains why this initial impression is deceptive.

Research assistant, Britta Kümpers, examining duckweed growing late in the season in Central Europe.
Poetry, scholarship, and religious politics in Early Roman Alexandria: Apion Reconsidered

Dr Amin Benaissa
University of Oxford
Philip Leverhulme Prize

In 2012 I discovered an exceptional papyrus in the Oxyrhynchus collection at Oxford. It preserves a copy of a public inscription in honour of an Alexandrian poet named Apion, recording the privileges and awards conferred on him for his victories in several poetry competitions. His achievements included double victory in all the great ‘Panhellenic’ contests and success with a tragedy at a festival held in Syracuse by the emperor Caligula in 38 CE. We know of no Greek poet who achieved similar international éclat in this period, but even more arresting is the identity of the honorand: Apion is identifiable with one of the most controversial intellectuals of the early Roman Empire.

Apion was a polarising figure in antiquity. On the one hand, he was prominent as a scholar: he headed the Alexandrian Museum, taught at Rome, and was admired for his erudition and eloquence by a number of later authors. His writings, which have survived only in quotations and paraphrases, span an impressive array of subjects, from Homeric lexicography to gourmet cookery. But as the target of the late first-century writer Josephus, in a defence of Judaism posthumously titled Against Apion, he is also notorious as an opponent of the Alexandrian Jews and an exponent of scurrilous accounts of Jewish history and customs in his Aegyptiaca. Other contemporaries criticised his ostentatious self-promotion (the emperor Tiberius dubbed him ‘the cymbal of the world’) and far-fetched ingenuity. Thanks to the new papyrus, we now know that he was also a widely celebrated poet in his lifetime.

To date the different facets of Apion’s activity have been studied in isolation, and there is surprisingly no monograph dedicated to his life, work, and reception. This is partly a result of the wide diversity of primary sources attesting or engaging with Apion, which range from a graffiti left by him on a colossal statue to a Christian romance in which he figures as a character. During the research leave made possible by the Philip Leverhulme Prize, I intend to bring these strands together into a unified study of Apion’s career, intellectual profile, and impact on both contemporaries and later authors. I would like to tease out the relationship between his scholarly, poetic, and political activities, and set them against contemporary intellectual developments, the cultural climate of the late Julio-Claudian period, and the socio-political problems facing Alexandria. Such a study will help advance our understanding of the literary and religious culture of early Roman Alexandria by focusing on one of its most prominent representatives.
World-class opportunities for young Midlands musicians

City of Birmingham Symphony Orchestra
Arts Scholarship

How can a world-renowned orchestra enrich the lives of people across the whole of the community it serves, rather than solely those of its regular concertgoers? Since Sir Simon Rattle’s appointment as music director almost 40 years ago the CBSO has been leading the way in answering this question.

In the 1990s we were the first British symphony orchestra to appoint an education manager. Our musicians switch seamlessly from performing on the world’s most prestigious concert stages to working in the community through our Learning and Engagement programme, which also gives every school pupil in Birmingham the opportunity to see the CBSO in concert.

Under the leadership of our current music director, Mirga Gražinytė-Tyla, we are working towards the establishment of one of the world’s first schools to be founded by an orchestra.

Another key element of our Learning and Engagement programme is our family of four youth ensembles – our Youth Orchestra, Youth and Children’s Choruses, and Project Remix training orchestra.

Between 2019 and 2022 this Arts Scholarship grant will enable us to continue nurturing our region’s most gifted young musicians by maintaining generous partial bursaries for members of all four ensembles, and offering full bursaries for young people who would not otherwise be able to participate. Over 500 young people will benefit over the three years.

As members of the CBSO Youth and Children’s Choruses, over 200 local singers aged 8–18 will enjoy world-class choral opportunities. We’re proud that these Choruses achieve the highest international standards: they have recently been invited to perform at the Lucerne Festival with the Vienna Philharmonic and at the BBC Proms with the Boston Symphony Orchestra.

The CBSO Youth Orchestra is regarded as one of Europe’s best youth ensembles, and 200 exceptional instrumentalists aged 13–21 will receive an experience as close as possible to performing with a professional orchestra: they will work with Gražinytė-Tyla and other leading conductors and soloists; receive intensive coaching from CBSO professionals; and premiere specially-commissioned pieces of music. We’ll invite a further 110 young musicians aged 13–18 who show musical promise but lack access to orchestral opportunities to join Project Remix.

