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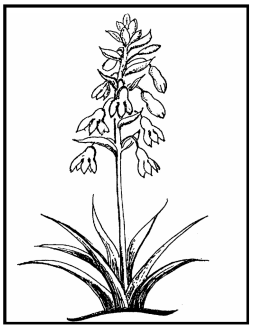

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The Galton Institute

NEWSLETTER

Issue Number 64 September 2007

EDITORIAL

Over the years, Robert Peel has done a great job of editing the quarterly Newsletter of the Galton Institute. That he has given up the task is a matter of much regret. We wish him well and hope that he will recognise the considerable debt owed to him by us all.

As I pull the joystick and hope that this number gets off the ground, I am indebted to Betty Nixon who has managed to maintain electronic communication with me, and others, so very well. I am not a great believer in e-anything, because machines have become so infuriatingly difficult to operate well, and because cyberspace is inhabited by every sort of criminal on earth, very few of whom are ever brought to book. It's the kind of Hobbesian stage I instinctively avoid.

There are many biological issues besetting *Homo sapiens* and I hope we can use our Newsletter to ventilate appropriate ones, where Members have valuable knowledge and experience. They do relate to the reproduction and survival of our kind. Recently, Sir Liam Donaldson, the UK Government's Chief Medical Officer, stated his opinion that organ donation should no longer be permissive; we should allow people only an opt-out. Donated organs are in short supply and only a minority of people have signed the necessary paperwork. This is put down to unfounded fears of denial of terminal treatment, to religious scruple, or just plain oversight. There is another reason. When I was a student, nearly fifty years ago, I contracted hepatitis – jaundice, it was called then, whether A, B or C I do not know – and I spent a few months getting over it. I drank no alcohol for one whole year, a feat I have not emulated since. I was told that *under no circumstances* was I to carry on being a blood donor, since the virus would be around my blood stream for the rest of my life. Now well into that, I am a type 2 diabetic; my liver is unlike a normal liver in that it does not respond correctly to insulin. Would it be fair that I handed on such a tarnished collection of "spare parts"? There must be many, mainly elderly, people with heart trouble, or a stroke, or who have (had) cancer, who may feel similarly that their organs are in no shape for donation and may, indeed, cause the recipients more problems than they solve. How many infectious diseases, e.g. HIV, will be transmitted is anyone's guess. One result of Donaldson's proposals may well be an increase in transplant failures.

Comments on this, or complete editorials for the Newsletter on other public issues of particular interest to Institute Members would be most welcome. Please send them to Betty Nixon in the first instance.

John Marsden

THE GALTON INSTITUTE

CENTENARY SYMPOSIUM

WHAT MAKES US HUMAN?

to be held at

University College London

7 and 8 November, 2007

Programmes include the following speakers: David Weatherall (the Galton Lecture), Lewis Wolpert (UCL), Robert Plomin (Inst.Psychiatry, KCL), John Harris (School of Law Manchester), Reinhard Merkel (Hamburg School of Law), Lee Silver (Princeton University), Mark Thomas (UCL), John Hobcraft (York), Faraneh Vargha-Khadem (UCL), Simon Fisher (Oxford), David Galton (Wolfson Institute Medicine)

Topics covered: the genetics of mind, the genetics of language, regulation of the new genetic technologies, the demographic transition, legal rights of the embryo, social and ethical dimensions of genetics

Admission is free with ticket from:

betty.nixon.t21@btinternet.com

Contents

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The Powers of Natural Selection

13. Combinatorial Selection, Progress and Time

W.M.S. Russell

'In following the career of a single phyletic line, we see in the longer term the same double problem as in evolution within the species (and in cultural evolution), the need to combine present function with future change, and to move smoothly from equilibrium to equilibrium… Change tends to be gradual and step-by-step… Successful innovations are often readaptations; some organ is retained, but acquires new functions and new relationships with other organs', as the endostyle becomes the thyroid gland. (Russell and Russell, 1990a) Nevertheless, obviously vast changes have taken place very rapidly, in geological terms, in progressive lines.

The vast majority of phyletic lines have specialised and become extinct, as sometimes have whole ecosystems. Yet obviously some lines have survived for very long periods, and one line has reached the progressive peak of becoming human and developing the new evolutionary systems of cultural evolution and creativity. Like Pooh-Bah, we descend from 'a protoplasmal primordial atomic globule'. How can a line avoid irreversible specialisation and extinction for four billion years? (Manning, 2001) How is prolonged progress possible?

