The Gates Scholar vol 7 issue 2

TABLE OF CONTENTS

[04] 8 Questions for Prof. Robert Lethbridge
[04] Forum
[12] Interviews with four alumni

FEATURES

[06] Applying science to society
[08] From Cambridge to LIDS, via Tanzania
[08] Can science refute free will?
[10] Building change on local knowledge: catalyst for change: investment in girls’ education
[15] Super Tuesday 2008: Reflections on becoming a nationally competitive awards advisor
[16] Studying gender development and “Experiments of Nature”
[18] Parental imprisonment and offspring offending in England and the Netherlands
[20] City-wide upgrading of housing for the urban poor: from academic research to practical action
[22] Exploration of migration of Chinese migrant workers to Kawakami village

The views expressed in this publication are not intended to reflect the views of the Gates Scholar Community, but by the authors only.
Tenth anniversaries offer the opportunity to look back and assess progress, and with the Gates Cambridge Scholarship Scheme this is a gratifying task. More than 1000 students from 90 countries have obtained Gates Cambridge scholarships all of them with qualifications that placed them close to the top of their peer groups in their home countries. In Cambridge they have accomplished all that could be expected of such a talented group and many of the graduates have already gone on to make their mark on the world at large. The immense generosity of the Bill and Melinda Gates Foundation and the wise guidance of Bill Gates Senior and the Trustees of the Gates Foundation have created a scheme that has more than fulfilled the expectations of the partnership formed between the Foundation and the University. Huge thanks go to them and to Gordon Johnson who as Founding Provost of the Gates Cambridge Trust guided the programme through the intricacies of the Cambridge administrative system and helped the students settle in to what for many was a very new society. The success of the Scheme is also due to the talents of Tim Mead the University Registrary, Anil Seal, Director of the Overseas and Commonwealth Trusts, and Ann Lonsdale Pro-Vice Chancellor of External Affairs and Trustee of the GCT.

It is now clear that there are few milestones in the recent history of the University of Cambridge as important as the creation of the Gates Cambridge Scholarships. The University has from its founding attracted students from afar to learn from the leading minds of the day and then to go on to build upon what they have learned and teach it to the next generation. The quality of the faculty and students quite simply determines the quality of the university and because talent is spread across the entire globe the broader the area from which they come the better the university. With modern rapid travel and electronic communications the only practical limit is cost. The Gates Cambridge Scholarships removed this limit for a new group of highly talented students and vastly expanded the reach and excellence of the university.

But there is much more to the international exchange of students than the gathering of talent to extend the reservoir of human knowledge. Students who live and learn together build an understanding of each other’s cultures, and a tolerance of different beliefs, that it is difficult to gain in any other way. This comes through very clearly in many of the contributions to this edition of the Gates Scholar, and I congratulate Cameron Taylor and his predecessors as editors of this magazine on how well it records the activities and thoughts of the Scholars. Because social life in Cambridge centres around the Colleges, Gates Scholars share with all Cambridge students the additional broadening experience of living closely together with a relatively small group of students of all subjects. The Gates scholars are now a part of the social as well as the academic life of the University and I look forward to their fulfilling their responsibility to play an increasing role in resolving the problems of this increasingly complex globalised world.

Professor Sir Alec Nigel Broers
Vice-Chancellor University of Cambridge 1996-2003
The LGBT community deserves the same rights that other minority groups have, insofar as all citizens of a nation are entitled to equality under the law. This does not mean that all extant laws are good policy. Public and private notions of human sexuality have changed greatly in the last century, and the old civil institution of marriage merely causes an uncompromising standoff between the freedom of religious groups and the human rights of the LGBT community. Civil recognition of marriage merely takes political recognition away from more important issues. There is no function of civil marriage that could not be better performed with a simple contract. The immense bureaucracy of tax penalties and rewards inevitably keeps some people from marrying who otherwise would have, and convinces others to marry who probably shouldn’t. Marriages should be defined according to each of the religious and secular institutions that sanction them.

Recently, a wave of LGBT youth suicides swept across the United States. I was dismayed after learning that a youth from my hometown joined the list of victims. His death forced me to reflect upon my own experience of being gay in that town. Like most LGBT youths, I was frequently harassed and assaulted by my peers. I had an incredible support system, but I was too ashamed and too afraid to tell anyone. I contemplated suicide many times. This year, judges declared key laws restricting LGBT rights unconstitutional. President Obama also appointed a record number of LGBT people to government positions. But despite this progress, LGBT youths continue to take their lives. Clearly, legal equality and political inclusion are not enough to help LGBT people, and especially LGBT youths, cope with the everyday struggles of being openly gay or transgender.
The tragedy that happened in Belgrade, is something that some thought might happen in Warsaw (although I doubt anyone could have predicted the scale) – my home town, during the EuroPride event that happened over the summer. Thank goodness it was a peaceful, joyful event, which nevertheless raised some loud, if not main-stream opposition. But at the end of the day I really don’t think it’s about sexual orientation, tolerance or even an open society. It’s about one of the basic concepts of democracy – the right to openly manifest your views and hold public gatherings. Governments or officials, which want to oppose LGBTQ events on the basis of respecting the majority, which supposedly might be offended, openly oppose the fundamental notion of freedom of expression, implying that you should only be allowed to express yourself openly if a majority (or too often the political party in power) agree with you. History has taught us over and over again we shouldn’t want to have people like that in power…

Although sad, the recent bullying-related suicides in the US are far from new. In Japan, where train companies spend extensive amounts of money removing the remains of suicide jumpers (ironically, the most typical reason for train delays in Tokyo), suicide among children and young adults due social exclusion – the predominant form of bullying in Japan – is a long standing issue. The government and local authorities are now actively trying to address this problem, and the month of March is now officially referred to as “Suicide Prevention Month”. With the fiscal year beginning in April, early spring is a particularly sensitive time when children start new schools, young adults take up new positions in life and employees try to meet financial goals. In Tokyo consultation centers have been established across the country for individuals to seek help before giving up on their own lives.

Are there any political or social issues you feel passionately about?
I am unashamedly ‘elitist’ in the sense of subscribing to the view that our world needs leaders of exceptional intelligence to confront the complexity of modern political and social issues.