For several years we’ve been working tirelessly to reduce barriers to entry of all four ensembles, and their membership is increasingly reflective of the rich diversity of our region. Leverhulme Trust bursaries will help us maintain this inclusive trajectory as the CBSO celebrates its centenary in 2020.
Urban ecology and transitions on Zanzibar

Dr Stephanie Wynne-Jones
University of York
Research Project Grant

Zanzibar is home to a rich urban heritage reflecting its history as a fulcrum for settlement and trade; Stephanie Wynne-Jones’ project will expand current knowledge of what made this urbanism possible.

Urban ecology is an exciting new project exploring how people inhabited and exploited particular locales in the development of Zanzibar’s unique urban tradition. I will be conducting archaeological excavations coupled with high-resolution sampling for environmental and artefact data at two towns of different periods – Tumbatu (pictured above) and Unguja Ukuu – which will allow me to map changing cultural priorities and relationships with environmental resources.

Zanzibar has long captured the historical imagination. British colonial officers were fascinated by the orientalist past represented by ancient Islamic traditions; academic historians and archaeologists have contributed an appreciation of the deeper history and indigenous character of Zanzibar’s urban past. These studies have all been inspired by the rich architectural heritage of the islands, and the nineteenth-century history of Omani dominance, which saw Zanzibar at the centre of global commerce. This later period of Zanzibar’s past looms large in the imagination, and rightly so.

Yet there is also reason to believe that Zanzibar held a crucial role in earlier periods, emerging as one of the earliest centres of urban life in eastern Africa. We now know of dozens of early urban settlements along the coast and offshore islands of east Africa, dating from the later half of the first millennium CE. Even among these Zanzibar was pioneering, with the earliest dates and some of the greatest evidence for integration into Indian Ocean trading networks, importing fine ceramics, glass and silks in exchange for iron, mangrove, ambergris, resins and other products of the region. But a focus on the narrative of globalism has come at a price, for we spend relatively little time asking what life in these settlements was actually like, how people used and valued their local environment and resources, and how overseas trade might have fitted into and drawn upon local practices and priorities. This is rather surprising, because these insights would enable us to appreciate the unique character of Zanzibar’s early urban life, avoiding the flattening effect of projecting Omani (colonial) history back in time. They also allow us to tell a richer story of the archipelago’s role in the global past, which is comparatively poorly known, both within east Africa and among a global audience.

A further aim is to explore urban practices for their impact on the natural environment, providing informed comment on the sustainability of particular urban forms and activities. This is of crucial importance in a region where there have been almost no long-term studies of the anthropogenic landscape effects of forms of urban life.
An intellectual biography of Oskar Lange: politics and economics in the twentieth century

Professor Jan Toporowski
SOAS, University of London
Major Research Fellowship

Jan Toporowski’s research will provide a full-length study of the life and work of a neglected figure in modern economics and twentieth-century international relations, the Polish economist Oskar Lange.

Economics today has mystique and political power in large degree because economists make important statistical predictions in terms that the public cannot understand. Intellectual biography offers a way of overcoming that incomprehension by giving background and the context to economic arguments. Behind today’s arguments, to a great extent, is the work of a largely forgotten Polish economist Oskar Lange (1904–1965). Lange was a Polish Marxist who worked in America and led two revolutions that transformed twentieth-century economics: the Keynesian Revolution in macroeconomics, using Keynes’s ideas for government-managed capitalism; and the Formalist Revolution in economic methodology, basing economic analysis on mathematical models and statistics. These contributions are largely forgotten today. If he is known at all it is for his debate on socialist pricing with Friedrich Hayek, whose work anticipates current views on socialism of writers like Joseph Stiglitz.

The clue to his obscurity lies in the political activities that also distinguished Lange among twentieth-century economists. An unofficial intermediary between Franklin D. Roosevelt and Joseph Stalin, he was active in establishing the United Nations. His reconciliation with communism in 1948 alienated many of his Western supporters. They were further scandalised in 1954 by his extensively favourable review of Joseph Stalin’s Economic Problems of Socialism in the USSR.