In essence such progress is achieved by a fourth mode of combinatorial selection; a phyletic line is *exposed to a variety of external environments over vast periods of time*. (Russell, 1961) But at no stage in the process does the line encounter environments which make such demands that specialisation is unavoidable. We have hands – essential for cultural evolution – because we have never, as some mammals have, been obliged to evolve hooves or claws. Our vast sequence of environments has always been *tolerant*. Sometimes, indeed, our ancestors underwent *preadaptive* changes – that is, changes 'made in a particular context and under particular selective pressures, which can later be turned to advantage in a different context, often much wider'. (Russell, 1959) We have the inestimable advantage of our cerebral cortex because the first land vertebrates had to change the structure of their forebrains to make them easier to oxygenate.

Finally, there are true progressive changes, which actually promote progress. 'A mechanism of *regulation* bypasses altogether the problem of organic adaptation to environmental demands, by creating some kind of insulated internal environment, suited to the needs of living tissues and defended by active adjustments from interference due to fluctuations in the environment outside. Within the limits of a particular regulation, the line is now effectively independent of the external environment, and does not have to make potentially specialising genetic changes to adapt to it.' (Russell and Russell, 1990a) Examples of regulation are the instalment of a stream of circulating blood as an internal environment for the tissues, and, later in evolution, the regulation of body temperature.

Combinatorial selection is important in all evolutionary systems. I have shown that in lower animals random trial and error takes place in contexts isolated from one another, while intelligence learning can embrace several contexts at once and operate ordered testing. (Russell, 1962, 2002) The ultimate expression of intelligence, creativity, involves the combinatorial selection from as many and as different ideas and associations as possible. 'The Latin word *intelligo* ('I understand'), from which comes the English word *intelligence*, means literally 'I select among' – a point first noticed as significant by St. Augustine of Hippo (AD 354-430). (Russell and Russell, 1987) In cultural evolution, renaissances tend to occur in situations of cultural cellulation, when a group of independent societies share enough common culture to exchange ideas. (Russell and Russell, 1989) 'In the words of Childe, discussing the reasons for the progress and success of European societies, "These contrasted ecological zones demanded divergent adaptations from, and opened up distinct opportunities to, societies separated by no too impassable barriers".' (Russell, 1961, citing Childe, 1958)

Combinatorial selection makes possible very rapid progressive change. In primitive science, one variable was varied at a time. Fisher (1942) vastly accelerated scientific progress by developing statistical techniques of variance analysis and experimental designs which permitted combinatorial analysis of several variables at once. 'Friedman (1959) has outlined a "digital simulation of an evolutionary process". He has compared a process essentially similar to Russell's combinatorial selection with a process of random one-by-one testing. The time taken to solve a problem by the second method increases linearly with the absolute complexity of the problem (that is, the reciprocal of the the probability of solving it by chance). The time taken to solve a problem by combinatorial selection increases with the *logarithm* of the problem's complexity (as just defined). Thus in computer simulation, combinatorial selection can solve in a few seconds a problem which would take the random one-by-one test method billions of years.' (Russell and Russell, 1990a)

It is no doubt combinatorial selection that makes natural selection, in Fisher's words (1954) 'a mechanism for generating an exceedingly high degree of improbability', and he notes that the appearance of a complex organ such as the vertebrate eye is conclusive evidence for the action of natural selection, since it could not possibly have been brought about by random variation. Muller calculated 'that the most conservative odds against a higher organism, such as a man, a mammal, or even a fruit-fly, coming into existence fortuitously, without the operation of selection… are given by a number with so many noughts that it would take an average novel to write it out, a number immensely greater than that of all the electrons and protons in the visible universe.' (Huxley, 1954)

The Human Tissue and Embryos (Draft) Bill – is it back to the drawing board?

A Parliamentary committee has recently reopened the debate by challenging several proposals in the Government's draft revised legislation for assisted reproduction and embryo research that was published on 17 May 2007. These areas of biomedical research and personal reproductive decisions raise important ethical and social issues, making the current debate of particular interest to the Galton Institute and its members. With likely free votes in Parliament on the most sensitive issues, there will be opportunities for members to influence policy if only through lobbying their MP.

