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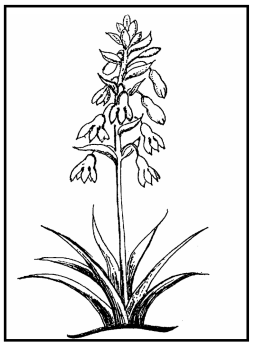

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The Galton Institute

NEWSLETTER

Issue Number 78

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Contents

EDITORIAL

This issue looks to the future with Bob Johnston of St Mary's College Liverpool writing about the importance of sixth formers being introduced to research as a way to encourage them to discover the joys of science and, in this case, genetics.

We also have an admirable book review by two of his pupils which is another way of encouraging the talented to consider a life in science.

Ideas for expanding this aspect of the Institute's activities will be most appreciated. The possibility of an essay prize for sixth formers has been mooted.

The history of the preservation of the archives of geneticists and the plans for the future are detailed in a timely and comprehensive contribution by Tim Powell which I strongly commend.

Obituary

Major Henry Herbert Kitchener 1919-2011

Henry Herbert Kitchener, who died on 16th December, 2011 aged 92, was a member of this Institute for sixty four years and therefore warrants an obituary here.

Better known as the 3rd Earl Kitchener of Khartoum his views were more akin to those who founded the Eugen ics Society than the modern Galton Institute. He was a keen correspondent with the Galton Institute.

Like the famous 1st Earl he chose not to have children, which may seem surprising. When the Earldom was created it was known that the 1st Earl would never have children, so a special remainder was created in favour of his brother's heirs. With sex equality this would no longer be possible and it was this which triggered the Hon. Emma Kitchener Fellows, now Lady Fellows, to encourage the succession of women to all hereditary peerages. Nearly a century after its creation the title dies.

Henry Herbert was educated at Winchester and inherited the title in 1937, the year he went to Trinity College Cambridge. He was a Page of Honour at the coronation of King George V1 and served in the Royal Corps of Signals in the second world war. His working life was spent as a physicist at ICI's Alcali Division in Cheshire and from 1959 he was President of the Organic Food Society. He lived with his widowed sister, Lady Tatton Brown, near Chichester where he died.

He was most hospitable to members of the Kitchener Scholars Association and hosted a tea after the annual service for old Kitchener Scholars in St Paul's Cathedral.

Geoffrey Vevers

Published by:

The Galton Institute
19 Northfields Prospect
Northfields
LONDON SW18 1PE

Telephone: 020-8874 7257
www.galtoninstitute.org.uk

General Secretary:
Mrs Betty Nixon

Newsletter Editor:
Dr Geoffrey Vevers

ENCOURAGING GOOD RESEARCH PRACTICE IN SIXTH-FORMERS

by

Bob Johnston

As a teacher of Sixth Form Biology for the past 36 years, I am always looking for ways to stretch my students and give them an insight into the study of Genetics and other fields, beyond what is expected by the examination board.

During my early years of teaching, expecting a class of 20 students to carry out such research was asking a lot. There was probably one copy of a relevant book (most likely out of date) in the school library and there would have been a scramble to see who could reach it first. The more resourceful sixth-formers might try their local library, but still their chances of success were slim.

There were, of course, always class textbooks and even now they have their uses when examination revision beckons. But as a source of detailed information, they are of limited value. They are often out of date and are aimed to cover the narrow confines of an exam board's specification. Indeed many publishers now pride themselves on the links they have forged with a particular examination board.

What has changed in the past 30+ years? Technology has of course advanced to the point where every student can access a world of detailed information, on any subject, in a matter of seconds and in the comfort of their own home. The days of the library dash are truly over. I hasten to add that the range of students' abilities has not changed. There will always be those who rush to the first website they can find (or even worse, head straight to dreaded 'Wikipedia') while others spend so long searching that, in the end, they cannot decide what is relevant to the task. Very few of my students have mastered the art of such research before they leave school and I only wish there was more that I could do.

What are the options available to the resourceful sixth-former? They can 'Google' a topic (Google Scholar is a better bet) or they can ask their school librarian to help sift through the available information. Perhaps, as at my school, there is online availability of 'Nature' or 'New Scientist' and maybe some hard copies. But it's a tall order for sixth-formers with so much else on their plates.