I came across Lange when I was studying economics at Birkbeck, University of London. He impressed me by the mathematical sophistication with which he expressed rather conventional economic ideas. Recently I got to know Lange more personally through his distinguished research student, Tadeusz Kowalik (1926–2012), who was Poland’s foremost political economist. Kowalik campaigned against the belief, widespread among his anti-Communist compatriots, that Lange was a Russian agent. Curiously, the American financial economist Hyman P. Minsky, who studied with Lange in Chicago, allegedly believed that Lange was an American agent. Such ambiguities not only add interest to an intellectual biography, they show the effect of the Cold War on political economy and perhaps why his contribution to economics never received the recognition that his work deserves.

One detail particularly intrigues me: writing my biography of Kalecki, I came across a note to Lange on the headed notepaper of the Senior Common Room of SOAS, University of London, where I have worked since 2004. It seems that the polyglot Lange was also interested in Hindu philosophy.
Emotional awareness in the domestic horse

Karen McComb's pioneering study has rewritten our understanding of the evolutionary origins of emotional awareness and its link with social success. Carolyn Allen, of the Trust, reports...

A horse – held by Karen's co-investigator, Dr Leanne Proops – is presented with a photograph of a happy stranger at the initial stage of the memory for emotion experiment.
It’s a skill that helps us to be better friends, co-workers and even leaders: using the facial expressions of others to eavesdrop on their moods and emotions. But can other animals do it too? Darwin thought so. He saw striking parallels in the facial expressions made by humans and other primates – and even cats and dogs – suggesting that this form of communication must have a long evolutionary history. It’s easy to see that being able to identify and respond appropriately to the emotional signals of others could have adaptive value for any social animal, says Karen McComb, Professor of Animal Behaviour and Cognition at the University of Sussex; finding scientific proof is an altogether more ambitious challenge. This was the motivation for her pioneering project, exploring the links between emotional awareness and social success in the domestic horse. Basing the study on horses may seem quirky at first, but they are one of the few species, outside of our close relatives, where the ability to form strong friendships is known to be associated with improved reproductive success: if we are searching for an evolutionary link between reading emotions and forming relationships, Karen reasoned, this would be a good place to start.

At the time we knew very little about animals’ abilities to assess the emotions of another. What little we did know was from studies of non-human primates and even these made no attempt to investigate any direct link to social success. That it has taken so long to test an idea first hinted at well over a hundred years ago is testament to the fact that emotional cognition is notoriously difficult to study – in humans let alone other animals. However, Karen has built an outstanding reputation for tackling such challenging problems. For example, in previous Leverhulme Trust-funded research – this time on African elephants – she was able to demonstrate not only that older matriarchs are better leaders, but also how their age and experience feeds into better decision-making for their group. At the early stages of this project, Karen realised how studying individual differences – such as in the ability of a matriarch to distinguish the roar of the more dangerous male lion from that of a female – was a way to access deeply hidden aspects of the social mind. Would individual differences also help to reveal links between emotional abilities and social behaviour in horses? Initial work by Karen’s team instilled confidence that they could: it showed that horses could successfully discriminate between angry and happy expressions in photographs of both human and horse faces. And, critically, that some horses seemed better at it than others.

For the main Leverhulme project, Karen and her colleagues sought out local equestrian establishments where horses were living in established groups: this allowed them to combine controlled experiments involving individual horses with observations of the social behaviour of those same horses when they were in the paddock with their companions. Testing how the horses responded to photographs of happy and angry human facial expressions, both behaviourally and physiologically, confirmed that horses could indeed spontaneously discriminate between these emotions; and understand what they meant. Horses presented with an angry face viewed it more with their left eye – which sends information to the right brain hemisphere, where potential threats are preferentially processed – and experienced an increased heart rate. Another experiment convincingly demonstrated that horses have a memory for emotion too: the first time this has ever been shown in a non-human animal. Horses that had seen a photograph of a happy or angry human face, responded differently when they met the same individual (now with a neutral facial expression) several hours later: their gaze revealing that they perceived the person more negatively if they had previously seen them looking angry rather than happy. Crucially, the person themselves did not know what photo the horse had previously seen and so could not have inadvertently influenced the result. “We were really very impressed by the level of sophistication in the emotional awareness we found. It’s not just that horses can discriminate between angry and happy humans but that a brief exposure to a photograph – of a stranger - is enough to guide their interactions with that specific individual several hours later. They showed very clearly that they understood what human emotion was all about,” Karen says.

