

*Galtonia candicans*

# The Galton Institute

## NEWSLETTER

Issue Number 80

Summer 2013

### EDITORIAL

In this issue we mourn the death and celebrate the life and works of Bob Edwards in a short obituary to add to that in Newsletter No 75 of Spring 2011. I shall be delighted if members wish to add their own tributes and if there are enough contributions we can have a special issue.

The account of the 1st Tarragona Laterality Conference is an example of where diverse disciplines which do not normally meet come together and may discover new concepts where the cusps of their fields touch. As a thwarted sinistral I have a personal interest.

The report of the African Society of Human Genetics meeting in Accra is tantalizingly brief, but its published proceedings will make up for that.

The third conference supported by the Institute is that of the EHBEA in Amsterdam in March 2013 and is also reported in this issue. With over three full days of papers and presentations this will also benefit from full publication and may expand upon the findings on reproductive timing and childhood adversity which Stephanie Clutterbuck also discusses in her personal report.

I make no apology for a second review of Tom Blaney's book *The Chief Sea Lion's Inheritance*. The first, by two talented six-formers

supervised by their Science Master, was in Issue No. 78. Professor Anthony Edwards offers a more mature and wide sweeping account. They all agree it is an excellent book.

### Obituary Robert Edwards

27 September, 1925 - 10 April, 2013

Professor Sir Robert Edwards, CBE, FRS died on 10th April 2013. He was a longstanding member of the Galton Institute and gave the 1982 Galton Lecture which was most prescient: he explained the difficulties of research in an unsupported field without dwelling on the active resistance he encountered. He devoted much time to discussing the ethics of his work; his thoughts are profound and anticipate much of what has occurred since. The magisterial account of his life by Professor Martin Johnson was published in the 75th Newsletter of Spring 2011; this provides the details normally found in an obituary.

Sir Robert altered the way people live by solving the problems behind in-vitro fertilization. He provided hope for the 10% of all couples who are infertile. So far over five million children have been born by IVF and the research interest spawned by this technique has led to refinements and a different approach to fertilization. Thereby he brought joy and happiness as well as life to millions of people worldwide; few can hope to achieve that in their lifetime.

**Geoffrey Vevers**

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# The European Human Behaviour and Evolution

## Conference 2013

The 8<sup>th</sup> Annual European Human Behaviour and Evolution Association conference was held at the Vrije Universiteit (VU) University in Amsterdam from March 24<sup>th</sup>-27<sup>th</sup>, 2013 (organized by **Mark van Vugt**, **Fleur Thomése**, **Josh Tybur**, and **Thomas Pollet**, as well as numerous student volunteers).

There were over 200 registered attendees and a packed programme including five plenaries, 42 talks, 95 posters, and one New Investigator Award Winner presentation. Funding was generously provided by the Department of Social and Organisational Psychology within the Faculty of Psychology and Pedagogical Sciences at the VU, the Department of Sociology within the Faculty of Social Sciences at the VU, and the Galton Institute. NWO (Nederlandse Organisatie voor Wetenschappelijk Onderzoek) and Springer Publishers supported the session on open access publishing.

### Day 1

On Sunday evening, **Joe Henrich** was the first plenary speaker of the conference, with a fascinating introspective of gene-culture coevolution in humans and the evolution of human cooperation.

### Day 2

After the official opening (by **Mark van Vugt**, the rector of the VU University **Lex Bouter**, and the president of EHBEA, **Robert Barton**), the morning plenary was given by **Cecelia Heyes** in which she likened how humans acquire their ability to understand others' thoughts through cultural and social learning, to the processes involved in learning to

read. **Gilbert Roberts** presented on cooperation and reputation-building behaviour as a social signal for partners. The morning session was then split into two concurrent sessions with **Caroline Uggl**a speaking about markers of parental investment in Sub-Saharan Africa, and their relation to children's outcomes, while **Kenny Smith** presented models relating to both the learnability and expressivity of language, and how different social structures predict one being favoured over the other. **Paul Mathews** then investigated whether subtle primes in the form of survey question ordering could have effects on human reproductive decision making. **Steije Hofhuis** then discussed the viral nature of witch persecutions. **Susan Schaffnit** presented her findings that living with one's parents hinders a woman's overall fitness, but promotes earlier first births. In the other session, **Dominic Mitchell** showed us a model predicting that in certain contexts, listening to gossip may be favoured even when it is likely to be low in veracity.

