IN THIS ISSUE

HERITAGE IN THE PAMIRS

LAW OF THE SEA: PROSECUTING PIRACY

DRUG POLICY AND ADDICTION
3 Editors’ Note

4 Socialising Global Health

6 Africa: A New Frontier for Investment?

8 Technological and Social Entrepreneurship

10 Communication and Representation

12 Law of the Sea: International Law and Somali Piracy

14 Legislation and Addiction: Why the UK Needs a Science-Based Drug Policy

16 Documenting Cultures

18 Climate Change and Ecology

20 City Spaces: Havana and Jerusalem

22 Professional Updates

The Scholar, Summer 2012

Cover: L. Jamila Haider ’11
Back Cover: Judith Quax
Editor-in-Chief: Anna Kathryn Kendrick ’11
Alumni Editor: Jennifer M. Piscopo ’02
Associate Editors: Devani Singh ’11
Anjali Bhardwaj Datta ’09
Alexandra Kamins ’09
Patrycja Kupiec ’11

Design: H2 Associates, Cambridge

With thanks to Jim Smith and Mandy Garner.

GCAA BoARD oF DIRECToRS
Co-Chairs: Jennifer M. Piscopo ’02
Tivikram Arun ’05
Treasurer: Tristan Brown ’06
Secretary: Lauren Zeitels ’06
Directors of Membership: Nathan George ’03
Man-ki Choy ’04
Mamta Thangara ’03
Mentor: Sook May Ivy ’04

Director of Public Interest: Gregory Jordan ’04
Director of Professional Development: Sook May Ivy ’04
Director of Technology: Sook May Ivy ’04

SCHoLARS’ CoUNCIL 2011–2012
President & Chair: Alexander Davies ’10
Vice-President & Secretary: Elizabeth Dzeng ’07
Treasurer: Annie Robbins ’11
Alumni Officer: Kevin Nead ’11
Communications Officer: Ben Cole ’11
Editor-in-Chief: Anna K. Kendrick ’11
Academic Affairs Officer: Andrés Castro Samayoa ’11
Internal Officer: Georgina Murphy ’09
External Officer: Stan Wang ’11
Social Officers: Marie Brunet ’11
Technology Officer: Dankrad Feist ’09

CONTENTS
The Gates Cambridge Trust aims to build a global network of future leaders committed to improving the lives of others. This summer, the magazine highlights the efforts of both Scholars and Alumni in collaborative global initiatives. The great majority of submissions fall into clear areas of overlapping interest, with international non-governmental organisations, research projects, and newly formed student groups playing a leading role. In order to highlight academic collaboration, disciplinary crossover, and social entrepreneurship within the Gates Cambridge community, we joined Scholars’ contributions with those of Alumni to ask or answer common questions.

On global health and collaboration, Julia Fan Li ’10, Nicole Person-Rennell ’11 and Diana Pirjol ’11 describe how the New Scholars’ Orientation in the Lake District fosters not just friendship but concrete academic collaboration. Further afield, Lesley Everett ’06 writes about how experiences with social medicine in Uganda made her rethink whether traditional medical curricula can benefit from sociological and anthropological insights.

Responding to controversial questions of best practices in international investment, Adewale (‘Wale’) Adebanwi ’03 and Queen Nworisara-Quinn ’10 raise new thoughts on the future, promise, and difficulties of development and economic growth across the African continent.

On business and entrepreneurship, meet M4D and MEET: two organisations that bring new approaches to old problems. Noa Epstein ’10 writes of her experience training Israeli and Palestinian students with Middle East Education through Technology (MEET), while Toby Norman ’11 discusses his work at Cambridge’s Judge Business School initiating Managing For Development (M4D), which aims to combat global poverty with ideas from management science.

Challenging ideas of public engagement from inside and outside established vehicles of representation, Iwona Janicka ’09 argues for the critical role of independent publishing. On the governmental side, Matt Varilek ’01 speaks with Tristan Brown ’06 about his campaign to represent the state of South Dakota in the United States House of Representatives.

On ecology and the natural world, Cecilia Martínez Pérez ’11 explains how the science of pollination exemplifies both the biodiversity and fragility of flowers. Maxime Riché ’05, meanwhile, highlights the human ‘pollinators’ of environmental welfare: those whose actions, big or small, work to combat climate change.

Lastly, from Cambridge, we welcome two windows onto the experience of space in cities very different from our own: Luis Pérez-Simon ’11 enjoys hospitality amongst the ruins of old Havana, while Max Sternberg ’01 examines everyday life in famously contested cities, such as Jerusalem.

With the Gates Cambridge Scholarships into their second decade, the corps of Alumni continues to grow. All current Scholars are future Alumni, and we hope that all Alumni still consider themselves Gates Cambridge Scholars. From academic work at Cambridge to professional pursuits elsewhere, these articles reflect our shared vision of joining knowledge with thought to examine our common histories, global present, and interdependent future.

Editor-in-Chief
Anna Kathryn Kendrick ’11
Alumni Editor and Co-Chair,
Gates Cambridge Alumni Association
Jennifer M. Piscopo ’02
For most Gates Scholars arriving in Cambridge, the first day often includes an exciting train ride from King’s Cross to Cambridge, conjuring memories of Harry Potter, a mad rush through the Cambridge maze to find their college room, and re-packing for the New Scholars Orientation trip the next day.

Meeting bright and early on Queens’ Green, we began our own Cambridge year with the 5th annual Orientation Retreat in the Lake District. Organised by the Scholars’ Council in Ambleside, on the shores of Lake Windermere, the retreat quickly becomes a highlight of many Scholars’ time at Cambridge. From hiking to ghyll-scrambling, scavenger hunts to pub quizzes, Wordsworth’s Cottage to the Grasmere Gingerbread House, our days were packed with new sights, names, and faces. However, we believe that the ‘Magic of Ambleside’ really happened outside of the planned events. It was the conversations we had over breakfast, waiting for the bus, or admiring the landscape that allowed us to bond with our fellow Scholars almost immediately.

