Report of the Darwin200 committee

2009/2010

DARWIN200

University of Kent

Darwin 200 – a year of Events

The Darwin 200 committee is pleased to note a highly successful year of Darwin-related events of which we hope that the father of evolution would approve. Darwin's work transformed the way we view our world and the way we study it. He was highly controversial to religious organisations, both in his time and to the present day. Public lectures, a traditional birthday party and a film festival were just some of the events of this anniversary year that celebrated both his work and showcased the University's Kent's commitment to his immense intellectual legacy.

Darwin 200th Anniversary Committee Members:

Darren Griffin (Chair)
Sarah Johns (Vice-Chair)
Murray Smith (Vice-Chair)
John Baldock (Secretary)

Hilary Edridge, Lucy Carter, Anthony Ward, Nancy Gaffield, Deanna Wolf, Carole Pickaver, Miles Banbery, Edward Cartwright, Nicholas Newton-Fisher, Dee Ashworth, Jen Wyatt, Karen Doyle, Diane Houston, Fiona Jones, Charlotte Sleigh, Christine Eagle, Nigel Leader-Williams

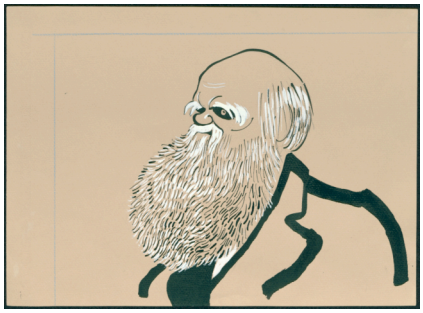
Mark van Vugt (original chair)

Happy birthday Mr Darwin

The year kicked off on Darwin's birthday itself (12th February) when the Biological Anthropology undergraduates organised a birthday party for him in the Marlowe Foyer. This included serving cake shaped like a chimpanzee, and singing Happy Birthday.

Darwin 200 exhibition

Opening on Feb 12th the Darwin 200 exhibition ran in the Templeman Library for several weeks and showcased the recent gift of the Jack Johns Collection: books by and about Darwin, his influences, followers and opponents collected by Mr Johns over the last 60 years. The exhibition was accompanied by a selection of cartoons from the British Cartoon Archive.



BioMeRG: inception and evolution

Also on February 12th was the launch of BioMeRG – the Biomedicine Research Group. BioMeRG was originally conceived as a cross-school forum, however since the RAE it has now focussed, in the School of Biosciences, on the biomolecular aspects of disease-related research. With its core areas of cancer, infectious disease, neuroscience and fertility, the group places an emphasis on real world applications for treatment, prevention and diagnosis. Research is not limited to humans either, with ongoing work on cancer in companion animals, genetic traits common to humans and agricultural species, as well as studies of genome evolution.

Professor Darren Griffin hosted the BioMeRG inaugural event in the newly opened Woolf theatre and gave an overview of biomedical research in the University. The main event however was the keynote lecture was given by Professor Peter Goodfellow entitled 'Will gene therapy work?' A reception followed in which displays of research work and sci-art were displayed.

In the last year BioMeRG has had a number of notable successes. In the cancer field, Professor Bill Gullick and his lab published work showing for the first time the complete pattern of expression of the members of the "Epidermal Growth Factor" (EGF) family in human breast cancer. These proteins are important targets for drugs such as Herceptin and a better understanding of their role in this disease will help to refine and improve the use of currently available drugs and suggest new strategies for drug development. Professor Fritz Muhlschlegel, who is also a Consultant Microbiologist, had a busy year. Not only did the swine flu H1N1 pandemic have a notable impact on his clinical work, but he and his team members spoke at meetings around the world in Japan, France and Italy and the UK and received two prizes. Mühlschlegel said "this year we made good progress in our quest to translate our basic discoveries in microbial pathogenesis to meaningful applications benefiting patients." Dr Anthony Baines' group has discovered a new component of the mechanism that nerve cells

use to produce “axons” (the long extensions that nerve cells produce to allow them to communicate e.g. other nerve cells or muscle cells). The Griffin lab had a hand in developing a novel approach dubbed “the Genetic MOT” – a Universal test for screening for genetic disease in IVF embryos. Finally, in the last few weeks The School of Biosciences contributed to a project of which we know Mr Darwin would have approved: the first genome sequence of a finch.

The group looks forward to further research success as well as new Masters courses in the areas of infectious disease and reproductive medicine.

