

RHODES SCHOLAR

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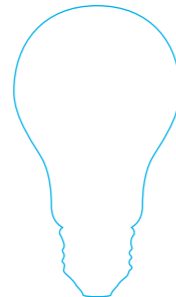
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Rhodes Scholar 2019



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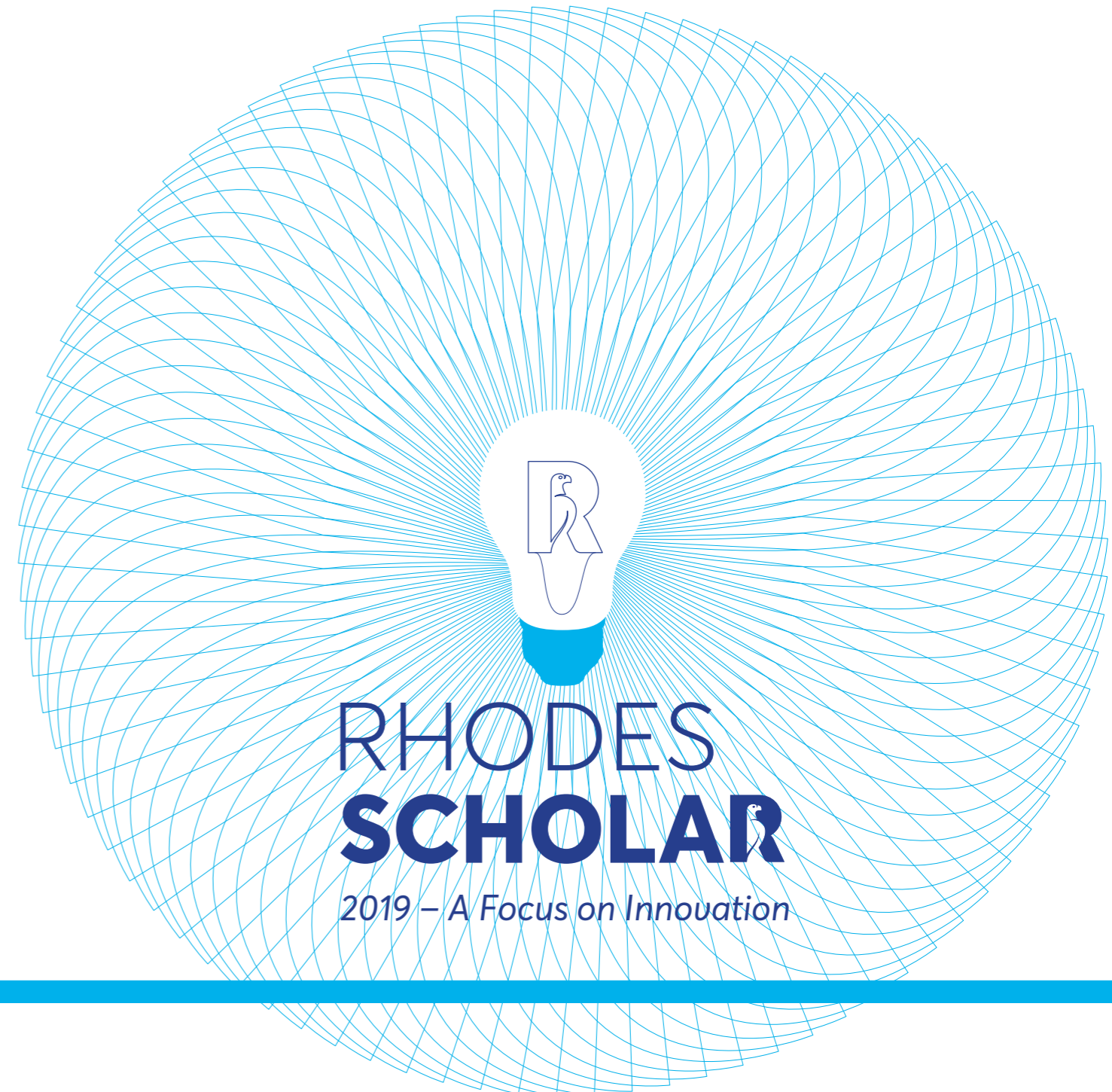
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Welcome

Rhodes Scholar magazines in recent years have focused on healthcare, social justice, and celebrating 40 Years of Rhodes Women. In this edition, we consider a theme that is close to everyone's heart – innovation. The success of the Rhodes Ventures Forums over the last three years has demonstrated how innovative the Rhodes community is, drawing current and Senior Scholars together to share entrepreneurial stories and insights.