In any case, most articles in academic journals are simply not intended for even the best A-level scientists. To expect my students to read and appreciate them is asking too much. Likewise, most academic websites offer little help to sixth-formers.

How many new undergraduates also find the demands of such research so daunting they avoid it, whenever possible, for the next three years? I find it hard to believe that a magical transformation happens in the two or three months between school and university. Therefore, I believe secondary schools should play a greater role in preparing undergraduate scientists to meet such challenges.

We at the Galton Institute should encourage some of our best young scientists to discover the excitement and challenge offered by a detailed study of genetics and the Biosocial Sciences we find so fascinating. But to do this we must find ways of making information more readily available.

How can we help them? How can we stretch the most able and most interested without swamping them with a plethora of information?

The old Institute of Biology produced a wonderful series of booklets called 'Studies in Biology', with topics ranging from 'Pest Control' to 'Animal Behaviour'. As with all such products, they soon became out of date, but they were very useful in their day. The Galton Institute has also produced excellent booklets on topics such as 'Stem Cells' and 'Human Abilty: Genetic and Environmental Influences' among others, but most teachers are unaware of their existence and have such limited budgets they cannot afford to buy more than one copy of each.

So what's the answer?

I think that learned societies have a role (if not a duty) to produce and publish online information on relevant topics which could be of value for sixth formers to increase their knowledge and, at the same time, stimulate interest and encourage future study in a particular field. The Linnean Society already has such educational material for A-level students on their website, regarding taxonomy, evolution and biodiversity. I believe that the Galton Institute should do the same. Booklets look good but downloadable material on a website is far more useful. Any student can access it and, of course, as research reveals new information, it can be updated.

There would be a need to inform Biology teachers that such information is available and this could be done by email. Every 11-18 secondary school has a Head of Science who could be sent the link to our website. Alternatively (or in addition), school librarians could be contacted, again by email or through CILIP to which they all belong.

Therefore, I am asking the experts in their fields if they would be willing to produce material (less than 3,000 words) which could be placed on the Institute's website. Perhaps academic staff could delegate the job to an undergraduate or postgraduate student. I should be more than willing to coordinate and oversee the content of these articles. Authors might like to include links to other websites or even their own university departments. Useful topics might include: 'History of Eugenics in Britain', 'Work of Francis Galton', 'Study of Nature v Nurture', 'Epigenetics', 'Inborn Errors of Metabolism', 'Medical Cytogenetics', 'Population Genetics and the Hardy Weinberg Principle'. Needless to say, any contributions would be most valuable and over time we could build up a significant number of documents.

We must never forget that all our great scientists first developed their enthusiasm while at school. Anything we can do to encourage sixth-formers and aid development of their research skills must be welcomed.

Bob Johnston
Head of Science,
St. Mary's College, Liverpool

THE HUMAN AND MEDICAL GENETICS ARCHIVES PROJECT

by

Dr Tim Powell

For the past nine years an ongoing archives project has sought to ensure the archives - the unique records, whether paper, electronic or photographic - of some of Britain's most distinguished human and medical geneticists are preserved, catalogued and made available for future scholarly research. The context for this project is the concern that arose within the field of human and medical genetics to record its history.

During informal discussions at the European Society for Human Genetics conference in Strasbourg, France, in May 2002, it became apparent that a concern to preserve key information on the origins and development of human and medical genetics was widely shared within the field and that a number of geneticists had active historical interests. With encouragement and funding from the Wellcome Trust, further discussions were held and the Genetics and Medicine Historical Network emerged, led by the clinical geneticist Professor Peter Harper of Cardiff University, and a website was constructed (www.genmedhist.org). This was followed by further Wellcome Trust support for Professor Harper's project 'Preserving the History of Human and Medical Genetics' to build up a Historical Library within Cardiff University Special Collections, a definitive international collection of books on or related to the field. Professor Harper also embarked on a programme of oral history interviews with leading figures in human and medical genetics.

In the course of these activities Professor Harper enquired of the scientists he was interviewing whether they had any surviving archival records and if so, what provision had been made for their preservation. He found that some did indeed have archives but few had given any thought to what was to happen to them, and that a number of archives were under immediate threat.

Professor Peter Harper's report to the Wellcome Trust recorded:

"A total of 27 important individual UK researchers in human genetics, mainly retired or recently deceased, whose personal scientific records would form an important element of the history of the field, have been identified. All living individuals have been written to regarding the extent and type of their records and the plans and wishes for their archiving. PSH [Professor Harper] has also made a series of personal visits to individuals regarding their records."