Darwin Annual Lecture

The main event of the year was the annual Darwin lecture by Steve Jones, Professor of Genetics at University College London. Professor Jones was, (apart from being Darren Griffin’s former head of Department), in 1997, the winner of the Royal Society Faraday Prize for excellence in communicating science to UK audiences and is the author of a number of popular science books including “In the Blood: God, Genes and Destiny”; “The Language of the Genes”; “Almost like a Whale: The Origin of Species Updated.” He is also President of the Galton Institute, which promotes the public understanding of human heredity and facilitates informed debate about the ethical issues raised by advances in reproductive technology

On the 25th February, Professor Jones didn’t disappoint us; he filled the Woolf Theatre for the first time with his highly entertaining talk entitled “is human evolution over?” He argued that everything we know about the process of evolution suggested that, in western society, human evolution has slowed or stopped at least for the time being. The evening rounded up with a dinner in Darwin College and a birthday party for Charles Darwin.

Café Scientifique á trios

The bars in and around campus were treated to several events in the Café Scientifique series:

On March 3rd, Professor of Genetics, Darren Griffin delivered his talk entitled: Designer babies and evolution; myths and magic. In a highly visual display involving balloons, shredded paper and an expandable hosepipe, patrons of Rutherford Bar were challenged to explore some of the facts that surround the much-vaunted media phrase “Designer babies” and, in the process, dispel some of the myths that surround it.

Later in the year, Professor Murray Smith treated drinkers in Ye Olde Berverlie to a discussion entitled “The Film Instinct.” In 1994, Stephen Pinker published “The Language Instinct”, in which he argued that language is an evolved, biological adaptation. Early in 2009, Denis Dutton published “The Art Instinct” in which he argued, still more contentiously, that art is a universal practice with an evolved, adaptive value. In the intervening 15 years, evolutionary psychology - a crucial influence on both works - came to the fore of intellectual inquiry. In his discussion Professor Smith considered what pertinence evolutionary psychology, and the arguments of those like Pinker and Dutton, have had for our understanding of a modern medium like film. Is it folly to think in terms of something like a 'film instinct,' or might there be some method to the apparent madness of the idea? Moreover, are the methods and knowledge drawn from the sciences relevant to our understanding of cultural phenomena like film?

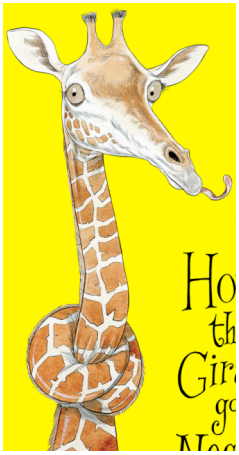
Evolutionary psychology also received another Caf Sci outing in the shape of Professor Mark van Vugt. Mark argued that the human brain evolved primarily for social reasons and enabled human ancestors to solve many important problems such as finding a mate, caring for offspring, sharing food, negotiating status hierarchies, and coordinating groups to fight rival groups. He went on to contend that our stone age minds are sometimes ill prepared to cope with the many challenges of modern society. For instance, we are more afraid of spiders and snakes than of cars and electricity, although the latter are far more deadly. He discussed various examples of a mismatch between modern and ancestral human environments creating problems related to sex, shopping and warfare.

Cultural Transmission Seminar Series

Co-organised by Dr Sarah Johns and Professor Roy Ellen, the School of Anthropology and Conservation hosted a weekly seminar series throughout the 2009 spring term that explored cultural transmission from both social and evolutionary perspectives. Speakers included Stephen Shennan, from the Institute of Archaeology at UCL and Alex Mesoudi from Queen Mary College, London who spoke about the usefulness of an evolutionary framework when exploring how humans acquire cultural knowledge. An edited volume resulting from this series is currently in development.

"How the giraffe got its neck."

The Gulbenkian theatre joined in on the act with the children's show from "Tall Stories" - the company who brought you The Gruffalo, The Snow Dragon and Monster Hits. Inspired by the stories of Rudyard Kipling and the discoveries of Charles Darwin the show was described as "an evolutionary entertainment" asking questions such as how the giraffe got its long neck, how the leopard got its spots and how the elephant got its trunk.



Film 2009

Gulbenkian film buffs were treated to "Creation" a biopic of Charles Darwin starring Paul Bettany, Jennifer Connelly, Toby Jones and Jeremy Northam. Creation is the story of Charles Darwin and the single most explosive idea in history. Darwin's great, still controversial, book The Origin of Species depicts nature as a battleground. "In Creation the battleground is a man's heart. Torn between his love for his deeply religious wife and his own growing belief in a world where God has no place, Darwin finds himself caught in a struggle between faith and reason, love and truth. A healthy young husband and father, Darwin's mental and physical health gradually buckles under the weight of guilt and grief for a lost child. But the memory of his daughter will return him to the world."