What are the most critical problems faced by the Trust?
The first ten years since the Trust’s creation, thanks to the vision and generosity of the Bill and Melinda Gates Foundation, seem to have been remarkably successful, judging by the personal and academic qualities of the Scholars I have met, either during the 10th Anniversary celebrations this last summer or in meetings since my formal appointment on 1 October. We are now at a point where we need to evaluate its achievements more systematically, develop its global alumni networks and enhance its international visibility. The thinking which needs to be done is not a response to « critical problems » so much as integral to a strategic conception of the Trust’s potential as we go forward.

Can you tell us a misconception that people often have about you?
They mistake irony for scepticism. Those who know me well associate me with optimism.

What are your academic interests?
While I started off as a literary scholar of a traditional kind, my academic interests have gradually developed in an interdisciplinary direction, focused on the relationship between writers and painters in 19th c. France. This shift to cultural history is also reflected in my ‘leisure’ reading, which is almost exclusively historical, either in the shape of narratives of key moments in the 19th or 20th centuries or in the biographies of its leading protagonists.

Why are the Humanities important?
Remember the etymology of the « Humanities » and try the question the other way round, however pretentiously: what would be lost if we no longer studied the cultural archaeology, values, and achievements of the world’s civilizations? And never forget how little financing it needs, in relative terms, to sustain teaching and research into what it means to be ‘human’.
Applying Science to Society

by Andrew Robertson, PhD, JD
Gates Scholar, Class of 2001
Trustee, Gates Cambridge Trust
Incentives speak to the heart of economics. As the Chief of Policy and Advocacy at BIO Ventures for Global Health (BVGH), a Gates Foundation funded non-profit, I deal regularly with incentive mechanisms that attract biotech and pharmaceutical firms into the area of neglected tropical disease (NTD) research. These incentives, such as tax credits, patent extensions, and advanced market commitments, are designed to improve innovation in NTD drug development and bolster access to essential medicines. My job requires me to understand the economics, laws, and policies associated with putting these innovations into action, and when necessary, to take steps to see that they’re adopted. Interestingly, though, working in innovation economics and innovation policy is a far leap from what I studied at Cambridge almost a decade ago.

The Gates Cambridge Scholarship is, without doubt, the main reason I’m serving in this position at BVGH today. I started my PhD at Cambridge in a very different field: Drosophila genetics. At the time, I was a science “geek” at heart — a term I use endearingly, and which in many ways is still applicable to who I am today. But as a member of the inaugural class of Gates Cambridge Scholars, my interests expanded dramatically — away from “science for science’s sake,” and specifically into the application of science to address global challenges.

It was the interaction with Gates Scholars from different disciplines, cultures and experiences that opened my eyes to the broader challenges faced by populations around the world.

“It was the interaction with Gates Scholars from different disciplines, cultures and experiences that opened my eyes to the broader challenges faced by populations around the world.”

For the past decade, the community has continued to grow as we could only imagine. In many ways, the Gates Community has become a Cambridge model for bringing together ideas and cultures, and has become a case study of success for alumni associations and professional networks both in the U.S. and the U.K. We can now start asking strategic questions about our future growth — how to best integrate the Council and GSAA, whether we should extend the Scholar Community to other universities and professional networks, and how can we leverage our collective experience to achieve maximum positive impact on pressing global issues.

The interactions between Scholars alone can add a whole new dimension to an education at Cambridge. In the immediate future, it’s exciting to see the Gates Community continue to grow and develop. With every class of Scholars, we have the opportunity to learn from a new set of cultures, backgrounds and disciplines. And every one of these conversations has the chance to change the course of a career and a life. In my case, it took me from the world of fruit flies and started me down an entirely new path in the world of innovation in managing infectious disease on a population level.
From Cambridge to LIDS, via Tanzania

By Alastair W. Green
MPhil Economics 2005

Studying at Cambridge was a wonderful opportunity to learn about development theory, understand which policies helped developing countries, and which failed. But even after my studies (and several development-focused jobs later), I still struggled with two simple questions: where is the most important place to help? And how can I make a difference in the lives of the poor?

In the summer of 2009, in Tanzania, I found my answers - global agriculture systems. I was helping TechnoServe (a leading agriculture-based development NGO) to build a mobile technology platform that cotton farmers could use to learn about cotton prices, find help and answer questions about their crops. Additionally, TechnoServe asked me to help the Tanzanian government rewrite national cotton laws. During this fascinating work I spent half my time meeting with farmers in their fields to understand what they needed from our mobile platform, and the other half in government offices. Over the course of the summer I began to recognize that the work was high stakes; each tiny increase in farmers’ productivity or in crop prices made a big difference to smallholder farmers for whom more money means school fees for the kids, more food for the family, or possibly acquiring a bike or a cow.

It is not just the Tanzanian cotton farmers that can benefit from food-focused development strategies. In sub-Saharan Africa, 80% of the poor earn their living from agriculture. The 2008 global food crisis – with skyrocketing prices and widespread hunger – showed the fragility of our system. The food-and-agriculture system isn’t just the problem of the poor; it’s the world’s problem.

Despite our advanced farming technology, this is a difficult

Can SCIENCE Refute FREE WILL?

By Noham Wolpe
PhD Clinical Neurosciences 2010

Our voluntary actions are accompanied by the distinct mental experiences that these actions stem from our own intentions and decisions. We perceive our intentions-to-act as being generated by our flow of conscious thoughts, and thus we feel that we have freedom of will.

For centuries philosophers have speculated upon humanity’s ostensible experience of free will. Among the most prominent theories, the dualistic approach of Descartes offered a safe refuge for free will in the form of a soul (or mind), which according to Descartes, is appended to the physical body and is capable of causing our actions. Many modern philosophers, however, find it more difficult to entertain the idea of a Cartesian mind-body causation, as it suggests the existence of a “ghost in the machine”, a concept that is naturally unacceptable for the materialistic science. Hume wrote in Liberty and Necessity that “we feel that our actions are subject to our will on most occasions, and imagine we feel that the will is subject to nothing. [But] … we can never free ourselves from the bonds of necessity.” More recently, Dennett reasoned that free will may exist in the light of humans’ ability to act differently than expected, but nonetheless proposed that the experience of it may merely arise from the brain’s “processes of editorial revision”, that is, intentions are retrospectively embedded in the natural stream of consciousness to account for voluntary actions.