The horses also proved very adept at distinguishing between positive and negative emotional expressions in other horses. These horse–horse experiments formed the basis of a bank of tests used to measure the emotional awareness of 80 horses across eight social groups; the social behaviour of each horse was also painstakingly monitored. The analysis is ongoing but initial results suggest a tantalisingly complete picture: horses better able to discriminate emotions, and to understand and process them correctly, also seem to have the strongest social networks. “It was a really fascinating and very satisfying project,” Karen says: “To be able to go right from the basis of showing that horses have all these different emotional abilities to seeing how individual differences in such abilities feed into how well they do socially with other horses... that was really quite something.”
Unmasking Masks: rethinking concepts of personhood in Europe 40,000–4,000 BCE

Dr Chantal Conneller and Dr Ben Elliott
Newcastle University
Research Project Grant

Drawing on archaeological evidence dating back 40,000 years, Chantal Conneller’s team investigate the making, wearing and ritual significance of masks.

Forty thousand years ago, someone skilled in the working of mammoth ivory laboriously carved the earliest known statuette: a figure with a human body and the head of a lion. Yet the lion man is not unique: between 40,000 and 4,000 BCE most human representations, whether statuettes or cave art, have animal heads or facial features obscured by headgear. Clay, organic and ochre masks, often decorated with beads, obscured the faces of the dead. Masks made from animal heads were deposited in lakes and rivers. Masks have been a significant part of human culture for around 40,000 years, since the appearance of Homo sapiens in Europe, yet have rarely been studied. Why have masks remained so important across these different hunter-gatherer contexts, and what can they tell us about the changing world-views of those who made and used them?

In this project we aim to explore the meaning and significance of the use of masks in the European Upper Palaeolithic and Mesolithic, a period spanning the appearance of our own species to the emergence of agricultural communities. We will investigate how masks were made, what they looked like, when they were worn and how these practices changed over this long period of time. While masks today are seen as disguising the wearer, studies of contemporary hunter-gather groups reveal they are often viewed as powerful objects that can have more fundamental effects on the body of the wearer: they can transform people into animals or act as windows into other worlds, for example. A series of in-depth case studies will allow us to consider the broader significance of masks in relation to the beliefs of the time, their role in ritual practice and why they were sometimes worn by the dead.

This project is the first to investigate masks in early prehistoric Europe and their relationship to the earliest human representations. Masks are important because they offer a window into very different ways of life in the remote past: masks can help us understand what it meant to be a person and how the nature of the human body was understood; they can inform on the social and spiritual significance of particular animal species; ideas about death and, more broadly, ancient worldviews. By taking a different approach to bodies of evidence that are key to the history of humanity, this project has the potential to offer substantial new insights into past lives.

11,000 year old Mesolithic red deer mask from Star Carr, Yorkshire.
The new direction of circus

Circomedia
Arts Scholarship

As circus schools the world over are reaching the consensus that ‘tricks for tricks’ sake’ is no longer sufficient, Circomedia’s MA poses the question: what is possible in circus direction?

Circus as a style of performance has a rich history and tradition, which is well established, despite fluctuations in trends; circus as an artistic medium however is not so clearly defined. An audience member who has never experienced what we call contemporary circus might not expect a show with themes, characters and narrative in the way they’d expect it from a play or an opera or a piece of dance, yet there’s no reason why those elements cannot be incorporated.

The new circus movement of the 70s and 80s sought to challenge the idea that circus was simply daring feats of human endurance and physical skill, devoid of artistic depth. When the precursor to Circomedia, Fool Time, opened its doors in 1986 it offered a revolutionary programme of education that included mime, physical theatre, clowning and improvisation, alongside acrobatics, juggling and aerial. By integrating theatrical performance techniques with circus disciplines, Fool Time gave its students not just the skills needed for the artistic environment of the day but equipped them to become creators and originators in their own right.

To this day Circomedia maintains this broad and empowering approach and, in September 2017, it launched the world’s first Masters in Directing Circus. For Artistic and Education Director, Dr Bim Mason, creating the MA was a ‘really exciting development not just for Circomedia, but for circus everywhere’.