In 2003, early in the development of the Genetics and Medicine Historical Network, Professor Harper approached the National Cataloguing Unit of the Archives of Contemporary Scientists (NCUACS), a specialist scientific archives centre based at the University of Bath, to discuss how the new Network and the NCUACS could work together. The NCUACS had processed the archives of a number of important figures in genetics including Cyril Clarke, E.B. Ford, C.D. Darlington and A.E. Mourant, and had an international reputation for excellence in processing scientific archives. The NCUACS did not retain the archives it processed and the distributed solution was one ideally suited to the preservation of genetics archives, where the creation of a central repository would have been impossible. Thus the archive of Cyril Clarke had been placed in Liverpool University, those of Ford and Darlington were at the Bodleian Library, Oxford, and Mourant's archive was housed by the Wellcome Library, London.

The discussions between Peter Harper and the NCUACS were productive and in the fourth Genetics and Medicine Historical Network newsletter, Professor Harper was able to announce the commencement of a joint project to try to ensure the preservation of archival documentation of British human and medical genetics. The concluding chapter of Peter Harper's book *A Short History of Medical Genetics* (2008) records the concerns that prompted his initiative.

As an immediate result of Professor Harper's work the NCUACS (of which I was senior archivist with particular responsibility for biomedical archives) helped to rescue and catalogue archives of J.H. Renwick (for Glasgow University Archives), C.A.B. Smith (University College London) and M.A. Ferguson-Smith (Glasgow University Archives). These archives were very different. The Renwick archive was very largely records of his research in the 1960s and early 1970s. This archive had been saved from immediate destruction through the action of Professor J.H. Edwards and Professor Sue Povey, who realised their historic importance, but had thereafter languished in a basement that was about to be demolished. The Ferguson-Smith archive, by contrast, contained little research but was dominated by a superb correspondence.

As the wealth of archive material emerged from Professor Harper's initial enquiries, I discussed with him a more professional and comprehensive survey of the archives of leading figures in the field that he had identified. In the autumn of 2008 I undertook a survey of archives of genetics, and in the course of this surveying work I also consulted archives colleagues and historians of science in London, Cambridge, Exeter and Glasgow.

Arising from this ongoing collaboration in identifying key archives in the field, I put together a scheme that proposed all these scientists' archives being catalogued and preserved in one comprehensive project. It was a significant feature of the project that most of the project scientists were still alive. While it is always exciting to be able to process the archives of significant figures in a newly emerging discipline, it was noteworthy that in this case scientists active in the field themselves were at the forefront of concern about the fate of the archival record.

Unfortunately, both for the project and for scientific archives more generally, the NCUACS ceased to exist at the end of 2009. However, with support from the Wellcome Trust, I was able to advance elements of the project in instalments. With backing from Cardiff University Special Col-

lections and Archives, the project moved to Cardiff for 2010-2011 where I and Simon Coleman, a colleague from the NCUACS, added the archives of J.H. Edwards, G.R. Fraser, and the MRC Human Biochemical Genetics Unit to the list of geneticists' archives preserved. They have been placed in Birmingham University, the Wellcome Library and University College London respectively. Simon Coleman continued the work the following year, including archives of Peter Harper himself (for Cardiff University), Rodney Harris (University of Manchester), additional records of C.A.B. Smith, and re-cataloguing of some William Bateson archives for Cambridge University Library.

The project also began a second strand in Oxford for 2011-2012, under the auspices of the Bodleian Library, again with Wellcome Trust support. With my colleague Adrian Nardone, also with NCUACS experience, the sorting and arrangement of the archive of Sir Walter Bodmer and Julia, Lady Bodmer, was undertaken. This huge archive was in a warehouse in Cowley, where it occupied the whole of the upper floor of one unit (at the beginning of the project it filled over 50 four-drawer filing cabinets, 10 metal cupboards and over 450 records boxes and boxfiles). A list was prepared and the archive boxed and moved to secure storage. With the essential preliminary work completed, cataloguing of this archive will continue at the Bodleian Library.