Importantly, the ambiguity of free will has been further stressed by neuroscience research. In a seminal experiment, Libet demonstrated that brain activity picked up by EEG electrodes had preceded the subjects’ intentions to move a hand by several hundred milliseconds. Though heavily criticised, Libet’s experiment has been replicated, and is considered by some as a disproof of free will. A recent study used functional MRI to successfully decode subjects’ intentions to move either their left or right hand. By examining activation patterns in certain areas of the brain, Haynes and colleagues could predict the subjects’ selected action almost 10 seconds before the subjects themselves were consciously aware of their choice. The immediate implications of these innovative experiments attribute the conscious experience of an urge to act to distinct brain activities, and suggest that this conscious experience arises relatively long after the physiological brain processes required for action execution are generated.
These results, together with other intriguing studies, seemingly suggest a gloomy future for the concept of free will as we now see it. Could neuroscience research be approaching a total annihilation of the notion of free will – an idea that is broadly incorporated into every facet of our everyday life? Such an outcome could inflict devastating consequences upon our conception of moral responsibility, dramatically upsetting the foundations of society, particularly by invalidating many of the basic assumptions underlying the penal system.

Though such scientific findings may initially seem to shed light on the very existence of free will, they at most only narrow down its scope by revealing the limitations of our freedom. In order for science to be able to inform about the role (or lack thereof) of free will in the mind-body causality, a major breakthrough in the understanding of the most fundamental yet inextricable questions relating to the mind-body problem is required. Elucidation of what Chalmers labelled as “the hard problem of consciousness” – the functioning of phenomenological experience as part of our being – would be an essential step in further developing the conclusions of today’s experimental framework.

Within the current scientific mindset, which is again derived from the restricted grasp of the mind-body problem, the only approach that could be adopted to disprove freedom of will may be achieved by modelling volition in such a way that it would allow to fully predict actions. If science could create a theoretical model, which factors environmental, genetic and other yet to be discovered variables that contribute to the makeup of human behaviour, whilst factoring out natural stochastic elements, and this model could invariably predict human actions, the problem of free will would be unequivocally resolved. However, such a model is far from being produced.

In conclusion, in keeping with today’s scientific framework it would not be feasible to directly address the existential questions surrounding the concept of free will within the near future. Current neuroscience research should nevertheless have a key role in further characterising the scope of what we perceive to be free will and tapping into the neural mechanisms that give rise to and accompany humans’ experience of it.

Finally, in his work *Philosophical Investigations*, Wittgenstein considered the following: “When I raise my arm, my arm goes up. And the problem arises: what is left over if I subtract the fact that my arm goes up from the fact that I raise my arm?” Science is still far from unravelling the mystery of free will to indicate whether there is indeed a conscious ‘I’ from whom actions originate, or whether we are just “conscious automata” that only happen to have the vivid illusion of free will.

Time for agriculture. In Africa, climate change is dramatically altering the land and reducing harvests; in Brazil, the push towards developing the lucrative biofuels means the land available for food production is ever shrinking. In fact, 30 million hectares of farmland are destroyed annually on our planet because of environmental degradation, biofuels and urbanization. To make matters worse, recent cases of “land grabbing” – countries like China and Saudi Arabia buying cheap land from African governments to produce food for export – means that African farmers lose out even as food prices rise.

After I returned home from Tanzania, I tried to learn as much as I could about global food systems. First, I worked with the Millennium Challenge Corporation (MCC), a US government agency leading the charge in land reforms designed to promote land security and agriculture. I helped with major land-reform efforts in Benin, Namibia and Lesotho – countries with major land security issues.

My work at MCC taught me that land holding and property law are the essential foundations for each country’s agricultural sector and food security.

Back at Harvard Law School, I founded an organization called the Harvard Law & International Development Society (LIDS), now a 150-member organization which provides free consulting to NGOs and governments on policy and development issues. LIDS has been consulted on food issues ranging from child nutrition in Brazil to cocoa and horticulture regulation in Tanzania. In addition to being a great leadership experience, running LIDS has taught me a lot about the role of food policy in the international economy.

Earlier this year, I spent some time working with Acumen Fund, a social impact investor focused on agricultural deals in East Africa. Increasingly, the private sector is looking for ways to invest in businesses that make money while creating a positive social impact – this is the so-called “double bottom line strategy.”

Hunting for business ideas that could improve the lives of smallholder farmers made me realize the importance of capital and the need to support local businesses willing to help farmers.

So far, my international development work has taken me many different places – from the lavish World Bank offices in Washington, to farmers’ fields in Uganda, to coffee shops where techie Kenyans are developing the next big idea. Although the problems facing our world’s food systems are immense, there are some talented and dedicated people working on them. Two years after my Tanzanian “agricultural epiphany,” I hope to be one of them.
Gift Namuchimba is a successful entrepreneur in Zambia and the first woman in her rural village to build a brick house at just 24. But life did not start that way for Gift and her family in the district of Mpika in northern Zambia. “When I was at school, I would even pick seeds from the streets so that we would have enough food to eat,” she remembers.

The transformation was made possible with the help of Camfed International. Camfed’s mission is to secure the education of girls and economic empowerment of young women in Africa. These two strategies are seen as fundamental to rural regeneration. Camfed was founded in 1993 by Ann Cotton and is headquartered on Mill Lane, a stone’s throw away from the Gates Scholars Room at the University Centre.

Intrigued by this charity and amazed by the impact they are making, we took a walk to their offices to learn how they are making transformational change.

We learned that Gift is one of 1,065,710 children in rural communities who have been able to access a safer, improved school environment thanks to Camfed. In Gift’s case Camfed paid for her school fees, uniforms and stationery. Upon graduation, Gift received training and a start-up grant from Camfed’s alumnae association, Cama, and set up a flourishing shoe business. Gift is now the leader of the national Cama network in Zambia, mentoring and encouraging other young women to set up their businesses.

In the early 90s, chief economist of the World Bank, Lawrence Summers noted that “investment in girls’ education may well be the highest return investment in the developing world”. Numerous studies by UNICEF, influential development economics scholars, governments and Goldman Sachs, followed. The United Nations Development Programme summarized the evidence as “women’s empowerment helps raise economic productivity and reduce infant mortality. It
contributes to improved health and nutrition. It increases the chances of education for the next generation.  