“In epidemiology, we always look at the association between a risk factor and a disease. Sooner or later, you realise these factors are part of a bigger picture. Our findings will have greater impact if we consider entrepreneurs, scientists, donors, and governments together”

Diana Pirjol

With all Scholars bunked randomly in the hostel, some exciting and serendipitous connections began to emerge. In our room of five, we found that three of us shared a passion for global health: Nicole, an MPhil in Public Health, Diana an MPhil in Epidemiology and Julia, pursuing a PhD in innovation by global health entrepreneurs. As we chatted in the mornings while queueing for the shower or at night as we discussed our days’ activities, we got to know each other better. We kept in touch after returning to Cambridge, and in many ways Ambleside created a ground for our future friendship and collaboration.

As we progressed in our respective research, we came back together around global health. This past spring, we became part of a student team organizing the first Global Health Commercialization & Funding Roundtable, April 19–20 in Cambridge. The aim of the conference was to bring together entrepreneurs, academics, scientists, private equity investors, impact investors, donors and governments together to explore business models in the discovery, development and delivery of global health innovations for Tuberculosis. We all saw it as a great learning experience, and we were excited to share our passions.

Looking back, without the Gates orientation, we probably never would have received an opportunity to discuss our interests beyond our own narrow research or the casual ‘hello’. We would like to thank the Scholars’ Council for organizing orientation each year and creating an enabling environment where Scholars interact, share and build a community.
Lying on a dingy cot in the sparsely stocked transfusion room in Lacor Hospital early this January, I watched a nurse insert a 12-gauge large bore needle into my arm and drop the blood bag onto the dirty floor. The hospital was out of blood and a patient was rapidly bleeding out in the operating room. Having recently arrived in northern Uganda to attend an innovative 4-week immersion course in Social Medicine, I had responded to the need by volunteering to donate blood. Gazing around the transfusion room, I realised that I had much to learn about the challenging management, funding, and operation of a medical centre in the developing world. This setting – a hospital in Gulu, northern Uganda, with a patient population traumatised by years of violence, population dislocation, and economic collapse – was, for me, a laboratory to practice medicine from a socio-cultural perspective.

Like many of my peers, I arrived in Uganda with little appreciation for what social medicine entails, particularly because this model receives minimal attention in traditional medical school curricula. As I learned, social medicine is a framework for understanding health through the socio-economic, political, cultural, religious, and behavioural forces that contribute to wellness and to disease. In other words, it looks beyond the underlying biology to understand why people become ill, and what barriers they face in accessing and utilising healthcare resources.

For example, Uganda’s non-profit AIDS support organization (TASO) has established a powerful corps of volunteer community health workers who travel to rural communities and provide education, screenings, and treatments to families who are otherwise unable to attend clinics. In another region, the American organization “Bikes Not Bombs” has sent hundreds of bikes and trained bike mechanics to outfit other community health workers, thus facilitating their ability to travel between rural communities. This innovative program has also enabled the use of life-saving retro-fitted “bike ambulances” when there is no other way to transport patients in emergencies.

Our time in Gulu combined academic and practical instruction. In the mornings, we learned about social theories of global health and human rights, and about the roles of non-governmental organizations, humanitarian relief, and economic development in conflict and post-conflict settings. We toured local health organizations and clinics, and visited the internal medicine, pediatric, surgery, and OB/GYN wards at the hospital, learning about the most pressing medical challenges in the region. Not surprisingly, most illnesses in Uganda are entirely preventable, resulting largely from poor yet modifiable social and public health infrastructures (i.e. poor sanitation conditions contributing to infectious disease, bad roads leading to accidents, and middle-aged women developing cervical cancer due to never receiving Pap smears).

This course would have been a valuable learning experience anywhere in the world, but undertaking it in northern Uganda, where the social forces shaping the health and wellness of local residents were evident, transformed my thinking. No matter where I practice in the future, these lessons will help make me a better doctor and researcher. I will remember the practical importance of social medicine in the many challenges and opportunities we face in the world of global health and social justice.
Africa: the new frontier for foreign direct investment?

Rwanda as case study of transparency and growth:

If you were an intrepid traveler crossing the border from the Democratic Republic of Congo (DRC) on the northern edge of Lake Kivu into Rwanda, upon your arrival you would notice a rather prominent billboard proclaiming “Investment Yes, Corruption No.” This sign embodies the sentiment of a country in the midst of profound economic and political change. Eighteen years ago, Rwanda was ravaged by a horrific genocide. Eight hundred thousand of its people were massacred, its economy was devastated, and its spirit was left shattered.

Today, the country is resurgent. According to the Economist, Rwanda is one of the world’s fastest growing economies (along with Angola, Nigeria, Ethiopia, Chad, and Mozambique). Rwanda ranks 45th in the World Bank’s 2012 Doing Business Index, up from 50th in 2011, and is outpacing some of the celebrated BRIC countries such as Brazil, India and China and surprisingly topping a few others like the Czech Republic, Mexico and Luxembourg. Yet our global perception of it lags behind. For instance, Rwanda ranks 49th out of 183 countries on the 2011 Corruption Perception Index published by Transparency International – higher than Italy or Greece. Rwanda’s success has been driven by visionary leadership and stringent accountability measures which permeate its political culture.

These successes suggest that a new story can be told about the African continent, one which has little to do with war, disease, or poverty. Over the last ten years, the African continent has experienced dramatic change. Many countries now exhibit both macroeconomic and political stability. In 2009, during the height of the global financial crisis, the IMF estimated that the continent averaged 2.9 percent GDP growth; it is projected to grow at 6 percent in 2012. According to the Mo Ibrahim Governance Index, 41 of 53 African countries showed improvements in the sustainable economic opportunity indicator of governance from 2005–2009; moreover, the continent has more than 700 bilateral investment treaties to protect investors.