It is worth saying a little more about the Bodmer archive. It is larger than all the previous genetics archives processed by the NCUACS and the ongoing genetics project put together. It offers comprehensive documentation of nearly all aspects of the career of Sir Walter, from his undergraduate days onwards to the present day. Well-represented aspects include his research, correspondence and papers relating to his periods as Director of Research and Director-General of the ICRF, a voluminous scientific correspondence; material relating to his publications, teaching and public lectures, documentation of the many societies and organisations with which he was associated, and conference material. Material of Julia Bodmer is focussed on her later scientific work from her period as the head of the Imperial Cancer Research Fund Tissue Antigens Laboratory and co-headship of the Cancer and Immunogenetics Laboratory at the Institute of Molecular Medicine, and her contributions to the HLA Workshops.

The genetics archives catalogued and made available through the project are each individually significant in the history of genetics and, particularly in the case of Walter Bodmer's archive, to biomedicine and science more widely. However, while each of the archives is of interest in its own right, its interest is considerably enhanced by the connections that can be made between it and with the other archives already and being processed. And now the Wellcome Library in London is initiating a project to digitize some of the most important genetics collections that have been catalogued, including those of Mourant, Ferguson-Smith and Renwick. This will make access to this important material even easier.

The European Human Behaviour and Evolution Conference 2012

This conference was held between Sunday 25th and Wednesday 28th March 2012 at Durham University. Once again, the conference mixed talks and posters across the full range of cultural evolution, evolutionary psychology and human behavioural ecology. Seven plenaries, 42 presentations and over 80 posters provided food for thought, while local beer and rap music gave delegates some well-deserved downtime.

The conference would not have been possible without the skill and dedication of Lynda Boothroyd, Jeremy Kendal, Rachel Kendal and Jamie Tehrani who formed the local organising committee. Special thanks go to the British Academy, the Wenner-Gren Foundation, the Galton Institute, Oxford University Press, Princeton University Press and Durham University's Department of Anthropology for their generous financial support.

Day 1

The welcome address, including a short historical and cultural tour of the city of Durham, was followed by the public plenary talk. **Leslie Aiello** presented a retrospective of her renowned Expensive Tissue Hypothesis, which placed energetic trade-offs at the centre of human evolution, and discussed the validity of the Hypothesis as it stands today.

The evening was rounded off by a wine and buffet reception in nearby Grey College where delegates relaxed and mingled in preparation for the coming three days of science.

Day 2

The first full day of the conference began with **Monique Borgerhoff Mulder's** plenary examining the ways in which the Pimbwe, a Bantu forager-horticulturalist population in Tanzania, respond to inequality. The morning session continued with **Daniel Haun** presenting evidence for how human children and chimpanzees copy new skills from the majority in their groups, whereas orangutans do not. **David Coall** ended the session by talking about how stressful events in childhood are associated with earlier reproduction while later stress can delay reproduction.

After a coffee break, **Alexandra Alvergne** presented a life history perspective on how the adoption of contraceptives is aimed at optimising offspring survivorship. Following the theme of reproduction, **Mhari Gibson** discussed trends in education, marriage practices, risk avoidance and the demographic transition among the Arsi Oromo. **Matthew Gasperetti** gave an account of his research into the origins of agriculture in the southern Levant and **Douglas Mastin** found that kinship structures can substantially change language-learning models in a Mozambican population.

The second plenary of the day was given by **Ian Penton-Voak**, who spoke about biases in the social perception of attractiveness, personality, behavioural intentions and emotions in faces. Continuing the afternoon session was **V. Coetzee** demonstrating the changes in attractiveness and weight preferences among African participants. **S.C. Roberts** led us into a coffee break with a talk on oral contraceptive use and its effect on sexual satisfaction

The language evolution session was addressed by **Bart de Boer**, **Bill Thompson** and **Hannah Cornish** discussing human protolanguage, the impossibility of linguistic nativism and the evolution of hierarchical structure in languages. The parallel demography and fertility session, featuring **Aida Nitsch**, **Heidi Colleran** and **Kei Willführ**, looked at alloparenting, migration and mortality in two historical populations as well as fertility behaviour among rural Polish populations.

The sessions ended with a funding workshop run by **Leslie Aiello** from the Wenner Gren Institute and **Dajana Dzanovic** from Durham Research Office. The evening culminated in a river cruise around Durham.