The Joint Committee of both Houses of Parliament, set up to undertake pre-legislative scrutiny on the draft Bill, reported at the end of July. It rejects the Government's key proposal to merge existing regulators to form RATE – the Regulatory Authority for Tissue and Embryos. Retaining the Human Fertilisation and Embryology Authority (HFEA) and the Human Tissue Authority (HTA), they argue, will provide better regulatory oversight through each having a sufficient number of members with the relevant expertise. The joint committee recommends establishing a clear framework of devolved regulation giving greater regulatory freedom and authority to the regulator and clinicians except where there is good reason to do otherwise. As will be discussed below, there are good reasons to resist the temptation to try and define too precisely in primary legislation what embryo selection can or cannot be permitted. These intensely personal decisions need to be handled on a case-by-case basis. Another intensely personal parental decision is when to inform children that they were conceived using donor gametes. The joint committee favours putting this fact on the child's birth certificate and asks the Government to consider this.

This article will provide a brief background to the evolution of legislation in this area and the current state of play with renewal of the 1990 Human Fertilisation and Embryology (HFE) Act before focusing on embryo testing or pre-implantation genetic diagnosis (PGD) and the use of animal-human 'hybrids' in embryo and stem cell research.

Background

The table provides a chronology of relevant legislation, reviews and reports with respect to the current draft Bill. The benefits of *in vitro* fertilisation (IVF) to infertile couples have been plain for all to see although there are issues surrounding who should have access to assisted reproduction, e.g. age restrictions, decisions often linked to the 'welfare of the child'. The very nature of research means that the benefits of using human embryos in research are less easy to specify, although the promise of human stem cell research for cell replacement therapy in the future is persuasive.

Many professional and lay organisations have been involved in the debate over human embryo research and the services that flow from it since the1980s. Particularly influential in the run up to the 1990 HFE Act was the research progress in developing PGD, a clear example of benefit to families threatened by genetic disease. However, despite PGD avoiding the need to consider an abortion, the pro-life lobby argued against embryo selection because, like embryo research, it results in the destruction of pre-implantation human embryos. After very wide debate, the 1990 HFE Act was passed, establishing the HFEA to license treatments involving IVF and permitting licensed research on human embryos up to 14 days in culture. As can be seen from Table 1, over the following 17 years the Government and HFEA responded to some of the advances in the science as well as unforeseen socio-medical requests including 'saviour siblings' - the use of embryo tissue typing to select a match for an ill older sibling who could benefit from umbilical cord or bone marrow cell transplants.

In general, international opinion regards the UK's legislative framework as a good model. The Department of Health held a public consultation in the summer of 2005 and produced the Government's proposals for revised legislation in a White Paper –*Review of the Human Fertilisation and Embryology Act* – in December 2006. There was an immediate uproar over a proposed indiscriminate ban on combining animal and human material in embryo research at a time when requests to use enucleated animal eggs from two human embryonic stem cell research groups were before the HFEA. In the way the scientific advances in PGD acted as an important backdrop in the lead up to the 1990 Act, so stem cell research is performing a similar function now. In fact the Government's draft Bill, published in May 2007, back-tracked on the proposed ban for these so-called 'cybrids' in embryo research but still wants to prohibit the use of some other kinds of inter-species embryos in research.

Embryo Selection

Since the 1990 Act, the offer of PGD has become an important adjunct to prenatal diagnosis as a service to couples whose reproductive confidence has been destroyed by the high chance of transmitting a serious genetic disease. A case has to be made to the HFEA for each new type of PGD that a centre performs, so in a sense licences are granted on a case-by case basis. The Government's draft Bill proposes that a licence can only be granted for this purpose if 'there is a significant risk that a person with the abnormality will have or develop a serious physical or mental disability, a seri-

ous illness or any other serious medical condition' (Schedule 2, 3 (2)). The wording follows the current HFEA Code of Practice and indeed reflects the law relating to abortion for fetal abnormality. A number of factors to be considered in applying this rule are listed (para (3)(a) to (e)) – the extent of the impairment having regard to treatment available, the age of onset, the rate of degeneration, the proportion of those testing positive who would be affected and the reliability of the test. Again, there is a close fit with the HFEA Code. However, while the Code of Practice says that the views of the prospective parents concerning the meaning of 'significant' and 'serious' should be taken into account, the draft Bill does not. This will be of concern to those seeking PGD.