Unfortunately, despite Africa’s growing macroeconomic stability, the continent still attracts less than 5 percent of global foreign direct investment (FDI) projects. Of course, there remain substantive challenges to investing on the continent. Even in a country like Rwanda, which has met with recent success, critics express legitimate concerns about open access to political competition and media rights, while patronage and rent-seeking remain all too common in other countries.

Similar criticisms exist about other emerging markets, such as China, Russia or Turkey, yet these places are seen as having potential to create value for investors. This suggests that a negative bias against African countries remains. To unlock the value of Africa, investors will have to reorient their mindsets and consider investing for both social and economic impact. Given the current state of global economic affairs, now seems like a good time to rethink old assumptions and conventional wisdom about Africa.

Queen Nworisara-Quinn (USA, 2010 – PhD Management Studies) is a co-founder of the Cambridge Africa Business Network at the Judge Business School, which held the conference ‘Unlocking Value in Frontier Africa’ on 28 April 2012. Featured speakers included Dr Guy Scott, Vice President of the Republic of Zambia and Olusegun Obasanjo, former President of Nigeria. For more information, visit www.africanetwork.jbs.cam.ac.uk.
In spite of the immense challenges that face foreign investors in the continent, Africa is clearly a very promising, though not necessarily new, frontier for investment. The post Cold-War era has led to a gradual, even if sometimes reversed and reversible, embrace of open, participatory political practices in much of Africa. This transformation has led to the promotion and in many cases, actual observation, of democratic principles. These include free, fair and regular elections, the expansion of civil society and civil liberties, greater transparency in governance – or at least, greater demand for such transparency – anti-graft campaigns, deregulation of the economy, and fewer fiscal and institutional restraints on the free market.

There is no magic wand for investors to unlock the business potential in the continent

Africa is not only rich in natural resources, such as oil, natural gas, gold, diamond, coltan, uranium, bauxite, and coal, but has a population of over one billion and thus a large market for transnational trade. After more than five centuries of trade relations dominated by the West, the dynamics of international trade and investment in Africa have shifted over the past two decades to reflect the growing economic role of China.

As observers have noted, trade and investment routes in Africa are being reshaped as the East gains economic power. Bilateral trade between China and Africa is expected to reach 300 billion USD by 2015, while the former’s investment in the continent is expected to have climbed by seventy percent, to 50 billion USD, by the same year. Based on these ongoing projects, China has taken the lead in recognising the potential for extraordinary growth in investments and profit in Africa.

In the near future, Africa’s rates of urbanisation – among the highest in the developing world – will help the continent play a role in increasingly globalised economies. As attention shifts to emerging markets in a global world, the forecast is that Africa will have 73 cities of one to five million people by 2025. Five cities which are described by the Frontiers Strategic Group, an international research firm based in London, as ‘broadly politically and economically stable’ – Accra (Ghana), Johannesburg (South Africa), Lagos (Nigeria), Luanda (Angola), and Nairobi (Kenya) – are already recent targets of Foreign Direct Investment (FDI). Johannesburg has a nominal GDP that rivals that of major European cities, such as Munich. Providing evidence for competitiveness within Africa, Lagos is expected to surpass Johannesburg in ‘risk-weighted business opportunities’ by 2015.

There is no magic wand for investors to unlock the business potentials in the continent. The first critical step is for potential investors to abandon long-held prejudices about the continent, and to end their ignorance about Africa’s business opportunities by seeking information and embracing opportunities. Much has changed in the continent in the last two decades. While major challenges still exist in political, social, and economic terms, as China’s policies have demonstrated, FDI in Africa attracts huge profit.

Wale Adebanwi (Nigeria, 2003 – PhD Social Anthropology) is the author of Authority Stealing: Anti-Corruption War and Democratic Politics in Post-Military Nigeria (Durham: Carolina Academic Press, 2012) and Associate Professor in African American and African Studies at the University of California, Davis.
Palestinian and Israeli students use technology and business to implement social change  
Noa Epstein (Israel, 2010) – MBA Management

MEET students think big, work on real projects with leading companies, and get to know each other’s narratives in the process

This approach is pioneered at MEET. Middle East Education through Technology is an innovative educational excellence program whose mission is to create an active network of young Palestinian and Israeli leaders who share a mutual set of values and the ability to work together and individually towards positively changing the status quo as it relates to the conflict. Founded in 2004 in partnership with the Massachusetts Institute of Technology (MIT), MEET runs a three-year intensive and highly competitive program for excelling high school students from the West Bank and Israel. We have a 7% acceptance rate: 660 applicants per year for 44 spots.

At MEET we teach business entrepreneurship and computer science with the goal of empowering MEET students with the practical skills and commitment they need to become change-makers and to solve common challenges. Through project-based work in our Jerusalem hub and at the Hebrew University in Jerusalem, MEET students think big, work on real projects with leading companies such as HP and Google, and get to know each other’s narratives in the process. This network is strengthened through MEET’s alumni program, and already we are witnessing inspiring projects emerge through our Venture Lab. Whether it’s through developing an online education platform or a Hand Gesture Recognition software for example (to sign in to your computer by waving at the webcam), our students are working on at least eight challenging and practical projects per year that benefit their professional development and success trajectory. This is the driving force of our high retention rate of 70-80% and a major differentiator of the MEET model.

For more information on the initiative, visit www.meet.mit.edu.
Whom do NGOs really serve? The answer to this question is not as simple as it should be. There are over 40,000 development NGOs currently working around the world, more than any other time in history. Yet over the fifty years that international development has existed as a “field” in its own right, we’ve discovered that helping people is far harder than we realised. The developing world is littered with failed projects and foreign involvement that has ranged from the naively paternalistic to the dangerously incompetent. Despite over $2.3 trillion spent in foreign assistance over the past five decades there is often dishearteningly little of permanence to show for these efforts.

Why is it so hard to do good? There are many complex reasons, but one of the most fundamental is the misalignment between the needs of the poor and the incentives of the organisations that serve them. In the private sector, a company’s customers and consumers are one and the same. The person who buys the product is the one who uses it, and companies that fail to satisfy consumer needs soon fail themselves. However in development the “customers” (i.e. donors) who pay for the products are not the same as the “consumers” (i.e. the poor) who use them.