Innovation is not just something that happens in the fields of artificial intelligence and genomics. It shapes every discipline and field of human endeavour. In this magazine I loved reading T. A. Barron's (Colorado & Balliol 1974) account of how stories help us reinvent ourselves and our world. Business professor, Clayton Christensen (Utah & Queen's 1975), coined the term 'disruptive innovation' in the 1990s, and Edward de Bono (Malta & Christ Church 1953) originated the concept of 'lateral thinking' in the 1960s. There are numerous examples of Scholars around the world who have achieved innovative change on either a local or global scale by not accepting the status quo but instead coming up with a new question, a new answer, a new path forward. I hope you enjoy the diverse stories of innovation by Rhodes Scholars, Schmidt Science Fellows and Atlantic Fellows featured in this issue.

As I have gotten to know the global Rhodes community over the past ten months, I am continually struck by how dynamic and engaged our network is. Thank you for all you do to ensure that our path forward is filled with innovation, creative energy, and commitment to the greater good.

Best wishes

.....
Dr Elizabeth Kiss (Virginia & Balliol 1983)
Warden of Rhodes House

RHODES SCHOLAR

Standing up for the world

The Rhodes Trust provides the Rhodes Scholarships in partnership with the Second Century Founders, John McCall MacBain O.C. and The Atlantic Philanthropies, and many other generous benefactors.

Editorial information

The Rhodes Scholar magazine is published annually in print format by the Rhodes Trust in Oxford and supplemented each year by several electronic updates.

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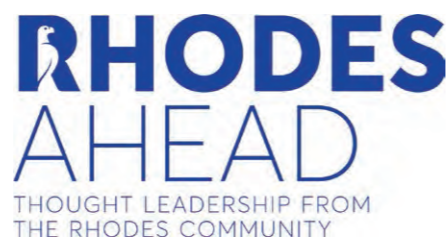


Would you like to contribute to future editions of the Rhodes Scholar magazine?

Please get in contact with Babette, the magazine's editor – she will be delighted to hear from you.

Rhodes House turns 90

Rhodes House, known for its grand rotunda and impressive hall, was completed in 1929. Although the Scholarships have continued to develop with the changing global landscape, Rhodes House stands as a reminder of the history of the Rhodes Trust, an intersection between modern and traditional. Between 1926 and 1929, there was a steady development of the architect's plans: the entrance rotunda and a number of accommodation rooms were built. The rooms of the principal building were to be named after the original Rhodes Trustees, so that the main hall – first proposed as Rhodes Hall – became Milner Hall. The building was officially opened on 10 May 1929 and on 5 July 1929 (the 25th anniversary of the foundation of the Scholarships) a reunion of all Rhodes Scholars was held there, in the presence of the Prince of Wales. And so began the tradition of hosting dinners in Milner Hall, with a proposed schedule of two Trustee-hosted dinners – one in the autumn for new Scholars, and one in June for departing Scholars. The Coming Up Dinner and the Going Down Dinner still run with great success to this day.



'Rhodes Ahead'

In 2019, the Rhodes Trust launched a new online series called 'Rhodes Ahead: Thought Leadership from the Rhodes Community' which consists of video interviews with alumni and current Scholars and a leadership podcast series, as well as engaging content from Scholars across geographies and generations. So far we have 17 podcasts and three videoed interviews, discussing leadership roles in areas from linguistics to clinical medicine and from journalism to economics, to name only a few. The 'Rhodes Ahead' series aims to share advice from our Scholars on leadership styles, ethical challenges, and the logistics of engaging with the public in a fast-moving, interconnected world.