The majority of circus education concentrates on the performer and developing their skills. What sets this MA apart from other courses is its exploration of social contexts, styles and dramaturgy, as well as contributing to the critical and academic writing about circus, of which there is still very little compared with other art forms.

Research is both text-based and practical. MA students are given the time, space and resources to experiment with different approaches to circus direction; they have the freedom to play and explore, devoid of industry pressure or expectations, allowing them to concentrate fully on the process.
Breaking into sign language: the role of input and individual differences

Professor Chloë Marshall
University College London
Research Project Grant

Chloë Marshall’s project investigates how hearing adults break into a language that seems starkly different in form to their first

Sign languages such as British and Swedish Sign Language are vibrant and sophisticated languages created and used by deaf people. Increasing numbers of hearing people are learning sign languages for a variety of motivations, such as to communicate with deaf family members and friends, to gain employment as teachers of the deaf or interpreters, or just for the sheer enjoyment of learning a new type of language.

Although a substantial body of research has investigated how adults learn a second language, the focus has been almost exclusively on spoken languages, and very little is known about the second language acquisition (SLA) of sign languages. This project will focus on the very early stages of learning, when hearing adults who have never previously encountered a sign language are required to communicate without using their voice and to make sense of a stream of visual language for the very first time. The overall objective is to investigate how they break into a language that is not only unfamiliar to them but whose visual-gestural modality renders it fundamentally different to their first language (i.e. English) and to any other languages they have learned. More specifically, we will investigate what adults can learn on their first exposure to sign (for example, when watching a signed weather forecast; see photo) and how individual differences in cognitive skills impact their learning.

We know from studies of spoken SLA that a speaker’s first language influences learning. Yet it is not well-understood how crosslinguistic influence operates across two different modalities, namely from speech to sign. Can learners, for instance, draw on resources available to them in gesture (i.e. the hand movements that typically accompany speech)? Similarly, learners bring both pre-existing linguistic knowledge and sophisticated cognitive mechanisms (such as calculating statistical probabilities) to the task of breaking into the speech stream of a new language. Can they exploit this knowledge and those same mechanisms to break into the sign stream, work out what signs mean, and begin to deduce the rules that govern what signs look like? Finally, for spoken SLA, individual cognitive differences, for example in working memory, are significant predictors for learning success. To what extent are these differences relevant for the early stages of sign SLA?

The project team consists of Professor Chloë Marshall (PI, UCL), Dr Vikki Janke (University of Kent) and Professor Marianne Gullberg (University of Lund, Sweden).
Super hard biocompatible coatings of beta Ti₃Au

Dr Martin Birkett
Northumbria University
Research Project Grant

Titanium is of great use in orthopaedic and prosthetic implants, however, it is still not quite hard enough; Martin Birkett’s multi-disciplinary team will investigate mechanisms of producing super-hard biocompatible coatings of a titanium-gold compound.

It is good news we are living longer but it could mean a huge increase in the number of people needing replacement of their painful worn out joints. An ageing population and lifestyle factors such as a poor diet leading to obesity are increasing demand for arthroplasty surgery as more people suffer from joint pain and stiffness. Joint replacements are now implanted in over a million patients a year worldwide and this number is predicted to increase fivefold by 2030.

One of the most important materials used in the manufacture of medical implants and devices is pure titanium (Ti). This widespread use is due to several unique properties such as its high strength-to-weight ratio, its ability to osseointegrate, its low ion forming levels and most importantly its high biocompatibility. However, for all of these positive attributes, pure Ti has one significant weakness in these biomedical applications; its relatively low mechanical hardness. This inferior property means that conventional Ti coated knee and hip implants have to be replaced after typically 5 to 10 years of service due to wear and tear, which is both costly and can be potentially dangerous for the patient. Moreover, this lack of mechanical strength prevents the use of pure Ti in several other medical devices.

Previous research has shown that the hardness of Ti can be increased twofold by alloying it with other elements such as copper or silver but this often comes at the cost of reducing biocompatibility. More recent work has suggested that alloying Ti with gold at the correct ratio to form the cubic compound beta Ti₃Au has the potential to give a drastic fourfold increase in hardness whilst maintaining the material’s biocompatibility and could be the solution for significantly extending the lifetime of medical implants and replacement joints.