Instead, NGOs are forced to balance what they perceive as the needs of the poor with the demands of those who pay the bills. Specifically, non-profits survive and grow through fundraising, which means appealing to donors, often through moving anecdotal stories and “hot-button” issues. Treatable coronary heart disease may kill nearly twice as many people in the developing world as HIV/AIDS, but who gets excited about “Lipitor for Africa”? Tellingly, NGOs are typically judged on what they provide rather than what they achieve: dollars spent, schools built, condoms distributed. But there is all-too-often a massive gap between just doing something versus doing something that works.

Ultimately poverty is not a material or technological problem, it’s a social one

So what can we do about this problem? The first step is to discover what really works. Evaluating impact is hard, but it is not impossible. My research leverages exciting new breakthroughs in development economics that use large randomised control trials to compare the outcomes of different NGO interventions. We’re running rigorous field experiments in Bangladesh to discover which combination of structures and incentives really achieves the greatest health impact through community health workers. Several of us have also recently launched an initiative called M4D whose goal is to promote this kind of management science research for global poverty challenges. You can check out the community we’re building here: www.managing4development.com.

Another exciting possibility is realigning customers and consumers of development by targeting the poor as a viable market through social enterprise. This new orientation is driven in no small part by our generation’s growing desire to engage in work that is not only profitable, but also meaningful. This term we launched the Gates Cambridge Social Enterprise Cluster, with over fifteen Scholars attending the initial executive coaching session on starting social enterprises. This enthusiasm is essential if we are to change the way the fight against poverty is being waged, because ultimately poverty is not a material or technological problem, it’s a social one. The fight will be won or lost on how we organise, motivate, and execute with all of the resources and passion that we have.

Norman (bottom right) has gone from installing wells to advocating large-scale shifts in development strategies.
Describe the town where you grew up in South Dakota:
Well, Yankton is one of the oldest communities in South Dakota. It’s a town of about 14,000, with a beautiful setting, right along the Missouri River. It was a great place to grow up, in part because of the really strong public education system that I had when I was a kid. I also spent some of my childhood just up the road in a town called Tabor, which has a strong Czech-American heritage, which is my heritage, and where they had a great annual Czech-American celebration every year.

Do you remember your interview for the Gates Cambridge Scholarship?
I remember the interviewers were trying to engage in conversation and not the sort of “gotcha questioning,” and it seemed as though they wanted to see if I was thoughtful and serious.

What are your fondest memories of Cambridge?
It’s a beautiful place ... and, the sense of history ... I remember, specifically, noticing the old stone steps at my college in Cambridge and seeing how worn those steps were. I thought to myself how many thousands of students must have walked on those steps to wear them down as much as they had been worn. Also, having classmates from Chile and Botswana and Malaysia and being able to learn from all of them ... and being a representative of my country and my state. Most of the people I met there had never met a South Dakotan before.

How did you get involved in public service?
I came from a modest background ... a single mom, who at times struggled to get by ... I had to work my whole life. I managed to make my way through life with the help of countless others. I’ve always believed that everybody who works hard should be able to get a fair shot like I did. And they need a helping hand along the way. So when offered a job with [former] Senator Tom Daschle, I was honored to take it.

What was it like working for U.S. Senator Tom Daschle (D-SD), one of the most powerful members of Congress, and what issues or legislation did you work on?
I initially started in Senator Daschle’s office, working on economic development issues and helping people who had a great idea for a business but didn’t quite have all of the pieces they needed to get their business off the ground – we helped them get off the ground. I also worked on attracting businesses to South Dakota and on helping advance water and infrastructure projects throughout the state.

What did you find most dysfunctional about working in Washington?
Some members of Congress approach the legislative process like it’s either “my way or the highway.” That’s the kind of approach that brought us to the brink of shutting down the government last summer over the debt ceiling, to the brink of almost failing to pass payroll tax cuts for nearly half of all Americans just a few months ago ... it’s the sort of brinksmanship that makes people roll their eyes and wonder if the system is broken.

Why are you running for Congress?
I think South Dakotans deserve leaders that represent the interests of middle-class and working people, and who focus on finding solutions instead of offering harsh partisan rhetoric.
Shoes? –
The liquor of clothing

A story of what a knife, a robe, and a corridor have to do with a wig

Iwona Janicka (Poland, 2008) – PhD French

Dada and independent publishing are not dead, at least not in Berlin. An artistic-technological revolution is taking place in an apartment in Kreuzberg, where a first volume of computer generated poetry with a surrealist twist, discourse.cpp, was published by Peer Press in April 2011 in only 500 copies. Written by a machine O.S. le Sí and edited by a Cambridge graduate in computational linguistics, Aurélie Herbelot, the book is a product of an analysis of 200,000 Wikipedia entries. Why? In order to find out the meaning of words by looking at how people use them in the 21st century. Surprising discoveries come out of this context analysis, like the results for the word ‘love’:

Love
To love – rather like, prefer and wish.
To want.
First bother then approach, chase, catch, eat and kill.
Thank you.
To love – to remind and remember, to know and to forget

Like many people, I believe that service to others is one of the best ways to spend your time. I’m thrilled now that every day when I wake up, I’m trying to earn the right to represent my state in elected office.

What advice do you have for your fellow Scholars and Alumni who might consider running for office in their home country?
Well, since they tend to be very accomplished in the academic environment, I think there’s a temptation to head to experts for all of the answers, but I think if you want to be a good representative, you have to be very open to learning from the people you represent.

From 2008–2011, Tristan served as agriculture, energy, and environmental policy aide to U.S. Senator Amy Klobuchar (D-Minnesota). He is currently a J.D. candidate at the University of California at Berkeley School of Law.