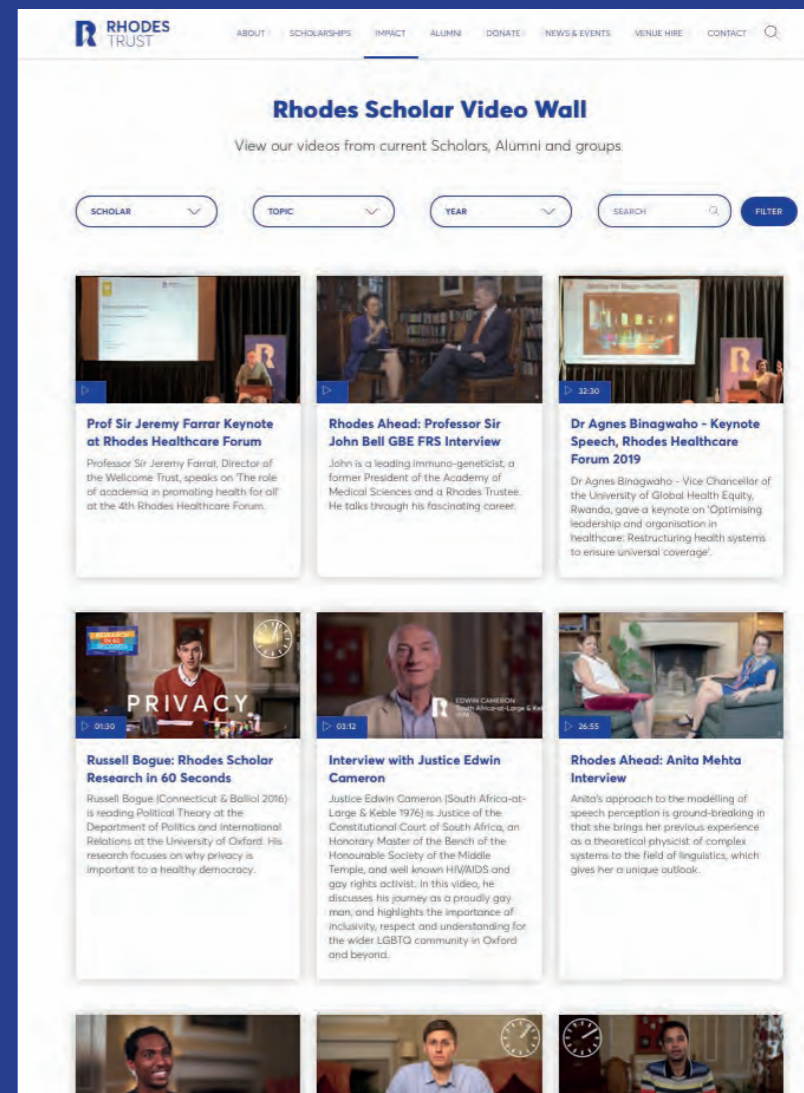


Schwarzman-Rhodes

The first Schwarzman-Rhodes Symposium took place at Rhodes House on 26-28 October 2018 to explore the topic of 'Public Leadership in the 21st Century: Ethical, Global, Local, Connected'. This event brought together Schwarzman Scholars and Rhodes Scholars to engage with the meaning of values-based and ethical leadership, develop skills, and build connections between the two programmes.

The Rhodes Scholar Video Wall launched

With the growing popularity of video content online, the Rhodes Trust has created a video wall on our website that showcases everything from formal interviews and video campaigns to lectures and speeches. The wall includes the 'Rhodes Scholar Research in 60 Seconds' series, in which a few of our current Scholars try to explain in one minute what they are studying at Oxford. It sounds like an impossible task, yet it offers a light-hearted and unique glimpse into their research. The wall also includes content from forums and events like the Bram Fischer Memorial Lecture 2018 and speeches from Welcome Day 2018, to ensure access for those who cannot attend or wish to watch back again. We will continue to grow our video wall with new content. You can find it here: www.rhodeshouse.ox.ac.uk/impact/rhodes-scholar-videos/



Bram Fischer Memorial Lecture 2018



Every year, we honour the memory of Bram Fischer (Orange Free State & New College 1931), pioneer of social change and martyr of the anti-apartheid struggle. Bram Fischer was a South African lawyer of Afrikaner descent who served as lead defence counsel for Nelson Mandela in the Rivonia Trial (1963-64), saving Mandela from the gallows. Fischer was subsequently arrested and died in prison. The Bram Fischer Memorial Lecture in 2018 was entitled 'Principled Activism for Social Justice in a Troubled World'. It was delivered by Mr Pravin Jamnadas Gordhan, Minister of Public Enterprises in the South African Government.