After lunch, we heard about **Daniel Taylor's** model on excludability of resources, with food sharing and warfare by the Ache and Turkana providing evidence that reciprocation may yet be able to fully explain human cooperation. On a very different topic, **Poppy Mulvaney** showed us that a man's facial masculinity can alter perceiver's willingness to present fair offers in an ultimatum game, with some cross-cultural differences noted between the UK and US. **Hannah Cornish** examined how a diffusion chain using learned sequences of the popular 80's pattern-learning game 'Simon' inevitably decreased in complexity within a few generations, likening it to language systematicity. **Michael Price** concluded the session with a study showing that in individuals and across US states, when women are financially dependent on their partners, anti-promiscuity sentiment increases.

After the coffee break, **Arno Riedl** showed us how competition for partners can sustain cooperation in groups of participants playing the prisoner's dilemma game. **Lars Penke**, using a 3D body and face scanner, found that participant's physical differences were either marginally predictive (men) or not predictive (women) of certain social personality traits. **Iris Holzleitner** showed us evidence that male masculinity, weight, and height, as assessed through 3D rotating face models, predicted perceptions of their masculinity and dominance, but not health. Following the talks, an interesting discussion of the future of open access publishing took place. **Rebecca Sear**, **Fiona Routley**, **Peter Nijkamp**, and **Kristen Hawkes** were the panel members providing their views on the future of open access publishing in the field of evolution and human behaviour.

### Day 3

The morning began with **Simon Gächter's** plenary, where he synthesised research findings from behavioural economics. Next, **Ulf Tölch** showed us that when individuals are confronted with different types of information, i.e. social vs. individual, in a social decision-making context, they behave in a less-than optimal way than predicted by Bayesian modelling. Afterwards, **Dave Mallpress** presented a potential model to explain variations in risk-seeking behaviour. There were again two concurrent sessions. In the first, **Antonio Silva** (the Best Student Presentation Winner) told us about context dependent cooperation as measured by the 'lost letter technique'. **Maxime Derex** then went on to discuss how process-copying produced better outcomes than either product-copying or individual learning in a virtual fishing-net making task. The first session concluded with **Lucas Molleman**, who examined the individual differences in social learning strategies used by participants across

four different, repeated laboratory games. Meanwhile, in the second concurrent session **Ton Groothuis** explained that left-handers do not appear to have any combat advantages and are not overrepresented in pre-industrial societies high in homicide, thereby challenging the 'fighting hypothesis'. Subsequently, **Ferenc Kocsor** presented on whether adult's and children's attachment and family experiences can dictate the preference for faces of strangers vs. faces manipulated to resemble their parents. **Lene Aarøe** concluded this session presenting her work on the relationship between anti-immigration attitudes and the behavioural immune system.

Following lunch, we reconvened to hear **Abraham Buunk's** plenary reviewing the many factors which may influence men and women's jealousy: from height, 2D:4D finger ratios, waist-to-hip and shoulder-to-hip ratios, to hormonal shifts during a woman's menstrual cycle. **Julien Barthes** then argued that high social stratification and hypergyny are likely factors in predicting male homosexual preferences. **Simon Powers** used mathematical modelling to ascertain that cooperation can evolve in small groups, and that through social institutions, this cooperation can be maintained even as these groups increase in size.