The different emphasis stems from an attempt to put into primary legislation what should be left to the regulator and clinicians. The joint Parliamentary scrutiny committee has called for 'a clear framework of devolved regulation giving greater regulatory freedom and authority to the regulator and clinicians except where there is good reason to do otherwise', so it is surprising the committee is not critical of the listing of specific points in para. (3). Nor do they support their acceptance of the list by providing a 'good reason' to retain it. It is easy to overlook the fact that, in this context, the term 'risk' includes both probability (the chance of it happening) and the extent of damage or burden. The latter is highly context dependent and can *only* be established through a dialogue between the potential parents and their doctors, i.e. on a case-by-case basis. The range of personal situations makes any one of the statements in para. (3) (a) to (e) pretty meaningless in certain circumstances. The draft Bill would be better without para. (3).

Animal-human 'hybrids' in embryo and stem cell research

With the claims of the Korean scientist, Woo-Suk Hwang discredited, it has become clear that establishing human embryonic cell lines for research by using somatic cell nuclear transfer (SCNT) to transfer nuclei from patient cells into enucleated human ova - 'therapeutic cloning' – is currently extremely challenging, with a very poor success rate. More methodological research is needed if stem cells of a particular genetic makeup are to be obtained. Given the understandable shortage of suitable human ova, a promising alternative is to use animal (e.g. rabbit or bovine) enucleated eggs. Other forms of inter-species embryos are already being used in research or have potential research uses in the future, but the Government still proposes to ban some forms of hybrids or chimeras even though, as research embryos, they fall within the 14-day limit in culture and transfer to a woman is prohibited. One view is that there is no logical reason why research on embryos that are arguably 'less human' should be subject to legislation that is more restrictive. Amongst those who oppose the use of inter-species embryos there will be some whose views are simply opposed to all types of research on human embryos. The joint Parliamentary scrutiny committee was divided on this point and called for a free vote in Parliament on whether or not the creation and use of inter-species embryos in research should be prohibited.

There is a world of difference between creating an experimental laboratory primate with an increasing proportion of human cells, and using an enucleated animal egg as an 'activating shell' for human SCNT in the process of making human embryonic stem cells for research into disease pathogenesis and therapy. Animal experiments are regulated by the Home Office through the 1986 Animal (Scientific Procedures) Act and it is important that there are no categories of inter-species that fall between the two regulatory bodies. The joint Parliamentary scrutiny committee supported the view of the Academy of Medical Sciences that this regulatory interface should be clarified before the Bill goes before Parliament. It also proposed a general working definition in the context of the draft Bill.

'An inter-species embryo is an embryo which –

> contains genetic material of human and animal origin, and
>
> in which the genetic material of human origin consists of at least a complete haploid set of human chromosomes in one or more cells'

In this definition genetic material means DNA in a form capable of being expressed, mutated and replicated heritably (i.e.genes).

If Parliament votes for the use of licensed inter-species embryo in research, then in keeping with their general view of devolved regulation, the joint Parliamentary scrutiny committee believes that the regulator should decide on individual research proposals regarding inter-species embryos as defined in the Bill.

Watch this space!

It is expected, but not known for certain, that the Human Tissue and Embryos Bill will be in the Queen's Speech in the autumn, making the next year a crucial one for research into assisted reproduction, pre-implantation genetics and human embryonic stem cell research. If you wish to be kept up to date with the latest happenings and ongoing debates on the drafting of new legislation, then make sure you are signed up to BioNews (www.bionews.org.uk), the free weekly news digest on genetics and assisted reproduction produced by the Progress Educational Trust.

Marcus Pembrey
August 2007

July 1978	Birth of the first child conceived using IVF
July 1984	Report of the Committee of Inquiry into Human Fertilisation and Embryology (the Warnock Report)
July 1985	Surrogacy Arrangements Act
November 1990	Human Fertilisation and Embryology Act
August 1991	Human Fertilisation and Embryology Authority (HFEA) established
July 1992	Human Fertilisation and Embryology (Disclosure of Information) Act
January 2001	Human Fertilisation and Embryology (Research Purposes) Regulations
December 2001	Human Reproductive Cloning Act
February 2002	Report of the House of Lords Select Committee on Stem Cell Research
September 2003	Human Fertilisation and Embryology (Deceased Fathers) Act
March 2004	EU Tissue Directive (EU 2004/23/EC)
July 2004	Department of Health Report on Reconfiguring the Department of Health's Arm's Length Bodies
November 2004	Human Tissue Act
March 2005	House of Commons Science and Technology Committee Report on *Human Reproductive Technologies and the Law*
August 2005	Government Response to the House of Commons Science and Technology Committee Report on *Human Reproductive Technologies and the Law*
August 2005	Publication of the Government's *Review of the Human Fertilisation and Embryology Act: a public consultation*
March 2006	Publication of an independent summary of responses to the Review of the Human Fertilisation and Embryology Act: a public consultation
March 2006	Human Tissue (Scotland) Act
December 2006	Publication of the Government's White Paper: *Review of the Human Fertilisation and Embryology Act: proposals for revised legislation (including establishment of the Regulatory Authority for Tissue and Embryology)*
March 2007	House of Commons Science and Technology Committee Report: *Government Proposals for the Regulation of Hybrid and Chimera Embryos*
July 2007	Human Fertilisation and Embryology (Quality and Safety) Regulations
August 2007	Report of the Joint Committee on the Human Tissue and Embryos (Draft) Bill