Peer Press is an independent publishing company founded by Eva von Redecker, Aurélie Herbelot and friends in Berlin in 2011. It was created as a response to the implicit politics of the standard commercial publishing. It is organised around principles of mutual aid and free online access to the published work under the Creative Commons license. It relies on free cooperation of enthusiasts, fun creativity of peers and on hope that a demand for truly beautiful and exceptional book-objects, like discourse.cpp, will flourish. It also allows the authors to retain their copyright. In view of Amazon’s controversial policy towards micro-publishers, Peer Press can only distribute its books independently. The next to follow is a novel about the Prague Spring from the perspective of a switchblade.

To find out more about Peer Press, access discourse.cpp and buy one of the rare, beautifully-crafted hard copies, visit: www.peerpress.de

Support independent publishing!
It took me a while to realise I was standing ninety centimetres from eleven Somali pirates.

On 12 October 2011, I was seeking shelter from the sun on a shaded balcony, slowly realising I was not going to find a seat in the main courtroom of the Supreme Court of the Seychelles. Judgment and sentence were forthcoming in the last of a series of Somali piracy cases held in the small island state. The small courtroom was already packed with government lawyers from around the globe, who were meeting in the Seychelles to discuss the international counter-piracy effort in waters off Somalia. Distracted with finding a seat, I hadn’t realised I was standing next to the suspects: eleven young Somalis just sitting calmly between two guards on the balcony outside. They weren’t in prison uniforms, just shorts and t-shirts. As an international law scholar, I hadn’t expected to come so close to my subject of study. In fact, I hadn’t anticipated working as a piracy specialist in international deliberations on piracy in Somalia.

My PhD research was on stopping and searching ships at sea. It was a broad topic covering the smuggling of drugs, migrants, and weapons of mass destruction; illegal fishing; "pirate" radio; the slave trade – and classic high-seas piracy. When I submitted in 2007, there
had been an uptick in piracy activity off east Africa, but most of the scholarly attention was focussed on smash-and-grab piracy in the Strait of Malacca (essentially, the maritime equivalent of armed robbery). Then in 2008, the international community reacted against Somali piracy after French commandoes swooped onto a Somali beach to seize pirates who had held French nationals for ransom aboard the yacht Le Ponant. It wasn’t the first episode of hostage-taking for ransom off Somalia, but it triggered the first of many United Nations Security Council Resolutions. Naval deployments from various countries soon heeded the Security Council’s call to protect shipping.

As an early-career academic in 2008, I had published an article and given talks on Somali piracy. My involvement increased when the Danish Foreign Ministry asked me to assist a United Nations-backed counter-piracy effort. The Security Council had called for a cooperation mechanism to be established on Somali piracy, the cumbersomely named Contact Group on Piracy off the Coast of Somalia (CGPCS). The CGPCS is a high-level diplomatic meeting with five subsidiary working groups. As a major shipping nation, Denmark chaired Working Group 2 on legal issues (WG2). The Danish government asked me, as an independent academic, to compile a report on the treaty law instruments available in prosecuting pirates. My report on concrete legal issues was received by sixty-odd lawyers from international organisations, governments, navies, and industries affected by piracy.

Since then I have regularly attended WG2 meetings and presented on topics including jurisdiction under international law over pirates (any state can prosecute a pirate but none must), and the human rights implications of counter-piracy operations (for example, safeguards, agreements, and monitoring mechanisms may need to be established before suspects can be transferred to some partner states for trial). My research on piracy has continued and I have served as a Specialist Adviser to a House of Commons inquiry into Somali piracy.

International law alone cannot resolve an issue rooted in state failure

I had always strived to approach the international law of high-seas law enforcement as a practical topic. In speaking to government lawyers and members of navies, coast guards, and fisheries inspectorates, I’ve seen how practical legal concerns unfold in their day-to-day work (for example, fisheries inspectors can risk prosecution in foreign jurisdictions if they inspect a foreign vessel on the high seas in a manner contrary to the law of its flag state). This practical orientation has served me well in making my work interesting, and hopefully helpful and relevant, to government lawyers involved in piracy.

Seeing the eleven suspects convicted in the most recent Seychelles trial was a sobering experience. While Somali pirates at present typically hold no fewer than 200 traumatised hostages at any one time, prosecution is certainly necessary. Their offence, endangering free and safe navigation on the high seas, is one of the oldest known to international law. Nonetheless, seeing pirates sentenced to 16 years in prison in the Seychelles – a long way from their home – was difficult. International law alone cannot resolve an issue rooted in Somali state failure. While a necessary (and legally fascinating) part of the response, prosecution cannot realistically provide a complete solution. Restoring a functioning state in Somalia is, regrettably, harder than sentencing individual pirates.
Why do some people become addicts and others do not? In the UK about 6% of young people try cocaine. Despite the incredible addictive powers of the drug, only about 10% of these users become addicted. What determines who becomes an addict and who does not? My research aims to understand why certain people are vulnerable to addiction and others are protected, even though both try drugs.

Drugs of abuse mimic chemicals that naturally occur in the brain. These compounds act on the brain's reward system, a system that is important for many normal human behaviours. In addiction, eventually drugs hijack these pathways and they become dysfunctional.

There are three main explanations for why only some people who try drugs become addicts while others do not. There could be something different about addicts' brains, or there could be something different about their environment. Finally, there could be complex interactions between genes, environment and the brain that cause addiction to develop.

We already know that the first two explanations are true; there are brain differences that predict drug addiction (such as differential D2 receptor availability), and there are also environmental factors that make drug addiction more likely (such as social stress). These findings do not fully explain the gamut of drug addicts, so the third explanation is likely true as well. Genes, environment and the brain must all interact in specific ways to produce addiction or to protect a person against addiction. For my PhD research I examine how social experiences influence brain function, making some individuals more likely to take drugs.

If the goal of the law is to protect people from harming themselves or others, it is not living up to this standard.

Ideally I want to discover bio-markers (genes or traits) that correlate with patterns of genes or specific environmental experiences that are conducive to addiction. These markers could then be used to identify the individuals with the highest risk for addiction. If doctors knew why certain people became addicted to drugs, they would have better targets for treating people who are already addicted and they would also be more able to protect vulnerable individuals from trying drugs in the first place.