However, the true challenge lies in the implementation. Recently, attention in policy making has turned to the need for a better understanding of local context to systematically design locally appropriate solutions. Camfed is an example where this has been done and analyzing Camfed’s approach could provide interesting insights for other development programs.

At the time of Camfed’s establishment, Ann Cotton found that, in the West, the prevailing wisdom was that girls were excluded from education because of family issues, culture and race. However, when conducting field studies in Zimbabwe, Ann found that the context of exclusion was due to poverty at the family level. The reality was that families could not afford to send their daughters to school and hence young girls married prematurely, became pregnant prematurely, and all unwittingly and without choice. This perpetuated the cycle of deprivation and poverty. Following this insight, Camfed was set up to intervene and stop the poverty cycle.

Camfed does so by covering all the costs of a girl’s education. This is backed by a clear governance model which is centered around the rights of the child and Quality assurance which is based on transparent entitlement. The child and the family know exactly what they are entitled to under Camfed’s support and the financial support is transferred directly to the school. Camfed encourages families to hold the schools accountable and supports them in this through financial literacy programs.

Educating young women has a long-lasting effect on their immediate families and larger community. By supporting these women, through microcredits, Camfed ensures they break the poverty cycle and are guaranteed sustainable livelihoods. But Camfed also acknowledges that men have to be involved.

Ann believes that only if everyone gets an opportunity to be educated and be involved in process of change, will vibrant communities succeed.

By transferring the power of decision-making and management of resources to the community, Camfed also ensures sustainability. One way it does this is through its alumnae association, Cama, which currently has over 14,000 members and is the powerhouse of the Camfed model. It is a pan-African movement whose members reinvest benefits of their education in their families and communities; their activism has ensured that a further 118,384 children have been supported by their communities in receiving education. While Camfed demonstrates how local knowledge and locally tailored solutions arising from this knowledge lead to programs that deliver, Cama is a stellar example of the multiplier effect. By utilizing the potential of young women, in a step-by-step process, a new socioeconomic environment is being created in Africa.

For further information:
Camfed International: camfed.org
Half the Sky: halftheskymovement.org

Article is based on an interview with Ann Cotton, Founder and Executive Director Camfed International, Cambridge, September 2010.

Hilary Levey  
*MPhil Modern Society and Global Transitions 2002*

**How is your current career different from what you envisaged it to be as a Gates Scholar?**
At the moment, I remain on track with what I proposed and expected... but who knows what roads life will lead me down next!

**What unique opportunities did you have as a Gates Scholar?**
The Gates Scholarship enabled me to see Europe for the first time and to meet many amazing people. One of them is Gordon Johnson, our first provost. He is a great leader, scholar, and man. I have learned a lot from him.

**How do you see your field in five years time?**
As a sociologist, I hope that my field will continue to reach out to a broader audience, being part of a public discourse about various societies. Being part of the academia, I hope that the economic crisis will have resolved and endowments are back up.

**Have you collaborated in any project with other Gates Scholars?**
Yes, working on the alumni association. It’s wonderful to see so many people involved now!

**If you could share one tip with current Scholars, what would that be?**
Attend as many different events, meet as many different people, go to as many May Balls as you can while in Cambridge!

**Which public figure do you find most inspiring?**
I am inspired by people who reemerge in public life with new ideas and new ways to serve after suffering a significant public setback.

---

Rob Clay Rivers  
*PhD Chemistry 2003*

**How is your current career different from what you envisaged it to be as a Gates Scholar?**
When interviewing to become a Gates Scholar, I envisioned teaching in underserved communities as a Professor of Chemistry. Currently, I work as an AAAS Science and Technology Policy Fellow at the National Cancer Institute. I help developed educational programs in the area of clinical proteomics for underserved populations. Additionally, my wife, Jacob Goad and I have set up a non-profit organization ‘Umbrella Initiatives’ (www.umbrellainitiatives.org), which aims to help children and women living in poverty. Although my career is not exactly as I had envisaged it, I am happy as my focus is still on helping underserved communities.

**How do you see your field in five years time?**
Currently, I work in the field of cancer clinical proteomics. The future will see development of more novel biomarkers for cancer, utilizing genetic information from programs such as The Cancer Genome Atlas and International Genome Consortium Better prognostic and diagnostic tests, based on understanding of molecular basis of complex disease, will result in improved patient outcomes in 12–15 years.

**How do you think current Gates Scholars and Alumni can improve their community?**
Gates Scholars & Alumni need more targeted events. Currently, most activities that I know of require travel, making participation difficult for majority of Gates Scholars. We would benefit from greater use of message boards and other social networking tools. Instead of a one-off gathering per year, Scholars could organize satellite meetings accompanying major conferences in different disciplines, encouraging networking between Scholars from different years. The regional Gates events are extremely valuable, also. In the DC area, we are fortunate to have quite a few Alumni who regularly organize events; this helps me to feel part of the greater Gates community.

**Have you collaborated in any project with other Gates Scholars?**
Yes, both in my research and working on my non-profit organization.

**If you could share one tip with current Scholars, what would that be?**
Enjoy your research, but do take the time out to make friends, because these are the bonds you will cherish most after you leave.

**Which public figure do you find most inspiring?**
President Barack Obama.
How is your current career different from what you envisaged it to be as a Gates Scholar?

When I was awarded the Scholarship for an MPhil, I deferred my admission to medical school. When I decided to stay for a PhD, I thought I was leaving my medical career behind. After graduation, a few fortuitous events led me back to medical school and into a residency program in Obstetrics and Gynecology. My initial Gates application stated that my passion was for women’s health; that I had hoped to find a career where I could make a difference in the lives of women globally. When I started medical school I had no idea that I would want to be an ObGyn, but it seems that my career choice fits well with the goals stated nearly 10 years ago!

What opportunity did you have as a Gates Scholar, which you would not have had otherwise?
The opportunity to study at Cambridge as a Gates Scholar opened the doors to so many new experiences that it’s hard to quantify them. In Cambridge I learned a lot academically, but my experiences outside the classroom, with scholars from around the world who had perspectives different to my own, may have taught me more than anything else did.