In this multi-disciplinary and highly ambitious project, we will investigate mechanisms of producing super-hard biocompatible coatings of this very recently discovered intermetallic compound of beta Ti₃Au. By doping the titanium coating with precise amounts of gold it is anticipated that a fourfold increase in hardness will be achieved together with reduced wear rates and excellent biocompatibility.

Better understanding the mechanisms underpinning high wear resistant coatings is not only useful in bioengineering but is also central to fields of study such as engine components and machine tools and so our results could be of interest to several other research communities.
Grants Awarded between August and December 2018

Leverhulme Research Centres

Institutions receive up to £10,000,000 over ten years

- Leverhulme Centre for Wildfires, Environment and Society
  Dr Apostolos Voulgarakis
  Imperial College London

- Leverhulme Centre for Demographic Science (LCDS)
  Professor Melinda Mills
  University of Oxford

- Leverhulme Centre for Anthropocene Biodiversity
  Professor Chris Thomas
  University of York

Philip Leverhulme Prizes

Prize Winners receive £100,000, to be used for any purpose that will advance their research

- Classics
  Dr Amin Benaissa
  Faculty of Classics, University of Oxford

- Dr Myles Lavan
  School of Classics, University of St Andrews

- Dr Alex Mullen
  Department of Classics and Archaeology, Durham University

- Dr Amy Russell
  Department of Classics and Ancient History, Durham University

- Dr Shaul Tor
  Faculty of Arts and Humanities, King’s College London

Earth Sciences

- Dr Juliet Biggs
  School of Earth Sciences, University of Bristol

- Dr Stephen Brustat
  School of Geosciences, University of Edinburgh

- Dr Heather Graven
  Department of Physics and Grantham Institute, Imperial College London

- Dr Babette Hooagakker
  Institute of Life and Earth Sciences, Heriot-Watt University

- Dr Amanda Maycock
  School of Earth and Environment, University of Leeds

Physics

- Dr Alis Deason
  Department of Physics, Durham University

- Dr Simone De Liberato
  School of Physics and Astronomy, University of Southampton

- Dr Katherine Dooley
  School of Physics and Astronomy, Cardiff University

- Professor Rahul Raveendran Nair
  School of Chemical Engineering and Analytical Science, University of Manchester

- Dr John Russo
  School of Mathematics, University of Bristol

Politics and International Relations

- Dr Ezequiel González Ocantos
  Department of Politics and International Relations, University of Oxford

- Professor Chris Hanretty
  Department of Politics and International Relations, Royal Holloway, University of London

Psychology

- Professor Emily S Cross
  Institute of Neuroscience and Psychology, University of Glasgow

- Dr Stephen Fleming
  Wellcome Centre for Human Neuroimaging, University College London

- Dr Claire Haworth
  School of Experimental Psychology, University of Bristol

- Dr Harriet Over
  Department of Psychology, University of York

- Professor Nichola Railhani
  UCL Division of Psychology and Language Sciences, University College London

Visual and Performing Arts

- Dr Erika Balsom
  Department of Film Studies, King’s College London

- Dr Daisy Fancourt
  Department of Behavioural Science and Health, University College London

- Dr Ian Kiae
  The Ruskin School of Art, University of Oxford

- Dr Peter McMurray
  Faculty of Music, University of Cambridge

- Dr Tiffany Watt Smith
  Department of Drama, Queen Mary, University of London

Research Project Grants

Sciences

- Dr Cedric Beaume
  University of Leeds
  Melt fracture: a finite amplitude instability
  £149,625

- Dr Martin Birkett
  Northumbria University
  Super hard biocompatible coatings of beta Ti₃Au
  £224,630

- Dr Anthony Bishop
  University of Nottingham
  To root or not to root: an investigation into structural reduction in duckweeds
  £172,041

- Dr Bela Bode
  University of St Andrews
  Understanding sensitivity gains in pulse EPR on multimeric membrane proteins
  £131,468

- Professor Fernando Bresme
  Imperial College London
  Active nano-heaters: new approaches to rectify hyperthermia
  £219,111

- Professor Simon Clarke
  University of Oxford
  Chemical tuning of topological materials
  £86,140