After a short break, **Paula Sheppard** showed, using a large longitudinal dataset, that girls whose mother or father was absent from the childhood home were significantly more likely to have sex earlier, marry earlier, and have children earlier than those with both parents present. Subsequently, **Paul Smaldino** presented a model-based approach to the evolution of cooperation in harsh environments, finding that these environments can select for cooperative behaviour, with specific emphasis on childrearing. Next **Ian Rickard** showed us that the adaptive develop-

mental plasticity hypothesis is not supported in a Finnish population using a longitudinal dataset, by presenting findings that individuals with greater early life adversity were more affected (lower survival and reproductive success) by subsequent famine in later life. Bringing the presentations of day 3 to a close, **Emily Emmott** presented longitudinal data showing that the negative effects on the educational attainment and behaviour in children due to step-father presence could stem from the step-father's lower investment in those children. After these presentations there was a poster session with a great variety of topics covered, and all sub-disciplines of EHBEA were represented. There were 95 posters in total, and some can be viewed at: [http://www.ehbea2013.com/ehbea\\_details/upload/list\\_posters.php](http://www.ehbea2013.com/ehbea_details/upload/list_posters.php)

#### Day 4

The last day of the conference started with a plenary by **Kristen Hawkes**, who proposed that humans differ in our longevity and reproductive cessation compared with other great apes, potentially due to the increased cooperation and grandmothering seen in our species. The morning continued with a talk by **Claire El Mouden (replacing Max Burton-Chellew)** who cautioned researchers not to over-interpret prosocial behaviours in public-goods games, as these results may be oversimplifications of more complex human behaviours. Finally, the last presentation of the session was by **Willem Frankenhuis** who tested a hypothesis on differential levels of developmental plasticity in children using mathematical modelling.

After a short break there were two parallel sessions. In the first session, **Masanori Takezawa** discussed how information transmitted over generations, through cultural evolution, may actually increase in sim-

ilarity as opposed to becoming more complex. **Cristina Moya** then presented her findings on inter-group prejudice and beliefs through an evolutionary lens. The last talk of this session was by **Fredrick Jansson**, who presented a mathematical model highlighting factors needed for the successful merging of cultures. **Martijn Egas** started the second session by showing us that when people judge whether to reciprocally help someone, they are more likely to trust their own personal experience rather than other's experiences with that person. Next **Edwin van Leeuwen** presented his research findings that chimpanzees will not switch to a new strategy in order to conform to a group majority, but will switch if the new strategy increases their maximum gains. The final talk of the session was given by **Edward Cartwright**, who presented evidence that two types of leadership roles can emerge in an evolutionarily stable strategy using a game theory approach.

After lunch, the last plenary of the conference was given by the EHBEA New Investigator Award Winner **David Lawson**, who discussed how, in humans, modern societal structure has affected the two main goals all organisms share – gaining resources, and reproducing. Next, **Joanna Bryson** argued that altruistic punishment may be a useful strategy to maximise public goods investment, using mathematical modelling simulations. To conclude this session, **Elisabeth Bolund** presented data using a longitudinal dataset to reason that while both men and women have different phenotypic optima for reproduction, there is likely no genetic conflict between the sexes.

**Aljaz Ule** led us into the last four talks of the conference by revealing that inter-group competition is able to foster intra-group cooperation and decrease indiscriminate punishment, in laboratory reciprocity games. **Mariska Kret** then presented her

research on how pupillary contagion can be used to inform decision-making as it can induce trust and decrease deception. Next, **Lisa DeBruine** spoke on the differences between morphological vs. perceptual masculinity in faces and suggested that using discriminant scores to measure male morphological facial masculinity may be inappropriate to accurately assess masculinity. Lastly, **Kristin Snopkowski** presented data using a longitudinal Indonesian dataset which showed that women

who lived with their parents had lowest reproductive fitness, while those living with their mothers-in-law had the highest. The winners of the poster and student presentations were also announced, with the former awarded to **Bronwyn Tar** for her poster 'Silent Disco Experiment: Dance synchrony, prosociality and endorphins' while the latter went to **Antonio Silva** for his presentation 'Lost letter measure of variation in altruism and parochialism in 30 neighbourhoods'.

**Viktoria Mileva**  
(University of Stirling)  
**and Thomas Pollet**  
(Asst. Professor,  
VU University Amsterdam.)

A modified version of this report is published in the EHBEA newsletter.