How do you see your field in five years time?
Healthcare (especially in the US) is undergoing major reforms. I wonder how the reorganization of healthcare coverage and expenditure will affect women’s healthcare. We are entering a period when experts’ advocacy will become increasingly important for women’s health, both in the United States and worldwide.

What do you miss most about your experience at Cambridge?
Definitely the people! (and the garden parties!)

If you could share one tip with current Scholars, what would that be?
Enjoy every minute.

Benedikt Mandl
PhD in Zoology 2003

How is your current career different from what you envisaged it to be as a Gates Scholar?

I did not anticipate becoming a student again after obtaining a PhD. However, after my first year in Cambridge, I decided against pursuing a research career, because I wanted to work in a more social field. After leaving Cambridge in 2007, I won a scholarship to study at the Diplomatic Academy of Vienna for a Master in International Relations and Environmental Technologies. I graduated last summer and now work on the PR of an international organization dedicated to the protection of the Danube (ICPDR). My current work is unrelated to my PhD in developmental neurobiology.

How do you think current Gates Scholars and Alumni can improve their community?

This community is too diverse for a universal recipe. Just contribute yourself, fostering the community’s heterogeneity. The German slogan “Vielfalt statt Einfalt” (“Diversity rather than Stupidity”) would make a good motto for Gates Scholars.

What do you miss most about your experience at Cambridge?
The rich academic environment.

Which public figure do you find most inspiring?
I am not a fan of assigning cult status to distant individuals.
On Dec 14, 2009, an anonymous young computer hacker from Eastern Europe was probing around the web for poorly-configured SQL databases and hit the jackpot with 32 million passwords from RockYou, an online gaming company. Password databases have been stolen before but never on this scale. Within days I spoke to the hacker and received a copy of the data, soon before the incident rose to the attention of the international press. In the past year I’ve dug into the data for my PhD research and realised how much passwords say about the modern world.

First, the theft portends the rise of data-hoarding companies like RockYou, unknown to us yet knowing more about us than we can imagine. RockYou would say their products are Facebook games like “Zoo World” and “My Casino,” but that’s a front: their product is us. They quietly make their money shuffling our information between databases and advertising servers while we click away, building their empire of ones and zeroes.

RockYou barely issued an apology for their embarrassing negligence (they made basic mistakes which we cover in the first few lectures on computer security). They don’t have to worry because they don’t have a brand to protect or a product people know how to stop using. Many people fear what Google and Facebook know but I’m more concerned with the thousands of obscure companies like RockYou, RapLeaf and ChoicePoint. They know just as much but have much less to lose.

Second, the confused public reaction shows our loss of control over our security online. As the Internet continues to evolve as the most complicated human-made system in history, keeping passwords safe means understanding dozens of layers of complexity from the electrical path between the keyboard and computer to the arcane communications protocols of far-off web servers collaborating to put pixels on the screen representing a starred-out password field. Few understand all of this technology any more; most of us understand almost none of it. Yet we use it daily, entrusting our finances, our careers, and our closest relationships to the spurious secrecy it provides.

We usually ignore our loss of control in this increasingly magical world until somebody like RockYou reminds us how fragile it all is. In response to my blog posts about the RockYou debacle I received some frantic emails from strangers asking how they could make sure nobody had used their accounts. I also got a few requests to crack somebody’s password in exchange for ‘consulting fees.’ I responded to the latter type of inquiry that I wouldn’t do it and it’s not possible anyways so they should give up, but only the first of those statements is accurate.

Finally, the data itself shows how human creativity and joy can shine through the most depersonalising technologies. We type about 6 passwords per day. That’s more than security research has found is advisable. Yet when I read through passwords like ‘smilespointup’ and ‘kisstherain’ I realise how many of us have turned it into a daily affirmation ritual. Why else would somebody take the time to write ‘thisloveishardbutbabysreal’?

How we choose our daily secret ritual tells us a lot about ourselves. ‘Ladygaga’ is twice as popular as ‘michaeljackson’, twice as many people mention ‘starbucks’ as ‘mcdonalds’ and ten times more people use ‘jesus’ than use ‘allah’ (at least in a primarily American userbase). The darker elements of human nature are just as rawly visible. Tens of thousands of people choose to bring messages like ‘myfamilyhatesme,’ ‘erinisaslut,’ or ‘f***ingn***ers’ into their lives multiple times per day.

Still, I’ve found browsing through random passwords one of the only ways to stay sane while studying how truly insecure, frustrating and scary the institution of the password has become. I often wonder what will remain of our private lives, how we’ll learn and laugh and fall in love, as we cede more power to companies we don’t know and technology we don’t understand. People are always the weakest link in computer security, but it’s precisely our human qualities which give me confidence that we’ll adapt and thrive as the world wires up. In passwords, ‘love’ beat out ‘hate’ by nearly 200 times.
On February 5, 2008, some five months after departing Cambridge, I found myself working from eight until midnight, breaking only to exercise my civic duties at the polls. That day was the infamous “Super Duper Tuesday,” the landmark date of political anxiety that featured more simultaneous state primary elections than any other election day in US history. Any political anxieties I had, however, were eclipsed by another event only meaningful to a handful of students and advisors on the nation’s college campuses: the deadline for the Truman Scholarship, and I, the Associate Director of Nationally Competitive Awards at the University of Arkansas (my alma mater), was once again feeling the anxiety of a scholarship competition.

Having already spent months working with our four applicants on refining their essays, I nonetheless spent the bulk of that day helping my advisees spit-polish their prose for submission; in a final, four-hour stretch, I assisted one excellent candidate with a frenzied edit/proof session that ended seconds before the midnight deadline. I knew firsthand that the tedious process was part of an effort to help deserving students increase their opportunities to succeed. Yet in the stress of the competition I could have found it easy to lose sight of the larger meaning of the enterprise, the national events that day ensured that I didn’t.

In addition to the landmark primaries, February 5 witnessed a tornado outbreak that killed 57 people across the mid-south. These two events seemed apropos for the Truman deadline: the Truman Foundation seeks students who wanted to be “agents of change,” who would serve in roles akin to those engaged in political involvements and disaster relief that day. Comparing what seemed to be absurdly focused tasks with these large-scale events, I recalled my fellow Gates Scholars’ ability to immerse themselves in the minutiae of highly-focused research and still maintain a sense of perspective as to how their work fits in with the greater scheme of public good and social justice.