How Gender Equity Can Help Stop Global Warming

"If we really want to address climate change, we need to make gender equity a reality," says writer and environmentalist **Katharine Wilkinson** (Tennessee & Trinity 2006). As part of Project Drawdown, Wilkinson has helped scour humanity's wisdom for the most effective solutions to draw down heat-trapping, climate-changing emissions.

Project Drawdown's analysis of solutions across all sectors, from electricity to food, shows that securing the rights of women and girls can have a positive impact on the atmosphere – comparable to wind turbines, solar panels, or forests.



Several years ago at TEDWomen (2015), Mary Robinson talked about the human rights implications of climate change. As you mentioned, the awareness that climate change tends to impact those who are the most vulnerable – women, children and the poor – is growing. Can you talk a little more about the societal impacts of climate change on women and girls?

Climate change is a justice issue. While the impacts of climate change touch everyone, research shows they hit women and girls hardest. That disproportionate effect is due to existing vulnerabilities, especially under conditions of poverty, and to the roles women and girls play in many societies, such as collecting water and fuel, or growing food. In very real ways, climate change thwarts the rights and opportunities of women and girls. The flip side is that we can advance justice through our responses to global warming. As Mary Robinson has become fond of saying more recently, 'climate change is a manmade problem with feminist solutions'.

Your plan, Project Drawdown, highlights the 80 most substantive, existing solutions to address climate change. In your talk, you focus on three areas in which gender equity and halting global warming are linked: agriculture, education and family planning. What was surprising to me in reading *Drawdown* (edited by Paul Hawken) was how high up the list these issues are in terms of their potential impact. Educating girls is #6 and family planning is #7. Why are these so vital compared to other solutions like electricity generation and land use?

It's one of the most powerful insights from our work, and in large part, that's due to the ripple effects of gender equity on the growth of our human family. When girls and women have access to high-quality education and reproductive healthcare, they have more agency and make different choices for their lives.

Both education and family planning are basic human rights, but for too many they are not yet a reality. Securing them could mean a global population of 9.7 billion people at midcentury. If we fail to address what girls and women say they want, need, and lack, that figure could increase by an additional billion.

Want, need, and lack bears repeating. This is very different than the tired, repressive trope of 'population control' foisted on women. It is *choice*, not control, that may avoid more than 100 billion metric tons of carbon dioxide over

the next three decades. (For context, humanity emitted just over 37 billion metric tons of carbon dioxide in 2018.)

You have said that 'drawing down emissions depends on rising up.' What does that look like?

Of course, girls and women's leadership on climate goes way beyond family choices. Many of the vital voices and agents of change for a liveable planet are female.

Women and girls are overcoming unequal representation at decision-making tables and underinvestment in their efforts. One need look no further than the example of Greta Thunberg and the growing community of teenage girls leading school strikes for climate change action around the world.

It's estimated that just 0.2% of philanthropic funds go specifically toward women and the environment. These dynamics are not only unjust, they are setting us up for failure. Centring the rights, voices, and leadership of women and girls is a necessity. To rapidly, radically reshape society, we need every solution and every solver, every mind, every bit of heart, every set of hands.

'Drawing down emissions depends on rising up'

How do you remain positive in the face of such challenges?

I think about this question a lot, and I'm still very much figuring it out. Parker Palmer uses a term, 'the work before the work' of social change. There's inner work we have to do, to do good work in the world. I find that it's easy to become so focused

on the need 'out there' that I overlook the needs 'in here' – and the way they're intertwined. What helps me is time in circle and in community with kindred souls. Time in the mountains and with dogs and horses, to get grounded in the present. If we want to shape a life-giving future, we have to cultivate that which gives us life here, now. As I said in the talk, it's ultimately a magnificent thing to be alive in a moment that matters so much.

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This interview is excerpted, amended, and reprinted with permission from PatMitchellMedia.com. The video of Katherine's talk was published on TED.com.