Table 1.
Chronology of relevant legislation, review and reports

Improving access to quality reproductive health and family planning services in Bahir Dar, Ethiopia

Introduction

This report covers project activities carried out by Marie Stopes International Ethiopia from May 2006 - April 2007 to increase access to quality reproductive health and family planning services in Bahir Dar, Ethiopia. This project is now in its fourth year. Marie Stopes International (MSI) and Marie Stopes International Ethiopia (MSIE) are very grateful for the continued support of The Galton Institute. This report presents the achievements made and challenges faced in implementing the project.

Background

Ethiopia is one of the poorest and least developed countries in the world. With a population of around 77.4 million, it is also the second most heavily populated country in sub-Saharan Africa. Its population continues to grow at a higher rate than the average population growth rate of other least developed countries due to the fact that only 8.2% of couples are currently using a contraceptive method. Despite efforts to reverse this trend, deep-rooted socio-economic factors and cultural and religious barriers are hampering progress made so far. This in turn, affects the country's sustainable development. Marie Stopes International Ethiopia's (MSIE) first sexual reproductive health centre was established in Addis Ababa in 1990. Since then the programme has gone from strength to strength and MSIE is now playing a considerable role in helping the Government to balance population growth with the rate of development. In 2006 341,995 clients received services, 71% of which were family planning services.

Project goal, purpose and outputs

Goal: To contribute to the Ethiopian Government's commitment to improve the reproductive health status of women, men and young people in Ethiopia.

Purpose: To increase access to quality reproductive health and family planning services to low income working women in the town of Bahir Dar.

Project location and beneficiaries

The project is located in Bahir Dar town, in the North West of Ethiopia. The major beneficiaries are women of reproductive age and adolescents.

Service results

During the reporting period the Bahir Dar centre has continued to provide a range of high quality, affordable family planning and sexual reproductive health services to clients in and around the town of Bahir Dar, one of the fastest growing cities in Ethiopia, generating 13,542 couple years of protection. The centre has served a total of 13,391 clients, out of which 1,466 were new family planning clients. This is a small decrease on the number of clients seen last year - 15,839 – caused by the shortage and high turnover of trained medical personnel. However the focus on providing and promoting family planning services remains constant.

Services (May 2006-April 2007)	No.
Ante natal care	875
Condom pieces	4,560
- Injectables – 3 months	7,424
IUD insertion	383
Post abortion care	3,819
Norplant insertion	278
Other family planning	229
Other non family planning	1,372
Pill cycles (Client pays)	4,568
Pregnancy test	1,984
Sexually transmitted infection treatment	162
Total family planning clients	5,553
New family planning clients	1,466
Client visits	**13,391**
Client Years of Protection	**13,542**

A total of 5,553 clients received family planning services during the reporting period. The number of clients receiving injectables, the most popular method among the range of family planning services the centre provides, has risen by 14% since last year, to 7,424 clients. The largest increase in uptake was for pills, rising by 204% to 4,568 clients. Over 4,500 condoms were provided, including both male and female condoms. Besides family planning services, the centre has also provided pregnancy tests, treatment of sexually transmitted infections, gynecological services and general medical services to adults and children.