A month after the deadline, our photo-finish applicant had been granted an interview. After enduring several mock interviews, she departed for Nashville and returned victorious, becoming our University’s fifteenth Truman Scholar. My first advisee to win a major award, she has since embarked on a career dedicated to improving the struggling American education system. Her success in the competition gave her the opportunity to pursue a career that will be felt by the people whose lives she will improve with her commitment. These awards might be won by individuals, but the effects should be felt by many. In nearly three years of witnessing many of my winning advisees embark on paths that will let them employ their talents to the benefit of others, I feel like I have a better-than-ever understanding of the mission of the Gates. During this 10th anniversary year, I invite us all to reflect on what we have been given, and to challenge ourselves to press on in paying it forward to any and all who will benefit from the diverse work that we do as individuals.
L ast year, world champion runner Caster Semenya, suspected of having ambiguous sex, sparked debate over her eligibility to participate in the women’s races. The underlying cause of this debate is clear: men and women are born different. However, while genetic and hormonal sex differences may be relatively straightforward to establish, it is more challenging to study psychological sex differences. One way to address is through the study of individuals with ambiguous sexual characteristics. Such ambiguity can stem from a mismatch between genetic sex, prenatal hormonal sex, and/or the sex that society assigns to the person. These conditions include “Disorders of Sex Development” (DSDs), a term that has replaced “intersex conditions”.

Individuals with DSD sometimes experience discomfort with their assigned sex, or gender dysphoria, but often do not (e.g. Mazur, 2005; Cohen-Kettenis, 2005), prompting research to identify the factors that protect against this condition problem. In addition, psychological research on individuals with DSD has enhanced understanding of the processes involved in human gender development more generally. Since, in humans, it is unethical to manipulate factors such as the prenatal hormonal environment, DSDs and other naturally occurring situations where genes, hormones and sex of rearing are inconsistent, have been called “experiments of nature” and have provided insight into human psychosexual development.

The most famous case is that of David Reimer, a healthy male infant who lost his penis in a medical accident and was reassigned as a girl at about age two. Contrary to “optimistic” initial reports, that “he” had become “she”, the eventual outcome for David Reimer was not successful (Diamond & Sigmundson, 1997). Though unaware of his history until he was 15, he ultimately decided to live as a man. This outcome was interpreted as a triumph of genes and prenatal hormones over postnatal socialization. However, this interpretation is not necessarily warranted.

The most common and most studied DSD, is a condition called Congenital Adrenal Hyperplasia (CAH). Although CAH occurs in both males and females, only females with CAH are exposed to higher than normal levels of androgens prenatally. As a result, girls with CAH are born with ambiguous genitalia, ranging from slightly masculinised to completely male-looking. The vast majority of girls with CAH are brought up as females, with genital surgery and hormonal therapy beginning soon after birth. A high percentage of them (95% to 97%) maintain a female sense of self, or core gender identity. However, despite efforts to create a feminizing postnatal environment and female core gender identity females with CAH show increased masculinisation in some areas including toy play, sexual orientation, and targeting skills (Hines, 2004). Although little research has addressed whether nonconformity to the assigned gender might be caused by social factors such as parental socialization, this is unlikely given available evidence suggesting that parents of females with CAH do not encourage them to act like boys (Pasterski et al., 2005; Wong et al., 2008).

Another DSD is Androgen Insensitivity Syndrome (AIS), which is characterised by an inability to respond
to androgens despite having normal androgen levels. Like CAH, the degree of feminization varies according to the severity of the abnormality. When a genetic male has complete AIS (CAIS), he appears completely female looking, and may even act and feel more feminine than the average female (Hines et al., 2003).

Studying the above conditions, along with others, has provided invaluable knowledge about what causes differences between the sexes as well as those within each sex. Overall, contrary to popular argument, the evidence suggests we are not born as blank slates and are not simply passive receivers of social forces. Indeed, levels of effective prenatal hormones seem to have lasting effects on psychosexual development.

That said, the power of socialization should not be overlooked. For example, in another case of a medical accident very similar to David Reimer’s, a male infant was reassigned as female at the age of 7 months, and successfully adapted to the female role and core gender identity at least until age 26 (Bradley et al., 1998). In addition, in research involving normal gender development, both prenatal and postnatal factors have been shown to influence gender-related behaviour. In particular, the same factor can have varying degrees of influence on different aspects of psychological gender. The fact that gender can be defined on the basis of genes, hormones or self-identification and that these bases are not necessarily consistent with one another, also leads to the question of how gender should be ultimately defined. Psychosexual development has proven to be so complex that the dichotomous term “Nature VS Nurture” has become irrelevant. While DSDs and other so-called, “experiments of nature” are rare and not truly experimental, they continue to pose important clinical questions, provide valuable information and fuel controversial debates.

I would like to thank Professor Melissa Hines for her invaluable comments on this article.

References
Parental imprisonment and offspring offending in England and the Netherlands

By Sytske Besemer
PhD Criminology 2008

In recent years imprisonment rates have increased enormously in Western Europe and the United States. As a consequence, today an estimated 1.5 million children in the U.S. and 100,000 children in England have an incarcerated parent (in this article, “England” is used as shorthand for “England and Wales”). Previous research suggests that parental imprisonment might have undesirable effects on children: they exhibit more criminal behaviour and mental health problems than children whose parents were not imprisoned.

Researchers have been unable to demonstrate what is causing this increased risk. It could be explained by the separation from the parent, or by collateral effects such as economic deprivation because of loss of family income, but it could also be explained by the parent’s criminal behaviour. It is extremely difficult to disentangle these influences without an experimental design. It is interesting, however, to see whether the impact of parental imprisonment varies between countries with a different social and penal context. This context defines how people experience imprisonment, the amount of contact between prisoners and their families, the amount of welfare support for prisoners’ families and the way in which prisoners are viewed by society.

Therefore, this study investigates the relationship between parental imprisonment and children’s criminal behaviour in a cross-national context. Specifically, it seeks an answer to the following questions: Do children of prisoners display more criminal behaviour than children of convicted but not imprisoned parents? And: are the results different in the Netherlands and England?