However, drug addiction is a complex issue and it is not simply rooted in science. While I can do my best to identify biomarkers that can be used to treat and prevent addiction, this research is useless unless policymakers take this information and apply it in a large-scale way to public health initiatives. This truth is one of the most fascinating and frustrating aspects of my research.
I have found living in the UK very interesting, as the drug policies here are constantly under revision and I have witnessed some drastic changes even in my short time living in this country. The UK currently classifies drugs of abuse into 3 Classes: A, B or C, depending on their harm. Harm is determined through ratings of physical, psychological and social harms that experts derive from scientific research. Punishment severity is meant to correspond to class, so that Class A includes the most harmful drugs and these also carry the harshest punishments.

For some drugs, this system works well. Heroin, in Class A, is extremely harmful, and carries tough penalties. For other drugs, the system makes little sense. For example, if you are caught with cannabis in the UK you face up to 5 years in prison or an unlimited fine (it is a Class B drug). Cannabis has little potential for addiction, and causes minimal harm to the body or brain. Nobody overdoses on marijuana. In contrast, for the possession of ketamine, a Class C drug, you face up to 2 years in prison or an unlimited fine. Ketamine is quite addictive and causes considerable physical damage. It can induce lasting schizophrenic-like symptoms and also cause permanent bladder problems. Why then was ketamine put in Class C, while cannabis is in Class B?

While the Class system was developed so that drug policies could be scientifically based (a worthy goal), this is not what happened in practice. When the Home Office designed these laws, they created an advisory council of scientists to consult about the science of each drug. However, in many cases they did not listen to these expert opinions. Professor David Nutt, an addiction researcher and the chairman of the council, was actually fired by the government for speaking out against the fact that harmful drugs were being under classed and harmless drugs were being over classed.

If the goal of the law is to protect people from harming themselves or others, it is not living up to this standard. Many people, especially teenagers and young adults, experiment with drugs but do not continue taking them. For these individuals, one bad decision can result in a lifetime of consequences, not due to drug toxicity (in most cases), but due to being seen as a criminal whenever they apply for work or school, meet potential partners, or try to secure safe housing. It is thus important to weigh both the potential harm caused by the drugs themselves against the potential harm of bringing users into the legal system in a scientific way when deciding how to punish people for possession. If we are not using scientific facts to make laws then the laws will be arbitrary and useless.

Creating a fair drug policy is a complex political, social and scientific issue, but by ignoring scientific research, the UK government may unfortunately be harming people more than helping. The current policies risk marring young people with criminal records who would otherwise outgrow their drug experimentation and contribute to society as normal, functioning adults. These policies also fail to reflect the known harm levels of illegal drugs, and fail to take into account accepted scientific research. If the UK instead focused prosecution on only the most harmful drugs, then the resources that would be conserved could be diverted to targeting at-risk populations (identified through research like mine) for more specific drug prevention initiatives.

As a scientist, I see these issues as a crucial part of my work, even though they are outside the lab. Professor Nutt, who was sacked for his insistence on looking at scientific data is something of an inspiration. When he failed to make himself heard in government, he started an independent drug policy research group aimed at educating people based on facts. If every scientist made time in his or her research schedule to communicate with and advise policymakers, and was willing to risk disapproval in order to maintain scientifically-informed recommendations, the UK might have a chance at better, fairer and more effective drug laws.
High in the Pamir Mountains of Tajikistan and Afghanistan, the mulberry is an incredible source of wealth and a basis for survival. The fruit saved thousands of Pamiri people from starvation during the Tajik civil war, when the Badakhshan region was cut off from the outside world by the armed forces of Northern Tajikistan and was suddenly unable to import the food it had come to depend on. People traded goats in credit for a small bag of mulberries to save their families from starvation. There are villages in Afghan Badakhshan where this is still the case, and people on both sides of the border still grind dry mulberries between two riverbank boulders. The products, however, have very little market value, and many people forego their traditional lifestyles to purchase foreign goods through income from migrant labour.

Few Pamiri people find food a source of pride, particularly among the younger generations. Despite the rich culture of the region, it was nearly a year before I was served any local Pamiri food. I was working as an international development professional with the Aga Khan Foundation in Tajikistan and Afghanistan, helping rural communities adapt to environmental change. Like most visitors to the Pamirs, I was struck by the simultaneous scarcity and richness of the landscape, the hospitality of the people and the diverse history of agriculture – the region boasts hundreds of varieties of fruit and nuts trees, and the origin of some grains.

In response to a plea from a grandmother to record her recipes, I decided to write a book “Bo Dasti Khona Khud – A book of food, and life, in the Afghan and Tajik Pamirs” with my friend and co-author Frederik van Oudenhoven, to tell the story of a rapidly changing landscape and culture. More than just presenting recipes, the book touches on these changes through stories, songs and poetry of Pamiri people and will be distributed for free among communities in the Pamir in bilingual versions. What struck me most while traveling in the Pamirs is that children are often left out of the development process. How can we give children a voice to imagine their future, if they are not proud of their past and the rich diversity of their home? As a step towards this, my next project is a small children’s book, intended to help keep their grandparents’ traditions alive.

People on both sides of the border still grind dry mulberries between two riverbank boulders.
11 August 2011: Chill rain on the former Soviet air base near East Berlin thickened the air in our tent even more than the cigarette smoke. I was reporting on a gathering of over two thousand computer hackers when someone yelled, “Attack in California!” Moments earlier, the Bay Area Rapid Transit system in San Francisco (BART) had suspended cell phone service in its stations to impede a planned protest against police violence. To BART administrators, this action was a security necessity. To the hackers around me in Berlin, it was censorship, and they were incredulous that it was happening in California instead of Cairo. The following week, hackers retaliated by criminally leaking BART information. These acts showed me that the Internet could both strengthen and threaten democracy. As a filmmaker, I am working to help create a framework that differentiates the two.