Health promotion

In Ethiopia, where the knowledge and practice of different family planning methods is at a very low level, the success of family planning and sexual reproductive health programmes is highly dependent on the existence of strong information, education, communication and promotional activities. The Bahir Dar team has therefore undertaken a wide range of advocacy and promotional activities during the reporting period reaching a total of 100,780 women, men and young people, an increase of 57% on last year. Honest and reliable sexual reproductive health information and advice was distributed via the Bahir Dar centre and through the work of Community Based Distributors. Promoters also carried out activities in places of work, and in schools. The project produced and distributed a total of 14,961 leaflets, flyers and posters, which provide information on different family planning methods, sexually transmitted infections including HIV and the range of services delivered by MSIE.

Capacity building

In order to maintain the high standard of care provided by the Bahir Dar centre, team members have taken part in a range of training programmes in order to enhance their skills, for example family planning training for nurses and HIV voluntary counselling and testing training for the Centre Coordinator and Laboratory Technician. In addition, the Centre Coordinator represented the Bahir Dar centre and participated in the family planning NGO forum for the Amhara region.

Sustainability

By maintaining the high quality of services and through continuous promotional activities, the Bahir Dar centre has maintained an income to cost ratio of 100% in the past two reporting periods. This also reflects the strong support provided by the MSIE Senior Management Team, and the London Support Office. This centre is an excellent example of an organisation that sustains itself through charging low, affordable fees and yet reaches those in most need through waiving fees for those unable to afford to pay.

Challenges faced

Shortage of contraceptives (especially Norplant and condoms) - As mentioned in the previous report, the centre is still struggling to secure reliable, alternative supply sources for contraceptives. The Government, who is the major provider, frequently runs out of stocks. DKT (a social marketing NGO) and other regional health agencies have been contracted to supply contraceptives to the centre.

High turnover of medical doctors – Due to the critical shortage of trained manpower in the health sector, especially doctors, and the relatively low salaries, there is a high turnover of staff. This has been a major challenge for the centre to undertake its activities and has resulted in a slight drop in client numbers during this reporting period. The centre team and management are currently discussing incentives for doctors in order to avoid this problem.

Conclusion

The Bahir Dar centre has performed well during the reporting period, providing a range of high-quality, low cost services and maintaining sustainability. Educational activities within the local community have increased, providing information through a variety of channels in order to promote better sexual reproductive health.

Marie Stopes International Ethiopia believes that the family planning and reproductive health services provided at this centre are having a positive and noticeable impact in and around the project location. More and more women of child bearing age are able to plan and space their pregnancies. This in turn is helping to reduce the serious threat to maternal health. The project has also contributed to a reduction in the number of unplanned pregnancies, which often result in unsafe abortions. Reports from hospital sources confirm that the number of women admitted to hospital for incomplete and septic abortion has dropped substantially.

The support of the Galton Institute has been invaluable in the provision of family planning services in this area of high-unmet need. The funding has allowed MSIE to provide sexual reproductive health services to those who otherwise would have had no access. Marie Stopes International and Marie Stopes International Ethiopia are extremely grateful for this support.

Through its Birth Control Trust, The Galton Institute has provided Marie Stopes International with grant aid amounting to £50,000 for the period 2003 to 2007 to support the work reported on here.

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BOOK REVIEW

Richard Lathe: ***Autism, Brain and Environment***, Jessica Kingsley Publishers, 2006, pp.288. £15.99

Most species tend to produce more than one phenotype so that they can survive in at least two environments; like the garden snail of hedge and lawn. Sometimes they split into two species like ourselves and the Neanderthals.

Richard Lathe has written a book that covers the autism range; where Asperger's syndrome is not a disease but a very successful adaption for such modern environments as Silicon Valley. This despite possible environmental triggers upon susceptible genomes in the shape of many toxins. Nevertheless, Autistic Spectrum Disorders are hard to define and this plays havoc where experimental data are compared. (This is not unknown in old-fashioned psychosis either).

This densely informative book is a comfort to read. One can browse or follow through. The index is enormous and useful. Definitions are strengthened. Gene and brain variations are covered and the nature/nurture interaction exposed. Even socio-political implications .are considered. There are shifts from strict science to suggestion that are not signalled but the reader should cope with this. It is important I believe, that he concentrates on the limbic system.

The old saying that 'an arts graduate writes books, a scientist papers' is relevant here. Publication takes an age and much modern material, such as that done by Simon Baron-Cohen and his associates has not been included; or such radical points as the claim that older fathers tend to produce autistic children (Reichemborg et al, 2006). This research field grows alarmingly quickly

In the second half of the book he covers secondary symptoms that until recently have been ignored. Gastrointestinal problems and the competing n-3 polyunsaturated fats (good), in fish, against their accumulated methyl mercury (bad). The limbic brain is attacked from every side it seems.