**EHBEA** would like to thank **The Galton Institute** who helped support this conference with a grant of £1,000.

## **Early pregnancy and childbearing: A psychosocial approach**

by  
**Stephanie Clutterbuck**

**Title: Childhood adversity, reproductive timing and interest in infants**

As a PhD student in the Centre for Behaviour and Evolution at Newcastle University I have been studying the relationship between childhood adversities, intended reproductive timing and interest in infants in adolescent females.

The relationship between childhood adversity and reproductive timing has been well supported in the literature. Females who experience more early life adversity tend to have a younger age at first birth than females who do not experience such adversity. To help explain this relationship I investigated the role of interest in infants as a possible psychological mechanism. Scientists have proposed that interest in infants may help females develop the caretaking skills needed to successfully rear children. Indeed females tend to show higher levels of interest in in-

fants than males, a difference that emerges during adolescence. I predicted that girls who have experienced greater childhood adversity will be on a faster reproductive trajectory and will also exhibit an increased level of interest in infants. To test this I recruited 354 girls aged 9-14 years from schools in the metropolitan borough of North Tyneside to take part in the study. The girls completed a questionnaire, which measured the common factors of childhood adversity such as parental absence, stepfather presence, number of siblings, neighbourhood deprivation, residential relocations, family support and perception of neighbourhood quality. None of the girls were mothers, so the questionnaire included an item on their ideal age at parenthood. Although we cannot be sure if this will mirror future reproductive behaviour, prior studies have shown that intended reproductive timing is a good proxy for actual reproductive timing. I also measured interest in infants using two different methods. One was a paper-based tool used previously by researchers to explicitly measure interest in infants and the other was a novel computer task I designed to measure this construct.

In line with my prediction, and the literature, I found that girls with higher levels of childhood adversity reported a younger ideal age at first birth. However, contrary to my prediction these girls were not more in-

terested in infants than their peers. In fact it was those girls with less childhood adversity, namely those with greater feelings of family support, who had more interest in infants.

Although these findings were unexpected, interestingly they do accord with evolutionary theories on reproductive strategies. We know that higher levels of adversity indicate a less predictable environment and one where resources may not always be readily available. In this type of environment a good strategy is to begin reproducing early and often because the scarcity of resources means there is less available to invest less in each child. Alternatively less adverse environments are more predictable and resources are likely to be more abundant. In this scenario it pays to have fewer children and invest more in each one. My findings that girls experiencing greater adversity want children sooner but are not necessarily more interested in them provides some evidence that these female reproductive strategies might be established relatively early on in life.

**The Galton Institute** are part-funding with Newcastle University this research into ***The Psychosocial context of early childbearing in North Tyneside.***

## First International Tarragona Laterality Conference

11-13 February 2013 at the  
IPHES  
(Catalan Institute of Human  
Paleoecology and Social Evolution) in Tarragona and excursion to the Mona Foundation in Girona, Spain.

The "TLC" was the first in what is hoped will become a regular conference. Its aim was to bring together laterality researchers from a wide variety of disciplines to discuss the genetics and behaviour of right- and left-handedness.

The origin of human laterality is a complex issue that is studied by several diverse disciplines which rarely communicate with each other, yet can benefit from exchanging knowledge. This conference brought together international experts from different disciplines to present the cutting edge of research on the origins and evolution of human handedness. This was the first time that all these disciplines came together to present the latest research in each field. Discussions focused on achieving a better understanding of the relationship between human genetics and behaviour.

The welcome speech was given by **Professor Eudald Carbonell**, the director of IPHES, which hosted the conference. He introduced the centre and stressed the importance of multi-disciplinary work to advance research on human evolution and behaviour. The first invited speaker was **Professor David Frayer**, who presented his latest findings of lateralised cut-

marks on prehistoric fossil teeth. These showed that Neanderthals were extremely right-handed. He presented tantalising new evidence to suggest right-handedness might extend as far back as *Homo habilis* at 1.8 million years ago. Next, **Dr Marina Lozano** presented her work on tooth cut-marks on *Homo heidelbergensis* fossils from Atapuerca, which also show an extremely right-handed bias, both in adults and children. Participants then discussed the diet of our ancestors, possible causes of the cut-marks, and the range of cultural activities that traditional peoples living today are known to do with their teeth.