- Professor Susan Evans
  University College London
  The early history and evolution of salamanders
  £334,236

- Professor Beverley Glover
  University of Cambridge
  TTG1, a multifunctional plant protein, has a novel role in circadian regulation
  £186,662

- Dr John Griffin
  Lancaster University
  Development of solid-state solar thermal fuels
  £149,748
Major Research Fellowships

Professor Catherine Alexander
Durham University
Forms and fears of failure
£145,270

Professor Amalia Arvaniti
University of Kent
Politics and linguistic variation in a post-diglossic speech community
£106,560

Professor David Brown
University of Southampston
The aristocratic tradition at its best? Shaftesbury, philanthropy and reform
£137,099

Dr Sam Coleman
University of Hertfordshire
Consciousness as bystander: exploring the mostly unconscious mind
£85,766

Professor Derek Duncan
University of St Andrews
Loose Ends: minor transnational Italian cultures
£114,022

Professor Lindsay Farmer
University of Glasgow
Rethinking the relationship between markets and criminal law
£141,554

Professor Chris Godsen
University of Oxford
Becoming Human: a new world history
£143,731

Dr Rick Knecht
University of Aberdeen
Yaprık culture before contact
£155,473

Professor Immene Lada-Richards
King’s College London
Poetics in the flesh: dance and poetry in first-century BCE Rome
£160,151

Professor Kate McLoughlin
University of Oxford
Silence: a literary history
£151,330

Professor Rana Mitter
University of Oxford
The Chinese postwar and the making of Asian order, 1945–1955
£178,065

Professor James Craig Muldrew
University of Cambridge
New abstract financial value and society in the early eighteenth century
£111,211

Professor Joy Porter
University of Hull
What Would Nixon Do? The forgotten republican roots of American environmentalism
£155,473

Dr Yossef Rapoport
Queen Mary, University of London
Tribal identity and conversion to Islam in rural Egypt and Syria, 1000–1500
£169,314

Dr Alice Rio
King’s College London
Early medieval legal cultures
£151,530

Professor Katie Scott
Courtauld Institute of Art, University of London
Open City: Paris and the arts in the eighteenth century
£166,380

Professor Martin Stokes
King’s College London
Urban Song of the Upper Euphrates (Turkey)
£166,221

Professor Jeremy Tanner
University College London
The Axial Age and the institution of art in Ancient Greece and China
£167,394

Professor Martin Thomas
University of Exeter
Globalising decolonisation: connecting processes of global transformation
£148,824

Professor Jan Toporowski
SOAS, University of London
The intellectual biography of Oskar Lange
£191,816

Professor David Treece
King’s College London
Music and anti-racism in contemporary Brazil
£166,590

Professor Laura Tunbridge
University of Oxford
A social and sonic history of the string quartet
£177,107

Professor Renata Tyszkczuk
University of Sheffield
Collective Scenarios: rehearsing, predicting, and speculating on climate futures
£177,322

Professor Neil Walker
University of Edinburgh
Law, community and utopia
£176,212

Professor Janet C E Watson
University of Leeds
The phonetics and phonology of Modern South Arabian: Mehri and Shubret
£104,765

Professor Gary Watt
University of Warwick
Rhetorical performance in courts of law and popular opinion
£175,554

Professor Clive Webb
University of Sussex
Moh violence against foreign nationals in the United States, 1850–1919
£151,317

Professor Björn Weiler
Aberystwyth University
Unity, diversity and the past in Europe, c. 1100–1300
£155,304