One need not agree with everything he assumes but his arguments are sound and he has a good reading list.

Reference: Reichenberg A. et al (2006) *Advancing Paternal Age and Autism*, Archives of General Psychiatry 63(9).

Patrick James

Letters

Dear colleagues,

During the 1979-1981 detention of American hostages in Teheran, when asked about their country of origin, Iranian students in a suddenly hostile United States responded "Persia," assuming – for the most part successfully – that their interlocutors would not be aware of the connection.

Much the same tack was adopted by the Eugenics Society when it transmogrified itself into the Galton Institute. It had actually held out for considerably longer that had its sister institutions – the Galton Professorship of Eugenics, the Francis Galton Laboratory of National Eugenics, the American Eugenics Society, the *Eugenics Review,* and the *Eugenics Quarterly*, all renamed.

The massive assault on eugenics had been launched, not immediately subsequent to the end of World War II, but only in the 1960s, largely toward the end of the decade. The avalanche of anti-eugenics books arrived with a time lag relative to articles – in the 1990s. The atmosphere was intimidating, and intimidation remains the explicit intent of the opponents of eugenics. Nevertheless, while most people are aware that "eugenics" has been transformed into a term of abuse, they remain as ignorant as to its meaning as to the history of Persia/ Iran. In the meantime sociobiology with its inescapable social conclusions has come to dominate intellectual thought. Hopefully our three-decade long egalitarian/environmentalist Great Leap Backward will eventually have run its course, and responsible persons will once again be able to pose the question of how to protect future generations' genetic patrimony.

Thus it is with concern that I read on the Galton Institute's website (http://www.galtoninstitute.org.uk/) that it "does not seek to advocate particular applications of scientific understanding or reproductive technology…" Instead it seeks only to "promote understanding" among "those taking decisions."

The current activities of the Galton Institute are both outstanding and courageous, but the very heritage of the Institute calls upon it to sally forth openly in support of its original mandate, even in the face of opposition. I propose that we take up our cudgels and reinstitute the Galton Institute's original name: The Eugenics Society. This is no small decision, I know, and the best way to resolve the issue is to poll the membership.

It goes without saying a revived eugenics movement will have to face up forthrightly to previous misuse, but it can and must be heard as a selfless clarion call on behalf of future generations. The action will undoubtedly attract broad attention in the media, and this publicity will represent a huge opportunity for the Institute. Silence is the only enemy.

I take zero credit for this proposal. It is not mine but that of Francis Galton himself calling out to the institution that bears his name.

John Glad

(Galton Institute member)
http://whatwemaybe.org

Reply to the above from one of our Council Members:

Dear Professor Glad

Alternative name for The Galton Institute

Thank you very much for your intriguing letter. It came up before the Council Meeting of June 20th. 2007 and the majority of members thought it would be unhelpful to revert our name back to the Eugenics Society.

However like you I think that the Galton Institute should be renamed. So these are my personal views only.

Francis Galton is not well known outside a small circle of academic geneticists and historians; as an eminent Victorian he is completely overshadowed by Darwin; and our current name firmly roots us in the 19th. century. I agree with you that the word 'eugenics' should be kept in circulation lest we forget the terrible things done in its name by a handful of deranged politicians in the 20th. century. These events have attached an abhorrent stigma to the word to make it almost unusable.

The idea of eugenics, as Francis Galton saw it, has expanded enormously since his time. There is now a raft of new techniques undreamed of by 19th. century scientists (*in vitro* fertilisation, genetic analysis of the blastocyst, sex selection, storage of germ cells and the foetus, stem cells, cloning etc) and these have enhanced our powers to influence the genetics of future generations. Synonyms for 'eugenics' are: assisted reproductive technology, assisted conception, reprogenetics and all give a good idea where the field now stands. But none of course are suitable as a name for an Institute.

Like you I have thought for a long time that we should search for a better name that informs the public more precisely what we are about, without them have to chase a biography of Francis Galton or find our mission statement on our website. Such a change would show we have moved with, or even better ahead of, the current technology.

Alas no suitable name springs to mind apart from 'Social Genetics'; but we should keep an open mind and still try.

David Galton MD., D.Sc.

Wolfson Institute of Preventive Medicine

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Future Human Evolution Eugenics in the Twenty-First Century

By John Glad

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