I have spent the past year filming Reality Hackers, a documentary about politically motivated hackers. In the process, I encountered forms of electronic civil disobedience in which the constructive capacity of the Internet to facilitate democratic struggle was deeply mixed with destructive acts online. For example, 9 December 2010 was the peak of a widely publicised cyber-attack launched to protest corporate termination of services to Wikileaks. It was also the day I interviewed someone claiming to be a perpetrator, who likened the attacks to a digital sit-in. In investigating his claim, I found that the attacks in many ways endangered the very democratic freedoms the protesters claimed to promote. While protesting censorship, the hackers shut down websites and silenced speech. While some participants gained moral authority by willingly risking arrest to participate, others hid their identities to evade legal consequences.

The attacks endangered the very democratic freedoms the protesters claimed to promote. However, the attacks also promoted democratic mobilisation. They highlighted the specter of corporate censorship, and generated debates around the nature of online protest. Some participants went on to contribute technological support to democracy activists during the Arab Spring. Through their stories, I saw how the Internet could produce new platforms for political engagement. The legal consequences we impose on such actions will shape the future of political protest.

When the rain lifted from the Berlin air base, two of my informants pointed out posters of themselves as candidates for office, running on a platform of Internet freedom. A month later, they and their colleagues won fifteen seats in the Berlin State parliament. Their election shows that politically motivated hackers are here to stay. I want to make sure these journeys from tent to parliament are well understood and not simplified for premature conclusions. We will have to develop methods to enhance security online. The difficulty will be simultaneously maintaining the promise of the Internet to facilitate innovative forms of democratic engagement.
Why do some flowers tend to be pollinated by birds, and others by bees? What makes a flower purple or red, and how have these traits evolved since their appearance some 140 million years ago?

In the Evolution and Development Group of the Department of Plant Sciences, we seek to answer these, and other, fundamental questions about the nature of flowers. Combining molecular biology with behavioural experiments, we analyse patterns of gene expression in flowers, and study everything from structural colour in plants to the origin of petals.

My PhD project focuses on changes in the floral structures of snapdragons and related species in that genetic family (Tribe Antirrhineae). By studying traits such as floral symmetry and cell shape and colour, I hope to determine how these plants evolved to optimise their own pollination by various agents.

Because each trait in a flower is controlled by its genetic programme, a single mutation can alter that flower’s attractiveness to pollinators. Maintaining traits that are desirable to pollinators – such as bees and birds – is therefore crucial since a decrease in pollination translates into fewer plants, widespread loss of biodiversity, and ultimately, net loss of resources necessary for human life as we know it.

Less pollination translates into fewer plants, ultimately leading to widespread loss of biodiversity

Understanding how plants and animals have co-evolved goes beyond simple scientific curiosity. Like any history, this narrative of co-evolution can also give us insight into our own future. The recent decline in pollinator populations, a possible effect of global climatic change, has profound implications for the world’s flora. In recent years we have witnessed how trends in climate change have slowly but consistently altered life across the planet. Using genetics to unravel this story will reveal much about their place – and by extension, our roles and responsibilities – in a changing natural environment.
When the bus driver dropped me that evening at an undefined crossroads in the remote southern part of Sumatra, I started having doubts about carrying expensive camera gear in this far part of the world. I had received vague instructions: disembark the bus in a small town, call a cell number and say a sentence in Bahasa Indonesia, without any idea what it meant, in order to arrange a ride. I had come to this remote forest in southern Sumatra, Indonesia, to document the work of former illegal loggers turned sustainable farmers. They would be the first subjects of the Climate Heroes project.

I founded Climate Heroes, a non-governmental organisation, from Paris in late 2010. I was puzzled by the fact that climate change was said to be the most pressing challenge of our times, yet policies seemed vague at best, and we, citizens, were lost, not knowing where to start. I therefore decided to showcase individual women and men who already had begun acting to mitigate climate change. These are the Climate Heroes: ordinary people who have stepped up and changed their mindset and behaviour. Their decisions may seem exceptional, but their choices are ultimately within everyone’s reach.

The Climate Heroes project seeks to shed the light on them, and inspire more of us to act.

The first two reportages were completed in Indonesia and Denmark. I learned much from interviewing the former illegal loggers, some of whom had spent time in jail. Most loggers migrated from Java to Sumatra to look for work, at a time when Java was densely populated. Yet there were no more jobs, so they bought chainsaws, and started cutting trees for profit. The question was about earning a living, not morality; however, the criminal activity made life precarious. Loggers eventually realised that sustainable farming would mean more stable families, forests protected from fire hazards, and less engagement with corrupt park rangers. They discovered that their prosperity and environmental health was one and the same.

The same realisation happened among Samsø islanders in Denmark, where the leaders for the Sustainable Island project worked hard to convince locals to invest in wind turbines and other renewable energies. Now, however, nobody would want to go back because wind energy has made the island prosperous. By selling energy back to the grid, Samsø islanders serve the environment and their communities at the same time.

These examples show that there are inexpensive, constructive, and incremental ways to relieve the overall stress put on our planet. Whether it is tackling deforestation, ecological preservation, energy, or industrial innovation, individuals and communities can have impacts at all levels.

The Climate Heroes project is now launching its second phase. We aim for a global, participative, and universal movement that will result in the documentation of Climate Heroes across the globe. We are looking forward to working with photographers and volunteers from all over the world.

You can see the Climate Heroes portraits and web-documentaries on the project website, www.theclimateheroes.org, as well as volunteer to work with us and submit your suggestions for Climate Heroes you may know.

Maxime Riché (France, 2005) – MPhil BioScience Enterprise

Samsinger Brian Kjaer, electrician, invested in a wind turbine and an electric car.
It really was the best cup of coffee I had ever had.

Perhaps it was the whole ritual of using water from the rain barrel, of roasting green coffee beans over an open fire, of grinding them coarsely on a worn wooden mortar, of filtering it twice through the heel of a sock, of making it impossibly sweet and thick with raw sugarcane juice.

It could have been the taste. It could have been the sad, minuscule, beautiful china cup it was served in.