Professor David Wootten
University of York
Voltaire: made in England
£65,042

Arts Scholarships

Academy of Northern Ballet
£53,000

ArtsEd
£260,397

Birmingham Conservatoire
£291,000

Central School of Ballet
£151,330

Chelsea’s School of Music
£208,254

Circomedia
£25,184

City of Birmingham Symphony Orchestra
£187,056

Darlington Hall Trust
£47,520

Elmhurst Ballet School
£194,341

Gabrieli
£62,000

Glasgow School of Art
£235,983

Guildhall School of Music and Drama
£490,000

Leeds College of Music
£211,242

London Academy of Music and Dramatic Art
£367,500

London Contemporary Dance School
£432,726

London Film School
£180,884

London Sinfonietta
£105,000

Magpie Dance
£30,660

Mountview Academy of Theatre Arts
£140,095

National Centre for Circus Arts
£147,000

National Children’s Orchestras of Great Britain
£105,000

National Film and Television School
£444,000

National Youth Choirs of Great Britain
£107,120

National Youth Jazz Collective
£58,943

National Youth Orchestra of Great Britain
£475,983

National Youth Theatre
£254,210

Northern School of Contemporary Dance
£114,000

Opera North
£239,305

Phoenix Dance Theatre
£64,180

Pro Corda Trust
£159,800

Purcell School
£199,998

Rambert School of Ballet and Contemporary Dance
£90,000

Royal Academy of Arts
£106,500

Royal Academy of Dramatic Art
£285,000

Royal Academy of Music
£381,347

Royal Ballet School
£399,834

Royal Central School of Speech and Drama
£414,620

Royal College of Art
£235,995

Royal College of Music
£250,000

Royal College of Music
£490,000

City of Birmingham Symphony Orchestra
£291,000

London Academy of Music and Dramatic Art
£367,500

London Contemporary Dance School
£432,726

London Film School
£180,884
Royal Conservatoire of Scotland
£200,000

Royal Drawing School
£40,989

Royal Northern College of Music
£211,200

Royal Welsh College of Music and Drama
£430,000

Scottish Youth Dance
£74,700

Siobhan Davies Dance
£75,108

Snape Maltings
£140,400

Southbank Sinfonia
£133,500

Trinity Laban Conservatoire of Music and Dance
£453,000

Visiting Professorships

**Sciences**

Dr Hartmut Blank
University of Portsmouth
Visitor – Professor D Lindsay
£18,760

Professor Bhismadev Chakrabarti
University of Reading
Visitor – Professor Sonia Bishop
£91,284

Professor Sir Richard Friend
University of Cambridge
Visitor – Professor Russell Holmes
£53,842

Dr Andrew Jardine
University of Cambridge
Visitor – Professor Paul Dastoor
£37,202

Professor Lin Li
University of Manchester
Visitor – Professor Jiwang Yan
£30,893

Professor Ken Long
Imperial College London
Visitor – Professor Srubabati Goswami
£11,050

Ms Lisa Moffitt
University of Edinburgh
Visitor – Professeur Philippe Rahm
£78,678

Dr Felicity Rose
University of Nottingham
Visitor – Professor Kristi Klick
£57,692

Dr Chris Stock
University of Edinburgh
Visitor – Professor Christopher Wiebe
£27,855

**Humanities**

Professor Robert S. C. Gordon
University of Cambridge
Visitor – Professor Karen Pinkus
£75,384

Dr Lise Jaillant
Loughborough University
Visitor – Professor Ray Siemens
£36,918

Dr Erin Jessee
University of Glasgow
Visitor – Dr Leyla Neyzi
£76,654

Professor Nicola McLellan
University of Nottingham
Visitor – Professor Douglas A. Kibbee
£23,125

Dr Lisa Purse
University of Reading
Visitor – Professor Christine Holmlund
£28,097

Dr Patricia Sellick
Coventry University
Visitor – Professor Jake Lynch
£99,587

Professor Barry Smith
School of Advanced Study, University of London
Visitor – Professor Andreas Roepstorff
£11,050

Dr Athanassios Vergados
Newcastle University
Visitor – Professor Gianfranco Agosti
£11,796

Professor Nathan Widder
Royal Holloway, University of London
Visitor – Professor Jeffrey Bell
£33,456

Professor Richard Widdess
SOAS, University of London
Visitor – Professor Linda Barwick
£33,900

**Social Sciences**

Dr Iis Tussyadiah
University of Surrey
Visitor – Dr Daniel Fesenmaier
£37,150
Nurturing New Talent

Rambert School of Ballet and Contemporary Dance Arts Scholarship

Contemporary class with Paul Liburd.

Photograph: © Rambert School 2019

Spots, stars or stripes?
The evolution of eggshell surface topography

Dr Steve Portugal
Royal Holloway, University of London
Research Project Grant

Egg of bar-headed goose Collection of Jacques Perrin de Brichambaut.

Photograph: Roger Culos. CC BY-SA 4.0