Day 3

Leading the plenaries for the third day was **Simon Kirby's** call for language structure and transmission to be explained by cultural rather than biological evolution. Continuing with linguistics, **Fiona Jordan** looked at how meaning changes across languages and over time. Then **Jonathan Wells** presented evidence that, contrary to evolutionary theory, being born after a brother was beneficial for females in an Indian cohort.

Following coffee, **Kristin Snopkowski** tested five models of the demographic transition, showing that knowledge of and access to contraceptives, alongside parental investment, resulted in reduced fertility. **Keith Jensen** had the audience in stitches with a hilarious talk about the limits of helpful behaviour in chimpanzees. **Corey Fincher** looked at the links between parasite stress, religiosity and the strength of family ties, while **Mark James Adams** led us with a discussion on the genetic correlates between fitness and personality.

Hanna Kokko's plenary looked at sex roles and sex differences in paternal care, persuading the audience that humans are in fact like birds. Following this revelation, **K. Smith** implied that language transmission may not be enough to produce predictability in variation. Finally, **Keelin Murray** suggested that observers in a society can access potential partners by listening to their music.

One strand of the parallel session featured talks about sociality covering alloparenting, sexual dimorphism and partner choice (**Antti Tanskanen**, **Jonathan Wells** and **Jamie Lawson**). **Tom Currie**, **Tom Dickins** and **Michael Dunn** took us on a journey from epigenetics, through language to political complexity in the cultural evolution session.

Debate during the poster session was encouraged by a selection of locally-brewed ales. Baba Brinkman outlined his rap guide to evolution for an audience of initially-bemused academics, leading us in the historically if not grammatically correct chant, "I'm a African."

Day 4

The final day began with a plenary from **Andrew Whiten** who reviewed his studies on apes, monkeys and children looking at conformity effects and culture. **Kari Schroeder** continued the theme by looking at proximate hormonal mechanisms for normative behaviour. The morning was capped with **Arnaud Tognetti** using a public goods game to investigate sexual and social selection on cooperative behaviour.

Lewis Dean used experimental techniques to delve into the processes underlying cumulative culture in humans versus chimpanzees and capuchins. Segueing from the cute videos, **Gilbert Roberts** removed the social dilemma from public goods games by introducing punishment. **Peter Richerson** then outlined a model of technology evolution in hunter-gatherer and agricultural societies. The morning was finished with **Lara Wood's** research into how children solve tasks by filtering out irrelevant actions when copying behaviour.

The New Investigator Award winner, **Pontus Strimling**, took us through his mathematical challenges to the core models of cultural evolution. **Simon Powers** discussed the roles of anti-social and pro-social punishment in cooperation for group-structured populations. **Anna Goodman** ended this session with support for the hypothesis that modern low fertility is a strategy for raising socioeconomically competitive offspring.

One half of the parallel sessions covered comparative perspectives on cognition, with **Claudio Tennie**, **Nicolas Cladière** and **William Hoppitt** discussing their research on apes and monkeys. The other session delved into new frontiers in evolutionary psychology where **Markus Rantala**, **T. David-Barrett** and **Edward Morrison** looked at attractiveness and relationships.

The conference dinner took place in the resplendent Durham Castle, followed by drinks in the cellar bar where prizes were awarded. The Best Student Talk was won by **Lara Wood** for her presentation, "Copy me or copy you?" and Best Poster went to **Emily Emmott's** "How much do fathers matter? Paternal investment effects on height in a Bristol cohort study."

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

The Galton Institute offers grants of up to £1,000 to support the organisation of conferences and workshops on topics relevant to its aims and objectives.

The Institute has recently approved a grant for a Symposium on Human Ethology at the International Ethological Congress in 2013. It has also approved a grant to The Wales Gene Park for a Sixth Form Conference in 2012.