Maybe it had not been so much the coffee, as the place. We sat on the second floor of a three-storey building, in a surreal living room with half the roof missing and the deep blue sky above, a violently decaying wall offering an unintended fractured triptych view of the ocean, with the boarded-up balcony door filtering the humid afternoon salty air. Loud chatter behind us echoing from the stairs that led to nowhere.

Like most cities, Havana is the aggregate of stories that when recounted begin to simultaneously complete and contradict each other. This mythical city of columns, light and desire has for many years suffered from structural neglect. And the combination of geographical location, state policy, social conditions and international isolation have turned most of the Cuban capital – indeed, the entire country – into a collection of neglected, deteriorating and ruined dwellings.

Havana is an aggregate of stories that simultaneously complete and contradict each other

Taking pictures of the crumbling houses of Centro Habana neighbourhood brought about the invitation from a stranger to come up and have ‘the best coffee in Havana’. An unexpected guest is always welcomed, I was told.

Such is life here: syrupy afternoon coffee amongst the ruins, with friends.
Cities such as Jerusalem and Belfast are often seen as hapless victims of protracted and intractable ethno-national struggles. The walls and fences that dissect these cities have become iconic, conjuring images of radicalised populations caught in militarised stand-offs. In times of increasing urbanisation and inequality, as well as ethnic and sectarian differences ‘divided cities’ offer insights into the worldwide intensification of urban conflict.

Despite their status as ‘laboratories’ of such global dynamics, the everyday lives of ordinary dwellers in contested cities are often neglected due to research challenges. We largely ignore how inhabitants of divided cities are affected by, and in turn influence, the conflicts that surround them. Yet the events of the ‘Arab Spring’ have shown that we cannot afford to keep overlooking the role of ‘ordinary’ people in cities. Authoritarian regimes that were widely believed to be stable were partly overthrown by bottom-up, political action taken by mainly urban populations.

‘Conflict in Cities’ is a multi-disciplinary project, led by Wendy Pullan from the Architecture Department at the University of Cambridge, which explores the everyday life and built environment of contested cities. As a research partner in the project, I have focused on Jerusalem, where international calls for renewing peace negotiations face a declining situation on the ground.

Meanwhile, Jerusalem, despite its damaged state and inhabitants’ hardships, continues to function as a ‘normal’ city because of the sheer practical exigencies of urban life. Jerusalemites have to cross myriad boundaries in their daily lives. In certain parts of the city centre around the informal market areas, boundaries can be ‘soft,’ allowing for basic and mainly peaceful interactions. Elsewhere, ‘hard’ boundaries cut neighbourhoods and villages in half, impairing Palestinian mobility. Also, Israeli security forces may establish checkpoints at random, unpredictably blocking passage and disrupting routes to school, work, health care or consumption. Israelis live in constant fear of attacks and one wonders whether they are not the prisoners of their own, heavy-handed security arrangements – which are ostensibly there to protect them.

We cannot afford to keep overlooking the role of ‘ordinary’ people in cities.

‘Conflict in Cities’ is funded by the ESRC – UK (www.conflictincities.org).
Nicole Basta (2003),
MPhil Epidemiology
Nicole received the 2011 National Institutes of Health (NIH) Director's Early Independence Award. This five-year, $1.25 million grant will support her MenAfriVac vaccine research in Mali.
Email: nicole.basta@gmail.com

Susannah Hollister (2002),
CPGS History of Art
Email: susannah.hollister@austin..utexas.edu

Bilal Mahmood (2009),
MPhil Bioscience Enterprise
Bilal recently joined Science Exchange, the startup lauded by Nature as an ‘eBay for science’. He handles customer/business development, assessing strategic partnerships and outreach initiatives.
Email: m.b.mahmood@gmail.com

Jennifer M. Piscopo (2002),
MPhil Latin American Studies
Jennifer received her PhD in Political Science from the University of California, San Diego. She is now Assistant Professor of Public Policy at Salem College. Her co-edited volume The Impact of Gender Quotas (with Susan Franceschet and Mona Lena Krook) was published by Oxford University Press in 2012.
Email: j.piscopo@gatesscholar.org

Margaret Young (2003),
PhD Law
Margaret, an Associate Professor at Melbourne Law School, Australia, has been awarded an Australian Research Council grant to research climate change law and mitigation in the context of indigenous and local communities. She is the author of Trading Fish, Saving Fish: The Interaction between Regimes in International Law (Cambridge University Press, 2011), and editor of Regime Interaction in International Law: Facing Fragmentation (Cambridge University Press, 2012).
Email: m.young@unimelb.edu.au

If you have professional updates to share with the Gates Cambridge community, please send them to news@gatescambridge.org
Holi is a springtime festival celebrated all over the Indian Subcontinent and now, increasingly, in other parts of the world. Like many other Indian festivals, the origins of Holi are steeped in myth. A variety of stories speak of burning demonesses, self-sacrificing cupids (also burning, incidentally) and the god Krishna’s mischievous expressions of love.

While effigies are burnt in memory of these long-ago stories, Holi is predominantly a festival of colours to welcome the spring season. It’s a day when friends, family and strangers throw brightly coloured powders and paint at each other, and feast on savouries like ‘gujiyas’ – sweet dumplings made from dry fruits and coconut. It’s also a day of momentarily blurred societal divisions as it brings together everyone, regardless of gender, caste and economic situation, on equal footing in high-spirited celebration.

Cut to Cambridge – on a still-hesitant spring day at the end of Lent term, the students of the University exchanged their black gowns for old white t-shirts and gathered on Queens’ Green to play Holi. The Cambridge University Hindu Cultural Society brought us plenty of colours (and body suits for the less adventurous folks!). In one of the biggest Holi events they’ve put together, the afternoon saw a pocket of this lovely city come alive with bright-hued laughter and mischief. And two of our Scholars have captured some of that on camera …

Divya Venkatesh (India, 2011 – PhD Pathology) explains what brought a few Scholars out on a grey afternoon to paint Cambridge red – and green, and yellow, and blue …