**Dr Ignacio Martinez** continued with his work on evidence for speech in fossil humans, to complement the laterality data. The presence of speech can be inferred from skull shape, the ear's bandwidth perception capacities, and the shape of the ear bones. He presented the possibility that Sima de los Huesos hominins were at an intermediate stage of evolution, which could indicate an intermediate level of right-handed behaviour. **Dr James Steele** then gave an overview of his Hand to Mouth project, which focused on the evolution of speech, brain asymmetry, and handedness. He presented his latest data comparing primate and human brains to show which brain areas received the strongest selective forces in *Homo sapiens*.

After lunch, **Dr Amandine Chapelain** discussed her findings on an extensive project to map the hand preference patterns of bonobos (*Pan paniscus*) by studying a large part of the world's bonobo population. While she found that some individuals had strong hand preferences for one or several actions, there was no group-level bias, meaning individuals were either right- or left-handed. Thus, the human pattern of 85% right-handedness is not found among bonobos. This was followed by **Dr**

**Linda Marchant's** discussion of how manual behavioural laterality is measured, tackling pitfalls, terminology problems, and errors in statistical procedures. She highlighted issues that have been published despite lacking scientific rigour. **Professor Dick Byrne** discussed the problems of comparing handedness in human and non-human primates when the study methods and questions are different. After presenting his famous gorilla plant-processing techniques, he asked whether different species can even be compared, proposing instead that each species has its own task difficulty rankings.

From an evolutionary point of view, scientists are still trying to understand why there is a stable minority of left-handers in the human species, despite the prevalence of a predominant right-hand bias, which presumably evolved through selection. **Dr Michel Raymond** presented his findings in support of the "fighting hypothesis", which is one possible explanation for the persistence of this left-handed minority. In competitive sports, a left-handed advantage becomes stronger the closer the two opponents are to each other physically. Another hypothesis was tested by **Dr Alan Beaton**, who presented data from his hormone-sniffing experiments, which showed that androstenediol presented to the right nostril made men feel more lively, while when presented to the left nostril made men more aggressive and irritable. Thus it seems the hormone effects interact with the brain hemispheric differences.

**Professor Chris McManus** introduced the genetics topics with his data on geographical handedness variation. Interestingly, in the U.S. there are fewer left-handers among the Republican states. On Day 2, moving to a genetic theory of the evolution of brain laterality, **Professor Tim Crow** showed that a gene called Protocadherin 11XY is the only one

that changed during human evolution, thus making it the best candidate for human cerebral asymmetry and language. He argued this supports a saltational theory of evolution. **Dr Neil Roberts** continued this theme by discussing brain asymmetries in humans and chimpanzees, torque, and the planum temporale. **Dr Emiliano Bruner** discussed the pitfalls and methods of paleoneurology, arguing that asymmetries are not likely to be detectable. Moving onto living brains, **Dr Georg Meyer** presented results of brain imaging studies using ultrasound, which measures brain activation in the left and right hemispheres.

**Professor John Gowlett** presented his research on asymmetry in Acheulean bifaces, which show an offset symmetry which seems to be intentionally made by hominins 1 million years ago. Then **Dr Natalie Uomini** presented her work on the handedness ratios of prehistoric human ancestors, showing that the Neanderthals had a similar ratio as living humans. **Dr Marie-Helene Moncel** showed her findings from the Neanderthal site of Payre, in France, where symmetrical triangular flint points were, unexpectedly, used asymmetrically. These stone tool papers highlighted the importance of archaeological sites for pinpointing key dates in handedness evolution.