Also part of the Darwin Film season was "Reel Science." Expanding upon the Darwin bicentennial celebrations (and also integrated into the 2009 Canterbury festival programme), the Gulbenkian Cinema treated movie goers to a season of films and TV that looked at science and exploration onscreen. The season ran throughout October and some of the screenings featured introductions and guest speakers. The films included "Inherit the Wind" (1960) (about the Scopes Monkey Trial) and "The French Lieutenant's Woman" (1981) (about a 19th century biologist of Darwin's generation):

Darwin goes public

On March 30th students on the Masters course "Science, Communication and Society" (led by Drs Charlotte Sleigh and Dan Lloyd) presented their surprising and entertaining findings regarding the intriguing question "What does the public know about Darwin and his theory of evolution?" Darwin year and its profile-raising activities could clearly not have come too soon since the hard work by the Masters' students revealed a disappointing level of knowledge among University of Kent members and Canterbury residents. Despite the fact that Darwin's portrait is on the back of a ten pound note, less than half of those surveyed were able to select his picture from a selection of five bearded Victorians. Those with a university education tended to believe that the Origin of Species dealt with the progressive improvement of species, while those without tended to think it discussed the transition of apes to humans. The surveyors speculated that TV coverage emphasising Darwin's relevance for human evolution has been at the expense of an understanding of what he actually wrote. All was not lost however because, as Derek Fleming, one of the researchers, commented: "Although the results displayed a disappointing level of knowledge regarding Darwin, the process was interesting as a science communication exercise. Nearly all of the respondents were very eager to discover the correct answers."

Doctors perfect way to guarantee sex of a baby!

On May 20th to celebrate his appointment as Professor of Genetics, Darren Griffin presented his Inaugural Professorial Lecture entitled "Doctors perfect way to guarantee sex of a baby!" Drawing from his career-long research on chromosomes Professor Griffin described, in a series of accessible demonstrations, what chromosomes are, and how we go about analyzing them.

The talk explored how chromosomes influence evolution, sex determination, cancer, fertility, birth defects and how his work has prompted headlines such as the one in the title of his talk. He explained how diagnostics of IVF embryos has evolved both in the scientific arena and in the public perception and how the "designer baby" tag is tackled and avoided. The talk concluded with him outlining the prospects for a universal test for all genetic diseases (dubbed "the Genetic MOT") and the challenges that such a test will bring to science and society.

Also on display in the Woolf foyer were examples of sci-art including a contribution from artist in residence Annie Halliday.

We are impatient because we die

The Darwin year ESRC public lecture was delivered on May 28th by Professor Arthur Robson, Canada Research Chair in Economic Theory and Evolution at Simon Fraser University, In a thought provoking talk entitled "We are impatient because we die. But why do we die?" Professor Robson gave his audience in the Woolf lecture theatre a Darwinian perspective that shed light on why we are impatient i.e. why we discount future rewards. This evolutionary explanation derived from our basic demography during our history as hunter-gatherers.

Professor Fraser said: "Given what must have been low long run rates of population growth, our impatience can be linked to our mortality. Roughly, we are impatient because we die. Indeed, a Darwinian perspective helps to explain how the rate of discount or impatience might vary with age. Although at first blush, this perspective might suggest that the old should be impatient to an unrealistic degree because their mortality rates are high, a fuller treatment produces greater patience. But why do we die in the first place? Why do we grow old? More precisely, why do our mortality rates rise dramatically with age? Aging in this sense is a near-universal feature of complex organisms such as ourselves. But how could natural selection have favoured organisms that first improve with age in that mortality rates fall and then deteriorate with age in that mortality then rises? There has always been a huge investment in young individuals in the form of raw body mass and in terms of learning. How could it pay to discard such a huge investment and start over with a new individual? We consider a Darwinian resolution for this puzzle."

On the following day, there was the 29 May 3rd ESRC Workshop on the theme of "Charity giving, philanthropy and volunteering: implications from evolutionary and social sciences" in Keynes College, organised and chaired by Mark van Vugt, Sarah Johns and Brian Spisak. These workshops explored the implications of recent developments in evolutionary psychology for the world of business organisation, management, social policy, social cohesion, inter-group conflict, infectious disease and philanthropy.

Science Extravaganza!