Fertility and Reproduction Seminars: Cousin Marriage and the Medicalisation of Spouse Selection

Report on the Seminars
by
Philip Kreager

Cousin marriage is a lens through which to explore some of the ways in which 'new' genetic knowledge is understood and negotiated in different societies. The increasingly global discourse of genetic risk in consanguineous marriage raises many questions of anthropological and biological interest, most centrally concerning the impact of this discourse on traditional forms of spouse selection, and on how medical programmes function in this context. The relative novelty of 'genetic' (rather than infectious) illness as a disease category demanding public health provision invites questions about relationships between scientific and local understanding of the causes of disease, and about how these relationships in turn affect recognition of ancestry, social hierarchies, inheritance practices, and personal and family identity. Eight invited papers were presented at the seminar convened to examine these issues (see programme below); the revised papers, together with three further contributions, an introduction and conclusion (see below), will form the basis of a book which will be published by Berghahn Publishing, in 2013. Contributions, which brought speakers from the Netherlands, Denmark, the United States, France and Israel, as well as the UK, addressed a remarkable range of societies in the Middle East, Europe, South Asia, and Africa. The seminar, convened by Dr Alison Shaw, Dr. Kreager and Dr Aviad Raz, was well-attended, forming a basic part of the Masters course in Medical Anthropology in the University of Oxford, and of options papers in the Human Sciences Honour School.

Programme

Week 1 (October, 2011)
Saskia Walentowitz,
University of Berne
"We are like gold: without alloys, we won't stand upright": Siblingship, close-kin marriage and the autopoïetic dynamics of Tuareg kinship

Week 2 - **Dawn Chatty** and **Nisrine Mansour**
Both *University of Oxford*
"They aren't all first cousins": Bedouin marriage in Lebanon

Week 3 - **Alison Shaw**
University of Oxford
Why does British Pakistani cousin marriage persist despite an established discourse of genetic risk?

Week 4 - Claire Beaudevin
Cermes3 (CNRS UMR 8211)/ University Paris Descartes
Composite proximity, genetic burden and social value: cousin marriage and inherited blood disorders in the Sultanate of Oman

Week 5 - Laila Prager
University of Münster
From shared 'blood' to 'religious genes': Modern bio-medical discourses and changing practices of cousin marriage in south eastern Turkey

Week 6 - Edien Bartels, Oka Storms, Marieke Teeuw, Pascal Borry & Leo ten Kate,
Vrije University/VU University Medical Center, Amsterdam
Genetic risk and its influence on partner choice: the views of Turks and Moroccans in the Netherlands

Week 7 - Anika Liversage
National Centre for Social Research, Denmark **and Mikkel Rytter** *Aarhus University*
"A cousin marriage is a forced marriage!" Rules, discourses and strategies of immigrant cousin marriages in Denmark

Week 8 - Aviad Raz
Ben-Gurion University of the Negev
Dor Yesharim and the reinforcement of stigma: selective incorporation of premarital carrier testing into traditional matchmaking processes among ultra-orthodox Jews in Israel

Conveners: Alison Shaw, Aviad Raz, Philip Kreager

Forthcoming book:

Cousin marriages and the medicalisation of spouse selection

Editors: Alison Shaw and Aviad Raz

Plan of book (as at Febuary 2012):

Introduction: cultural, social, political, and medical aspects of consanguinity (Kuper/Bittles)

Section I The Great Tradition: Continuity and Change in Traditional Patterns of consanguineous marriage

Chapter 1 Siblingship, close-kin marriage and the autopoetic dynamics of Tuareg kinship (Walentowitz)

Chapter 2 Composite proximity, genetic burden and social value: cousin marriage and inherited blood disorders in the Sultanate of Oman (Beaudevin)

Chapter 3 Consanguinity as Cultural theory: a case from Tamil Nadu, South India (Clarke-Deces)

Chapter 4 From shared blood to religious genes: Modern bio-medical discourses and changing practices of cousin marriage in southeastern Turkey (Prager)

Section II Consanguinity within immigrant communities in Europe

Chapter 5 Why does British Pakistani cousin marriage persist despite an established discourse of genetic risk? (Shaw)

Chapter 6 A cousin marriage is a forced marriage! Rules, discourses and strategies of immigrant cousin marriages in Denmark (Liversage and Rytter)

Chapter 7 Consanguinity and partner choice among migrant groups in the Netherlands, against the backdrop of their transnational and family relations (Storms and Bartels)

Section III. Medicalization and "Healthy Consanguinity"

Chapter 8 Uses of risk calculations in consanguinity (Leo ten Kate)

Chapter 9 Using community genetics for healthy consanguinity (Zlotogora)

Chapter 10 Premarital carrier testing and matching in Jewish communities (Ra**z)**

Chapter 11 Preconception care for consanguineous couples in the Netherlands (Teeuw, Borry, and ten Kate)

Conclusion

Dr Philip Kreager is Director, Fertility and Reproductive Studies Group, Institute of Social and Cultural Anthropology, Oxford University.