To close the second day, **Dr Miguel Llorente** presented his work on chimpanzee handedness at the Mona Foundation, which the conference visited on Day 3. His ethological and experimental program since 2002 revealed that different tasks elicit different levels of handedness. **Dr Marina Mosquera** followed on by discussing the results in terms of the task complexity theory, which proposes that hominins began needing to engage in more complex tasks at 2.5 million years ago when their

diet became generalist, thus necessitating more woodworking, plant processing, and meat consumption. The use of stone tools for butchery would have reinforced the slight right-hand bias already in place, which in turn promoted stronger brain lateralisation, which continued to reinforce the hand preference.

The lecture portion of the conference closed with a long and animated discussion about the links between disciplines and avenues for further research: key genes, finger role differentiation, preference vs. performance, laterality in mice, hand preferences across tasks, fists evolved for fighting, and the complexity of bi-manual collaboration. Then participants were treated to a tour of the IPHES building. They visited the fossil bone collections, preparation rooms, stone tool analysis areas, and research areas in which world-class human evolution research is being carried out.

Each evening after the talks there were poster sessions, where 8 registered participants presented posters. They were so interesting that the two hours allocated for posters were not enough. Topics were: handedness in stone tools (posters by **Amalia Bargallo** and **Eder Dominguez-Ballesteros**), language and laterality (posters by **Cedric Boeckx** and **Katherine Mumford**), handedness development (**Helene Cochet**), handedness in fossil hominins (**Almudena Estalrich**), laterality in monkeys (**Ana Morcillo**), and imitational handedness (**Nele Zickert**).

On Day 3, conference participants were taken by bus to Girona to visit the Mona Foundation chimpanzee sanctuary. First, the director of the centre, **Olga Feliu**, gave a brief presentation of the centre, explaining how the centre receives chimpanzees from various sources such as homes

(when the owners realise they do not make good pets), circuses (often sick from maltreatment), or customs officials (from countries trying to smuggle them into Spain). The centre tries to nurse them back to health – often succeeding – and then to integrate them into the social ape groups living at the centre. The work is supported by charity and has a thriving group of 14 chimpanzees as testimony to their success. The tour walked around the outside of the enclosure and was able to witness the food-filled hosepipes used to test hand preference, as well as being able to watch chimpanzees up close through a one-way mesh screen. This visit gave all participants an insight into the chimpanzees who are the comparative species of reference for handedness studies in humans, and it was much appreciated by all.

The TLC organisers (**Natalie Uomini** and **Marina Lozano**) would like to thank **The Galton Institute** for their generous support, with a grant of £1,000, without which this conference would not have been possible.

## GALTON INSTITUTE

### Conference 2013

The Royal Society

6 November, 2013

### Insect and zoonose genomes and human health

#### Speakers:

**Professor Francois Balloux**

**Professor Andrea Crisanti**

**Professor Jules Hoffmann**

**Professor David Horn**

**Dr Frank Jiggins**

**Professor Dominic Kwiatkowski**

**Dr Allan Spradling**

Admission free but strictly by ticket

From: [betty.nixon@talk21.com](mailto:betty.nixon@talk21.com)

**African Society of Human  
Genetics 8<sup>th</sup> Scientific  
Meeting held in conjunction  
with the H3Africa  
Consortium  
May 19th-21st 2013  
Accra, Ghana  
By  
Melanie Newport**

The 8th international scientific meeting of the African Society of Human Genetics (AfSHG), took place in May 2013 in Accra, Ghana. The meeting was held jointly with the Human Heredity and Health in Africa (H3Africa) initiative and was attended by over 150 people from all around the world. By coincidence AfSHG held its inaugural conference in Accra 10 years ago following the completion of the Human Genome Project (HGP) in 2003. The HGP delivered an accurate and publically available reference sequence of the human genome, which had provided scientists with unprecedented opportunities to use information encoded in our DNA to shed light on human history, health and biology. Given the anticipated scientific and economic impact of the HGP, there was a need for a society of human genetics that would address specific challenges associated with undertaking genetics research in African populations and ensure that the existing equity gap in health care and research capacity between high and low income countries did not widen as a result of such advances. AfSHG was thus established and its first meeting held in Accra in 2003. The primary aim of AfSHG is to equip the African scientific community and policy makers with the information and practical knowledge they need to contribute to the fields of genetics, research and to attract global attention to the efforts of African scientists. AfSHG was instrumental in the establishment of the H3Africa initiative, a programme funded by the Wellcome

Trust and the National Institutes of Health (NIH) to support African scientists to work on African diseases, in African populations, in Africa ([www.h3africa.org](http://www.h3africa.org)).