England vs. the Netherlands

After the Second World War, the Netherlands developed tolerant, liberal social policies and a humane prison system and sentencing guidelines. The imprisonment rate dropped to the lowest in Western Europe. England, in contrast, had much higher imprisonment rates and longer sentences and a more punitive policy. The focus of the penal system was on punishment, while the Netherlands focused more on re-socialization. This might have resulted in less social stigma for prisoners and their families in the Netherlands.

Opinion

Scholars and War

By Claudio Köser
PhD Genetics 2007

The purpose of the Distinguished Lecture Series is to facilitate an intellectual exchange between Gates scholars and an individual who is making the world a better place. We are particularly pleased to host such a distinguished officer and statesman as our first military speaker in the series.”2

Such were the words that not only announced but actively endorsed the lecture by Admiral James Stavridis, Supreme Allied Commander, Europe, and Commander, US European Command. I strongly object to this absolution which was given in the name of the Gates community, thereby negating the “intellectual exchange” that should be characteristic of a university environment. I, for one, do not think that the Admiral, and by extension his involvement in the wars in Afghanistan and Iraq, have made “the world a better place”.

By the end of 2010, the American war expenditure in the two countries will have reached $1.09 trillion, exclusive of such long-term costs as veterans’ medical treatment3. Could the United States, the wealthiest country in the history of humankind, have spent the money differently? In 2009, 1 in 7 people, 1 in 5 children, and 1 in 4 African Americans and Hispanics in the US lived in poverty1. For one whole year, the war expenditure could have employed 19,040,441 firefighters, provided 139,439,312 veterans with Veterans Affairs medical care, or supplied 246,305,526 households with solar photovoltaic energy5. In more familiar terms, it could have provided for an
Recently, imprisonment rates increased in both countries. Although the Netherlands still has shorter imprisonments, today the countries have greater similarities, both being more punitive than previously and having imprisonment rates that are among the highest in Western Europe. Studying these countries in the 1950s to 1970s when they differed significantly can yield important information about the influence of the penal environment on impact of parental imprisonment.

We investigated people in England and the Netherlands born between 1946 and 1962 and compared two groups of children. The first consisted of children whose parents were imprisoned when the children were between birth and the nineteenth birthday. The second consisted of children whose parents were not imprisoned in this period, but who were convicted. In that way, we specifically looked at imprisonment and tried to rule out effects of parent’s criminal behaviour. We then compared whether these two groups of children differed in the number of criminal convictions between age 19 to 40.

**Results**

In the Netherlands we did not find a significant difference between the groups. In England, prisoners’ sons committed significantly more offenses (mean = 3.17) than sons whose parents were convicted but not imprisoned (mean = 1.63). For girls we did not find a difference.

A possible explanation for the difference could be the difference in the penal contexts of the two countries. England had more punitive policies, while the Netherlands was more humane and liberal. Though we cannot be sure if this is really the cause, as we did not test this in an experiment, and there are other factors, it is interesting to see no effect at all in the Netherlands and a strong relationship in England.

Furthermore, we found a significant relationship between the number and length of parental imprisonment and offspring offending. Moreover, we found that the older children are when they experience parental imprisonment, the more offences they will commit as adults. Parental imprisonment during adolescence seems to have more impact than parental imprisonment earlier in life. This could possibly be explained by stigma teenagers experience when their parents are imprisoned.

**Conclusion**

Thus, we found a relationship between the incidence, length and frequency of parental imprisonment and offspring offending, but only for boys in England and not in the Netherlands. This could possibly be explained by the penal context.

It is important to notice, though, that these results cannot be directly generalised in today’s situation, as many things have changed since the 1950s to 1970s. Moreover, we only measured official offending, and with criminal behaviour there is always a dark number – the portion of crime we don’t see in official statistics. Furthermore, there are many different factors influencing people’s offending behaviour, which we did not measure. But if the penal context indeed influences the impact of parental imprisonment, both England and the Netherlands (and other countries) should rethink their penal and prison policies. We don’t want collateral effects, namely, that prisoner’s children become offenders in the future.

endowment to support some 519,000 Gates scholars and 5,190 Admiral guest-speakers per year in perpetuity. Instead, the war chest funded 4,417 coffins for American soldiers and contributed to civilian deaths that range between 100,000 to well over one million in Iraq alone. Moreover, 4.5 million Iraqis either fled the country or were internally displaced.

Waging wars of aggression and committing atrocities in the name of “freedom” and “security” are immoral. But they are also dangerous in a world where the security and prosperity of nations are increasingly interdependent. Oceans no longer barricade us from the consequences of our actions, our military power notwithstanding. Global challenges call for genuine global cooperation among equal partners. Yet, solving conflicts peacefully may prove impossible, unless we acknowledge that our “enemies” have legitimate concerns, just as we have illegitimate interests.

1. Pink letters represent American combat fatalities in Iraq. They are scattered throughout the remaining black letters, symbolising civilian deaths that have skillfully been portrayed as collateral damage. This representation is based on the lower estimate of 100,000 civilian deaths which translates into a ratio of 23:1.
4. An American family of four can barely meet its basic needs with a pretax income of $22,050, defined as the poverty line (Recession Raises Poverty Rate to a 15-Year High. New York Times, 16 Sept 10). To put things in perspective, the marginally lower Gates stipend of £12,750 for one scholar makes the latest gadgets from Apple or front-row ballet tickets at the Royal Opera House easily affordable.
5. The American scholars among us may want to visit http://nationalpriorities.org/en/tools/tradeoffs/ to work out the contributions of their towns or cities to the war. The figure for Cambridge (MA)—$466.1 million—translates into 7,484 firefighters for one year (accessed 8 Oct 10). Ask yourselves what you would have spent the money on.
6. This estimate is based on Gates’ donation of $210 million that currently supports some 100 scholars annually (http://gatesscholar.org/about/ accessed 8 Oct 10).
8. What is the real death toll in Iraq? Guardian, 19 Mar 08.
Having been brought up in Bangkok, with my PhD research on community-led slum upgrading in the city, it seemed only natural for me to return to the place of my birth to enter the “real world”.

Bangkok is an ideal base to work on human settlement issues around Asia. The focus of my research, Thailand’s Baan Mankong program (meaning secure housing), was launched in 2004, whereby the government offered low interest loans and subsidies, on a collective basis, to urban poor communities with a proven record with savings. This program, which started with 10 pilot projects, has boomed, with over 91,000 households benefiting from upgraded housing and infrastructure, and, perhaps most importantly, secure tenure, either by way of a long-term collective lease, or outright collective land ownership. This demand-side approach sees communities as the core actors in improving their lives, with savings activities as the key to change and empowerment.