Fast forward to the 8th and 9th of July where, in a "Science Extravaganza" run by the Science Faculty. Year 8 and 9 students experienced practical hands-on workshops being run by Biosciences, Computing, Electronics, Mathematics, Pharmacy and Physical Sciences.

Professor Darren Griffin led the opening talk "Designer babies; Myths and Magic" and the University was proud to welcome "Braniac" and "Big Brother" personality John Tickle who gave a highly interesting presentation on "being a nerd."

How cooking made us human

To mark the 150th anniversary of the publication of "The Origin of Species" Professor Richard Wrangham of the University of Harvard told an enthralled audience in the Woolf theatre about his work on "Cooking and human origins." Hosted by Drs Nick Newton Fisher and Sarah Johns of the School for Anthropology and Conservation and Professor Darren Griffin of the School of Biosciences this lecture Professor Wrangham shared insights from his new book Catching Fire: How Cooking Made Us Human.

Richard Wrangham is a world-leading primatologist and has studied the behavioural ecology of variety of primate species, including humans and is the director of the Kibale chimpanzee project, a long-term study of the Kanyawara community of chimpanzees in the Kibale forest, Uganda, now in its 22nd year. He has been prolific in his writing, with more than 150 journal articles and book chapters, and five edited volumes to his name. He has also authored Demonic Males: Apes and the Origins of Human Violence. Professor Wrangham signed copies of "Catching Fire" kindly supplied Blackwell's before his lecture.

DICE success with Darwin Initiative awards

The Durrell Institute of Conservation and Ecology (DICE), based in the School of Anthropology and Conservation was awarded four grants by the Darwin Initiative for the Survival of Species. The Darwin Initiative, announced by the UK Government at the Rio Earth Summit in 1992, aims to assist countries rich in biodiversity but poor in financial resources to implement the Convention on Biological Diversity through the funding of collaborative projects that draw on UK biodiversity expertise. DICE has been among the main recipients of Darwin Initiative funding, for projects as varied as conserving axolotls in Mexico to reintroducing paradise flycatchers in the Seychelles. DICE succeeded with three out of the 30 new project awards and one out of 13 post-project awards. Its new projects are:

In Madagascar, Dr Richard Griffiths, Dr Alison Rosser and their team will examine the dynamics of the international trade in species of chameleons that occur nowhere else in the world. In Sumatra, Professor Stuart Harrop and his team will examine how Islamic religious beliefs and local customary practices can be integrated with sustainable management of globally important rainforests. In Vietnam, Professor Nigel Leader-Williams, Dr Douglas MacMillan, Dr Alison Rosser and their team will study local hunting patterns of the ungulates that occur nowhere else but the Annamaite Mountains of Vietnam and Laos. The post-project award will allow Dr Richard Bodmer and his team to consolidate their Peru-based programme to certify that peccaries are harvested from sustainably hunted sources, and add value to pelts used to produce high-end leather products in Europe.

Darwin anniversary series to explore evolutionary psychology and its applications

A new Economic and Social Research Council-funded seminar series organised by Mark van Vugt, former Professor of Social Psychology, and Robin Dunbar, Professor of Evolutionary Anthropology at the University of Oxford, launched on Tuesday 13 January with a symposium on Social Brains and Social Networks. The aim of the series, titled Darwin's Medicine: Evolutionary Psychology and its Applications, is to examine the practical use of evolutionary psychology as a tool for making and informing policy. It was also the first systematic attempt to bring together and connect evolutionary psychologists with people involved in policy development in public and private sectors such as local and national governments, UK charities and international businesses.

The launch symposium took place in the Institute of Cognitive and Evolutionary Anthropology, University of Oxford and the guest speaker was Judith Donath, Associate Professor of Media Arts & Sciences and Director of the Sociable Media

research group at the Media Laboratory, MIT although future seminars will take place at the University of Kent and elsewhere.

Only skin deep?

Professor Murray Smith took the lead on a large-scale multi-disciplinary application to the Leverhulme major research fund on the theme of beauty; it involves several Kent staff members. The proposed project, if funded, would extend over five years with a budget of approximately £1.75 million and makes the evolution of beauty one of its central themes. Beauty appears in many varied contexts and people appeal to the idea of it not only in relation to art and nature, but also with respect to e.g. faces, everyday artefacts, and scientific theories. Beauty is also often thought of as something that transcends the ordinary, however the guiding hypothesis of the application is that this idea is misleading and in conflict with the value of beauty in the many domains in which it plays a role. The projects hopes to explore the diverse functions and uses of beauty in the varied contexts in which it is manifest and, through this investigation, arrive at a better understanding of the nature of beauty. The various proposed sub-projects will explore a range of these functions and contexts, drawing on the expertise and research methods of many disciplines including aesthetics, other branches of philosophy, art history, film studies, psychology, mathematics, computer science and behavioural ecology. Fingers crossed in March when Murray and colleagues hear about the application.