The Galton Institute helped fund these seminars with a grant of £1,000.

European Human Behaviour and Evolution Association: Workshop
Applied Evolutionary Anthropology: Darwinian Approaches to Contemporary World Issues

September, 2011, Bristol
report by
David Lawson and Mhairi Gibson

Evolutionary anthropology over the last fifty years has improved our understanding of how current environments (both physical and social) and legacies of past selection explain human behavioural diversity. Combining ethnographic, economic and demographic methods, these approaches have provided rich insights into the behaviours of contemporary peoples around the globe. A growing number of evolutionary anthropologists are now using Darwinian theory as a predictive tool to help the people with whom they work, particularly through the design and critique of public policy and international development programmes which seek to change environments and/or behaviour. The purpose of this three-day workshop, jointly sponsored by the EHBEA, the Galton Institute and the Biosocial Society, was to bring together social science researchers working on these issues with the aim of forming an integrated approach to the question of Applied Evolutionary Anthropology. Over 30 delegates from a variety of disciplines attended the workshop, which mixed paper presentations with breakout discussion sessions, and considered both the theoretical and practical issues associated with applied research.

In total, 17 papers were presented, including four invited plenaries from leading researchers in the field: Bram Tucker (University of Georgia), Kate Hampshire (Durham University), Val Curtis (London School of Hygiene and Tropical Medicine) and Ruth Mace (University College London). The following key research themes were discussed during the workshop:

I) Changing co-operative behaviours and subsistence livelihoods: Bram Tucker (University of Georgia), drawing on field research in rural Madagascar, outlined how frameworks in behavioural economics and cognitive anthropology can be used to translate traditional peoples' behaviour for policy makers, and ultimately lead to conservation and development programmes better designed to coordinate with the objectives and values of local populations. Shakti Lamba (University College London) discussed what cooperative banking and micro-finance schemes in the developing world can learn from current evolutionary studies of cooperation. Florian van Leeuwen (University of Bristol) presented new evidence from experimental psychology that perceptions of threat may increase group-binding morals and conservatism, particularly in men. A finding of broad social relevance when local politics and media may modify perceived threat. Robert Layton (Durham University) reviewed studies of violence in anthropology, considering evidence for our 'natural capacity' for conflict and how changing environments and Westernization may influence human cooperation.

II) Diet, health and lifestyle shifts: Jonathan Wells (Institute of Child Health) discussed how an evolutionary perspective on human life history reveals hidden vulnerabilities, including multigenerational effects, to recent changes in human diet, focusing specifically on the 'twin burden' of malnutrition and overnutrition now facing many populations. Val Curtis (LSHTM) argued that many major global health problems can be traced to adaptive mismatch between ancestral and post-industrial environments, whereby we either over- or under-use evolutionarily novel technologies. As such, health initiatives may be improved by taking into account our evolved motivations and emotions to both avoid new vulnerabilities and harness our most useful drives. Lucie Clech (University of Bristol) described how evolutionary models of parental investment can provide insight into the causes and consequences of widespread rural-urban migration in the developing world, drawing on detailed field interviews with rural households and urban immigrants in Ethiopia. Caroline Uggla (University College London) considered how evolutionary models might increase our understanding of patterns of sexual-risk taking in the context of HIV and wider mortality risk factors facing many contemporary populations in Sub-Saharan Africa.

III) Reproductive technologies and family structures. Alex Alvergne (University College London) presented new research on the roles of social learning, social diffusion and individual characteristics on the uptake on modern contraceptive technologies in rural Ethiopia. Alejandra Núñez de la Mora (Durham University) reported the results of a qualitative analysis of shifting breastfeeding norms in consecutive generations of Bangladeshi immigrants in London, and argued that culturally tailored health interventions should acknowledge the role of grandmothers and help women negotiate family relations in the post-natal period. Craig Roberts (University of Stirling) discussed several examples of applied evolutionary psychology; such as new research confirming that use of the contraceptive pill may have hormonal consequences altering patterns of mate choice and relationship stability. Curtis Atkisson (University of Missouri) presented research testing multiple evolutionary predictions regarding the impact of kin on fertility patterns in Matlab, Bangladesh; emphasising the potential for kin to act both as a source of instrumental support and to compete for available resources. Susanne Huber (University of Vienna) discussed the role of socioeconomic status on family formation in developed countries and the need for social policy to enable couples to effectively combine employment and parenthood. Rebecca Sear (Durham University) used advanced statistical methods to demonstrate previously unrevealed costs of reproduction on maternal health in rural Gambia, and cautioned that improved methodological sophistication is required in many areas of anthropology if we are to guide social policy.