PROJECT DRAWDOWN

The Maps of Creation

T. A. Barron (Colorado & Balliol 1974) has written over 30 novels, children's books and nature books. His series, *The Merlin Saga*, has been translated into more than two dozen languages and is currently being made into a feature film by Disney.

Humans are endlessly ingenious. We create, build, compose, craft, and invent. And first of all... we imagine. Throughout history, people have created tools for almost every purpose – or, more accurately, every purpose *imaginable*. If someone wonders how to solve a problem, it's a very good bet that someone has already started to imagine a solution. That has led to countless inventions which shape our lives – from the wheel to the Web, from the supercollider to the sandwich, from the methods for sequencing DNA to the marvels of language. Everywhere, such inventions are readily visible. But creativity and imagination also shape our world in important ways that often go unnoticed – through the stories we share. In this brief piece, I'd like to focus on the ways that stories profoundly affect our outer and inner worlds.

The outer realm comprises our ongoing efforts to create a better world. A home planet that's more just, more peaceful, and more healthy. We yearn to conceive new freedoms, new societies, and new ethical foundations for our relations with other people, our fellow creatures, and the planet that sustains us all.

The inner realm comprises our wondrously diverse attempts to understand and recreate ourselves. To be fully human means to strive to illuminate the values that guide us, the choices that shape us, and the spirituality that sustains us.

As we seek to reinvent our world and also ourselves, we are redefining what it means to be mindful – and, indeed, what it means to be human. In both of these realms, the search for truth begins with imagination. And that often takes the form of artistic expression, including stories. For stories – whether they are written, spoken, acted, sung, or dreamed – are, at their core, vehicles for ideas. Sometimes

very big ideas, with the magnitude to remake our lives. Rest assured, I certainly don't intend to try to list all the ways people have used stories to convey new visions of the world and themselves. That task would be utterly impossible, even if this piece were a thousand times longer. Nor will I name more than a tiny slice of a sliver of a fraction of all the people who have devoted their storytelling talents to reimagining their societies and themselves. All I hope to do is to celebrate the awesome power of stories to recreate both outer and inner worlds.

Stories, you see, are much more than they seem. More, even, than vehicles for ideas. At their best, they are maps – conceptual maps of how we might aspire to live. Maps of creation.

Like the most intricately drawn physical maps, stories can hold multiple layers of meaning. For example, take the celebrated story of Noah's Ark. Ever since it was first told long ago, that story has been honoured as a tale about faith, perseverance, and powers greater than ourselves.

All of those meanings are true. But Noah's Ark is also a parable about something else: the responsibility of humanity to be good stewards of nature and our fellow creatures. After all, if God asked Noah to go through all that trouble to save two of every animal species – how can we do anything less?

Recreating the World

Libraries and memories everywhere are full of stories in every language that carry powerful ideas about building a better world. Think of the social critiques, bold visions, and inspiring values in the novels of Jane Austen, Charles Dickens, and Voltaire; the plays of Shakespeare; and the writings of James Baldwin and Miguel de Cervantes. Or the epic fantasies of Ursula K. LeGuin and J. R. R. Tolkien; the haiku poems of Basho; and the speeches of Abraham Lincoln and Nelson

Mandela. Or the science fiction tales of Octavia Butler, Madeleine L'Engle, and Arthur C. Clarke; the epics of Homer; and the writings of Boris Pasternak.

All these writers, and many more, have helped people to reimagine our world. To turn our most cherished values into reality. To make maps of future civilisations.

Consider the values of hope and aspiration that are embedded in Martin Luther King Jr.'s famous declaration, 'I have a dream.' (Also notice that, unlike some current political figures, Dr King remained steadfastly positive. He knew it was far better to convey dreams rather than nightmares, hopes rather than fears.)