A Stirling lecture!

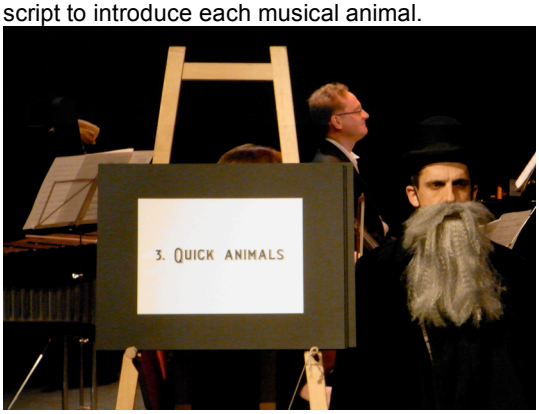
The 2009 Stirling lecture hosted by the School of Anthropology and Conservation was entitled "Biological Relatives: Kinship after Embryo Culture" and given by Professor Sarah Franklin, London School of Economics." Sarah Franklin is Professor of Social Studies of Biomedicine, and Associate Director of the BIOS Centre at the London School of Economics. She is particularly interested in reproductive and genetic technologies, and has conducted fieldwork on IVF, cloning, embryo research and stem cells. Her lecture drew on material from the book she is currently writing about the history of IVF. This was a return to Kent for Professor Franklin, who did her initial postgraduate work here in Women's Studies.

New MSc

The Schools of Anthropology and Conservation, and Psychology launched an innovative new MSc in Evolution and Human Behaviour. This combines both evolutionary anthropology, with a focus on the behaviour of both human and non-human primates, with evolutionary, social and cognitive psychology, to provide an interdisciplinary approach to understanding the origins and functions of human behaviour. The programme places a strong emphasis on critical thinking, the development of a good knowledge of both the broader subject area and specialisms within, and the opportunity to select from a range of optional topics.

Carnival of the Animals

Fresh from his bi-centennial celebrations, everyone's favourite evolutionist (albeit in the shape of Dr Olly Double) was at the Gulbenkian Theatre on Monday 30th November and gave an illuminating lecture on Saint-Saens.' 'Grand Fantasie Zoologique' was subsequently performed by Olly, Dr Daniel Harding and Professor Keith Mander and conducted by Sue Wanless. Dr Charlotte Sleigh wrote a Darwinian script to introduce each musical animal.



You think it's all over?

The Darwin year will formally close with the Darwin lecture by Professor Brian Boyd. Unfortunately, due to ill health the lecture scheduled for the 24th February has been postponed. We wish Brian all the best for a speedy recovery and look forward to his lecture when it is re-organised. The talk is entitled 'Open Fields: Darwin and the Humanities' Brian is the author of a groundbreaking work on the evolution of fiction called "On the Origins of Stories" and we look forward to this intriguing talk. There is one more event of note however, namely that of Dr Tim Lewens on Tuesday 23 March entitled 'Essence of Tiger.' Tim is a philosopher of science, and has written a well-regarded book on Darwin entitled "Organisms and Artifacts: Design in Nature and Elsewhere"; this talk will be about the nature of biological categories.

And finally…….

Charles Darwin lived and worked in the county of Kent for 40 years, from 1842 until his death in 1882. It was at his home, in the village of Downe, that he wrote the Origin of Species. Kent therefore has a long and closely allied history with the development and practise of evolutionary theory. The University continues to have close links with the Darwin family through Darwin College, now celebrating the 40th anniversary of its foundation. Darwin's theories on Evolution revolutionised biology to the extent that they are the foundation of all modern life sciences; their impact also continues to grow through the social sciences, the humanities and the arts as their implications for our understanding of ourselves becomes increasingly clear. The University of Kent was founded long after his time however we would like to think that, had he been around, he would have been one of our regular visitors. On behalf of the great man himself, let me thank all the members of the Darwin 200 committee and everyone who has contributed to the aforementioned events. Happy 201st birthday sir, the University of Kent salutes you!

Report prepared by Darren Griffin, Professor of Genetics (albeit with parts lifted heavily, and unashamedly, from the University web site and with help from individual contributors).