The theme of this year's conference was 'Advancing Genomics Research in Africa'. The scientific programme opened with a keynote address from Professor Dame Kay Davies, from the University of Oxford, who spoke about her translational research programme in Duchenne muscular dystrophy - from molecular biology to public health. Dame Kay played a key role in the discovery of the molecular basis of Duchenne muscular dystrophy and after an explanation of the biology of the disease she discussed advances towards developing novel therapies for the disease. There have been exciting developments in the field that bypass many of the challenges of using established gene therapy methods for this condition (for example, the mutated gene is very large) and clinical trials in humans are on the horizon.

There then followed sessions on the migration history of the African people covering evolutionary, anthropological and genome perspectives (all credit to the speakers in this session who delivered their talks without Powerpoint slides during a 2 hour power cut), followed by a session on admixed African ancestry population covering conceptual understanding of admixture and how it can be used to map disease genes. Each session was led by two or three invited speakers giving overview talks followed by short presentations that were selected from submitted abstracts. A session on genomics and genetics of infectious diseases covered trypanosomiasis, drugs resistant tuberculosis, leishmaniasis and malaria.

Day 2 began with a teaching session on the analysis of genome wide association and sequence data followed by a session on the genetics and genomics of non-communicable diseases covering obesity, type II diabetes,

kidney disease and cervical cancer. Our second plenary keynote talk was delivered by Professor Griffin Rogers, Director of the National Institute of Diabetes, Digestive and Kidney Diseases at NIH who spoke about the translational research in non-communicable diseases such as diabetes that is on-going in the USA, and its implications for African populations.

Sessions on pharmacogenomics in the African context and developing bio-repository infrastructure in Africa were well-attended and focused on some of the H3Africa projects and the challenges of developing bio-repositories in Africa. Nicky Mulder and Nicky Tiffin ran a session on bio-informatics for Africa and described their work developing an African bio-informatics network. The highlight of the day was a keynote address from Professor Sir Walter Bodmer (University of Oxford) and Professor Ebenezer Laing (University of Ghana) entitled 'RA Fisher, Human genetics and the genetic structure of the UK population'. Sir Walter and Professor Laing were PhD students together in Cambridge and RA Fisher was their supervisor, so there was an historical aspect to the talk that was fascinating for the whole audience and paved the way for Sir Walter to present his research on genetic diversity within the UK population.

The final day saw sessions on genomic approaches to Mendelian disorders in Africa and ethical challenges in genomic and genetic research in Africa. The conference finished with a panel discussion around training and career development in genetics and genomic science in Africa, which was very useful for the audience. Young investigator prizes were awarded to the best oral presentations and posters from eligible participants. Delegates then enjoyed a fascinating guided tour of the Kwame Nkrumah Memorial Park.

Further details of programme and speakers can be found on the AfSHG

website ([www.afshg.org](http://www.afshg.org)) where photographs and Powerpoint presentations from the meeting will be posted. We are grateful to our supporters in particular the Wellcome Trust and Affymetrix, as well as others

acknowledged fully on the website. We are particularly grateful to the **Galton Institute** which helped fund the conference with a grant of £1000 allowing an early career African researcher to attend and present her

research.