IV) Assessing impacts of development intervention and engaging with policy makers: Mhairi Gibson (University of Bristol) discussed the potential for evolutionary anthropology to improve the design of development initiatives by predicting the often unintended consequences of narrowly focused vertical interventions. Illustrating this point, she presented research on the impact of improved water supplies that have improved maternal health and child survival in rural Ethiopia, but are also associated with increased resource

competition within families, stimulating new patterns of out-migration. Kate Hampshire (Durham University) considered convergence between critical frameworks in medical anthropology and evolutionary anthropology, and drawing on her own experience of working with NGOs on child malnutrition programmes in Niger, how these perspectives may lead to better targeted interventions. Finally, Ruth Mace (University College London) provided a broad discussion of the sociological and practical reasons that make academic engagement with policy makers difficult, and how these barriers might be overcome by improved research design strategy and dissemination practice. This theme was further explored during several discussion sessions throughout the workshop, with wide agreement that the application of Darwinian perspectives to contemporary world issues presents a exciting and critical step forward for evolutionary anthropology.

The conference was organised by **Dr David Lawson** who is Leverhulme Early Career Research Fellow in the Department of Anthropology at University College London and **Dr Mhairi Gibson** who is Lecturer in Biological Anthropology at the University of Bristol.

The Galton Institute helped fund this workshop with a grant of £1,000.

BOOK REVIEW

Tom Blaney: ***The Chief Sea Lion's Inheritance – Eugenics and the Darwins***
Pub. Matador (2011), pp.171. £10.99

This book tells the story of six generations of the Darwin family and their fascination with eugenics. Although it focuses on the life and work of Charles Galton Darwin, 'The Chief Sea Lion', it also gives an historical overview of generations prior to him, showing how they were affected by belonging to this prestigious family. It is beautifully written in a style which makes it accessible to a variety of readers, even those with little understanding of genetics. The author has garnered an enormous amount of information, but has presented it in a logical order. We were surprised by the number of famous scientific names associated with eugenics and with the Darwins in particular.

The book deals not only with the work of this illustrious family, but also gives a glimpse of upper and middle class attitudes towards the lower classes in Victorian times. It gives the reader an insight into the high class education accessible to the wealthy, which greatly affected their opinions about eugenics. It shows the expectations placed on the more affluent, not necessarily to work, but to achieve great merit and recognition in their respective fields. This led to nearly every member of every Darwin generation (the males at least) becoming part of elite organisations, such as the Lunar Society, the Royal Society and later, the Eugenics Education Society.

It helps us to understand how British society changed and forced certain Victorian attitudes to be questioned. By the 1950s, negative eugenics had been completely discredited. The formation of the Welfare State meant that the notion of the 'upper classes' being superior was outdated so that no government could now be elected with even the merest hint of eugenics in their manifesto.

The book was enlightening in the way it describes how six generations of Darwins were channelled into becoming great scientists. However, many felt the pressures of trying to live up to their most illustrious ancestor were overwhelming. Charles Darwin himself is painted as a man tormented with self-doubt and constantly concerned with his health and that of his children. His son, Leonard Darwin is said to have considered himself as "stupid" and even believed his life to be "more or less a failure". In any other social circle he would have been regarded as a highly accomplished and intelligent man, but in these circumstances his achievements were dwarfed by those of his father. Similarly, the lead character, Charles Darwin's grandson, achieved so much as a physicist, becoming Director of the National Physics Laboratory, a Fellow of the Royal Society and a Knight of the Realm in 1942, but, on retirement, he still felt compelled to try to follow in his grandfather's footsteps as though he had something left to prove.

Our only slight criticism of an otherwise fascinating read is the inevitable confusion arising from the large number of similarly named members of the extended Darwin family. The family trees given at the start of the book, therefore, were a great help.

Edward Leonard and Kate O'Dempsey - Sixth-formers St. Mary's College, Liverpool

Bob Johnston – Head of Science, St. Mary's College, Liverpool

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