Over the course of my research, I established close ties to the National Union of Low Income Community Organisation (NULICO), a powerful network of community members who are taking the lead in ensuring that Thailand eventually will have cities without slums, through people-led development. NULICO embodies how, through a process of community-led activities, the urban poor can address power imbalances, as they now work closely with local government officials who previously regarded poor settlements as a burden to be dealt with through top-down approaches. The key agency facilitating implementation of Baan Mankong is the Community Organisations Development Institute (CODI), led for eight years by Somsook Boonyabancha, a tireless “superwoman” who never seems to stop working, and who has a strong belief in the ability of the poor to help themselves. During the course of my research I constantly sought an interview with her, to no avail, as she was always dashing from one meeting to another.

Another organisation which assisted me with my research was the Asian Coalition for Housing Rights (ACHR), a Bangkok-based coalition of NGOs and CBOs working to implement community-led development projects around Asia. Somsook is also director of ACHR, and I’ve since learned that she admired my persistence in seeking an interview with her, even if it didn’t work! My external PhD examiner, Diana Mitlin of the International
Institute for Environment and Development (IIED) in London, also happens to be a key partner of ACHR, and it was she who suggested that there might be space for me in the organisation (which goes to show how important selection of examiners is!). While ACHR was formed in 1988 to advocate against evictions in Asia, it has moved on to supporting communities in their upgrading projects on a city-wide scale. This is being done through the Asian Coalition for Community Action (ACCA) program, a three-year program targeting city-wide upgrading in 150 cities around Asia. As the Bill and Melinda Gates Foundation is one of the key funders of ACHR (through IIED), my ties to the Foundation continue!

ACHR currently has projects in 15 Asian countries. Thailand is regarded as being quite advanced in terms of community-led urban development, and is a model for other countries. I have already had the opportunity to travel to Mongolia, Cambodia, the Philippines, with trips to Nepal and Sri Lanka in the pipeline. Many of these trips are assessment trips, whereby we examine not only the physical outputs of the ACCA program, but also the processes involved in implementation and whether there has been any real change on a city-wide scale. Community members from various countries always join us on these trips, to facilitate an international process of knowledge sharing and exchange. I was grateful for the Thai community leaders’ supply of chili and fish sauce when faced with stodgy beef and rice dishes in Mongolia!

ACHR also supports the development of young professionals, particularly community architects. A regional community architects meeting was recently held in Chiang Mai, in the North of Thailand, with the participation of architects, relevant professionals, and community leaders. In stark contrast to the academic conferences to which I was used to, there was singing and dancing, and numerous field visits, starting on the 17-hour drive from Bangkok to Chiang Mai - a testament to the lively community I have now joined.

While I do miss Cambridge life, I’m excited by this chance to travel around Asia and gain a real understanding of the processes of people-led development. After seven years as a student, I needed a break from academia to apply my knowledge practically, yet the nature of my work means I am still in close contact with the community groups and organisations that helped me through my PhD.
On 20 April 2008, the Asahi Shimbun reported on the arrival of 512 Chinese migrant workers in Kawakami, a village located in the Nagano prefecture of Japan. These young Chinese men were seasonal workers who came to Japan under the ‘Industrial Training and Technical Internship Programme’ (ITP and TIP). They were to work as ‘trainees’, with an official purpose of contributing to economic development in China by transferring technical skills, expertise and knowledge from Japan (Ministry of Justice, Immigration Bureau 1996: 8). ‘Kawakami Cooperative Association for Agricultural and Forestry Promotion’ (Kawakami Mura Noringyo Sinkoijigyo Kyoto kumiai, established by the villagers in 2006) was the first organisation to accept Chinese migrant workers; one out of every two of the workers was allocated to an agricultural household, which acted as a secondary accepting organisation. They then received training for about seven months from April to November. Although Chinese ‘trainees’ were expected to learn advanced Japanese technologies the way in which the Kawakami villagers treated them tended to frustrate this official purpose. Faced with a severe labour shortage in agriculture, the villagers gradually came to regard ‘trainees’ as an alternative labour source (Asahi Shimbun 2008).

I have recently made contact with these migrant workers and have interviewed fifteen of them as a pilot study in order to better understand their experience of living in Japan. My interviewees were very active, friendly and gregarious young men; on average, they were 20 years old. They told me that they normally worked for eight hours a day, from 7.30 am to 5.00 pm, with two breaks. When the busy season came they were required to work overtime for an additional four hours or more with, in principle, a stipend of 150 percent of their ordinary training allowance. In most cases, they were asked to do simple jobs such as loading or unloading boxes on or from trucks or collecting vegetables and covering them with plastic film. There was a consensus among the workers that their workload in Kawakami was not as heavy as that in China.
owing to Japan’s mechanised and developed agriculture.

Unfortunately almost all of the workers expressed feelings of loneliness while staying in Kawakami, and bemoaned various institutional restrictions. ‘The most serious problem was that we were not allowed to use cell phones,’ Sha Wenjun (8 September 2009) told me. ‘Because of this, we could not call home to China when we missed our families.’ Nevertheless, most of them told me that they were still longing for another opportunity to come to Japan. ‘Although difficulties existed, the Japanese employers treated us well, and the payment was better than that in China too’ (Tian Yingyi, 8 September 2009).

Existing research on the ITP and TIP has criticised this programme for failing to facilitate its envisaged aim of transferring technology between Japan and China. However it is important to note that new life experiences, the acquisition of another language, and immersion in a new culture may have positive consequences for the migrant workers, not to mention Chinese-Japanese relations. My interviewees in Kawakami village repeatedly stressed how much they were impressed by the politeness and serious work ethic of Japanese people. They told me that their viewpoints on Japanese people had changed due to their experience in Japan, and an ability to speak Japanese had helped them to find better jobs in China.

While these results are obviously good news for the migrants, at the same time it is important to remember that their migration may also improve their Japanese host communities. Increases in agricultural productivity, village income, rural population, and even changes to the sale mode of agriculture are possible benefits of the program for Japan a large. An investigation of these changes will be my major task in the near future.