**Melanie Newport** is Professor in Infectious Diseases and Global Health at Brighton and Sussex Medical School.

## BOOK REVIEW

**Tom Blaney:**

***The Chief Sea Lion's Inheritance: Eugenics and the Darwins*** Pub. Matador (2011), ISBN 978 1848766 211. £10.99.

For the Darwin bicentenary in 2009 the University of Cambridge did not celebrate as it did with its 1909 'Darwin Celebration' – Honorary Doctorates of Science for twenty foreign scientists and Francis Darwin, Reception by the Chancellor Lord Rayleigh, Presentation of Addresses from Universities, Academies and Learned Societies in the Senate-House, and the Rede Lecture by the President of the Royal Society. More in keeping with the times, in 2009 a 'Darwin Festival' was held, with a host of well-known Darwinian speakers from David Attenborough to Richard Dawkins. But Gonville and Caius College had something special to celebrate, and with the cooperation of the Department of Genetics a small exhibition was held to mark the centenary of the matriculation of R.A.Fisher. Thus began the academic life of the man whom Dawkins in *The Blind Watchmaker* was to call 'The greatest of [Darwin's] successors', who was befriended and encouraged by Leonard Darwin ('surely the kindest and wisest man I ever knew'), who corresponded with George Darwin's son Charles Galton Darwin, one of the reviewers of Fisher's Darwinian magnum opus *The Genetical Theory of Natural Selection*. Two years later – just a century ago now – Fisher and his friend C.S.Stock of Clare founded the Cambridge University Eugenics Society. Horace Darwin was on the Council and Francis and George members. So were

R.C.Punnett (Caius, 1894), about to become the first Arthur Balfour Professor of Genetics, and John Maynard Keynes (not a bad choice as Treasurer).

George, Francis, Leonard and Horace were, of course, four of Charles and Emma Darwin's sons, and Fisher knew them all (William, the fifth and eldest, had become a banker and was not involved). Fisher was to become a sort of honorary Darwin, the son that Leonard Darwin never had, and when his own son Harry was born, Leonard was his godfather and Harry was given 'Leonard' as his middle name.

Little did I know, as I put together this material linking Fisher with the Darwins and the Darwins with the Eugenics Society for the Caius exhibition and a 2009 Darwin bicentenary lecture in Bristol, that Tom Blaney was making the very same connections. His inspiration came through having been a scientist at the National Physical Laboratory which Charles Galton Darwin – Sir Charles, the 'Chief Sea Lion' – had headed from 1938 to 1949, and then through taking an Open University course *Good Breeding* and discovering the same Sir Charles's involvement in eugenics. And the involvement of the other Darwins too. The course's *Study Guide* by James Moore (which he had been kind enough to give me) is a brilliant introduction to the field, but the course itself is, alas, no more.

Tom's well-written book is exactly what was needed. Whilst centred on C.G.Darwin and his uncle Lenny (Leonard), it is amongst other things a first-rate introduction to the whole Darwin clan. The involvement of so many of them with the British eugenics movement (not to be confused with the continental or American varieties) is sympathetically de-

scribed, and one can see how the enthusiasm which first greeted the implications of Mendelism for Francis Galton's ideals rather quickly evaporated amongst the members of a family too thoughtful and too cautious to embrace any measures likely to have effect. C.G.Darwin was the only one of the third generation to have had any involvement, but as Tom succinctly states 'And when it came to his great interest in later life in the theories of his namesakes, grandfather Darwin and godfather Galton, he had little new to say, but was never short of confidence in saying it'. On 29 April 1958 C.G.D. gave the Rede Lecture in the Senate-House on 'The Problems of World Population'. Some of us research students from the Department of Genetics (from which Fisher had retired six months previously, but was still around) went to hear the lecture. I recall that we were not very impressed, but perhaps we just did not like a physicist trespassing on our territory.

Of fourth-generation Darwins Tom might have noticed Milo Keynes, third son of Geoffrey Keynes and Margaret, C.G.D.'s and Leonard's sister, who died early in 2009 after many year's sterling work for the Eugenics Society and its successor the Galton Institute, especially in organising excellent meetings and editing or co-editing the resulting books.

Tom has written a lively, informative, accurate, readable and much-needed book. Congratulations!

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