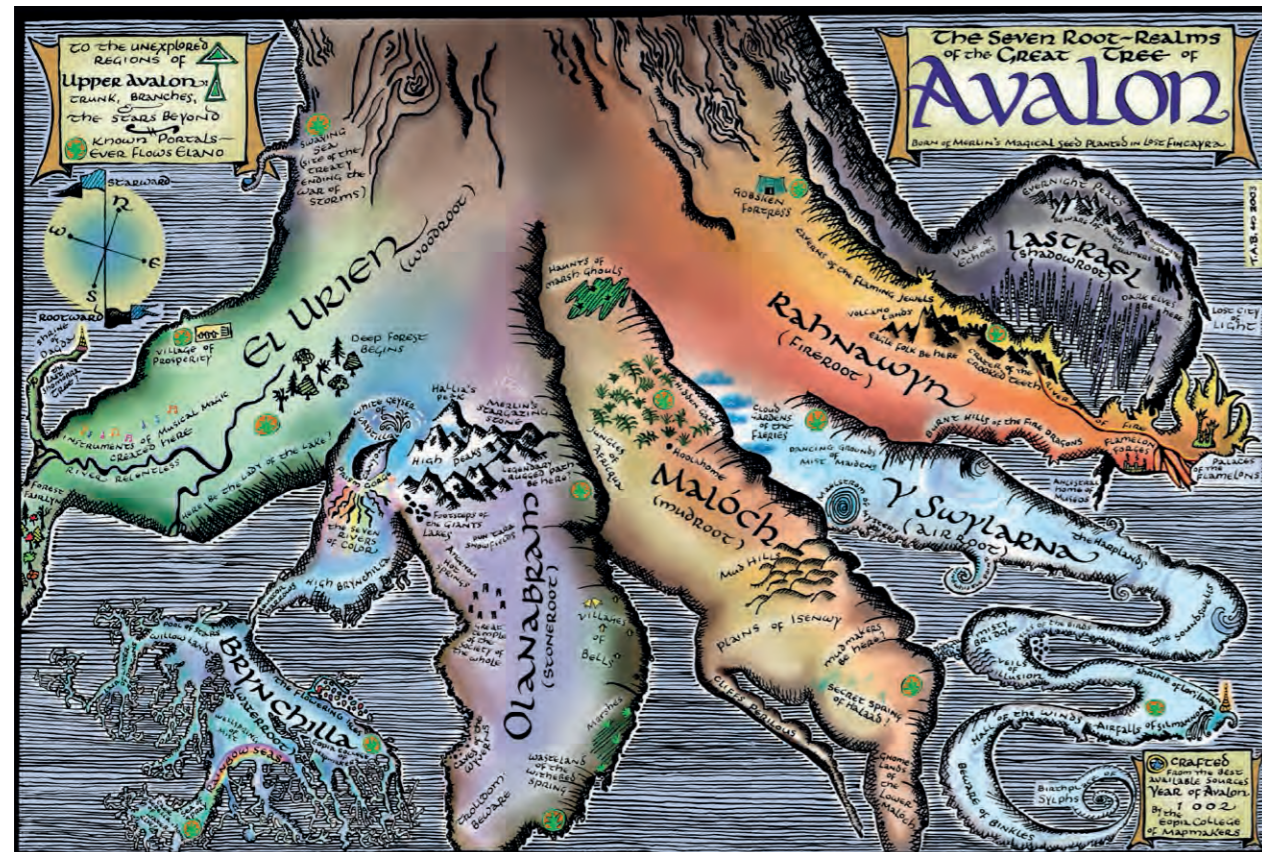
What stories, I wonder, inspired Eleanor Roosevelt to craft the Universal Declaration of Human Rights? What stories prompted Nannie Helen Burroughs to open a school for young African-American women in 1909, the very first of its kind? And what stories did she tell her students to empower them to go into the world with confidence and courage?

Let's also celebrate the rich lore of Native Americans and other native peoples around the world. The enduring myths told by the ancient Greeks, Vikings, Incans, Polynesians, Africans, and Chinese. The great parables of religious leaders like Buddha, Christ, Moses, Mohammed, Mother Teresa, Confucius, and the Dalai Lama. As well as those of storied spiritual figures such as the wondrous Saraswati, the compassionate White Tara, and the deeply wise Merlin.

Brilliant storytellers have also given us new ways to live more justly as individuals. One example is Henry David Thoreau, whose writings (and actions) gave birth to the practice of civil disobedience, which has inspired many, including Mahatma Gandhi.

Other storytellers have changed the way we think of our relationship to the Earth... and our responsibilities to preserve its biospheres. Writers like Rachel Carson, Terry Tempest Williams, Jacques Yves Cousteau, Jane Goodall, Dorothy and William Wordsworth, Black Elk, and John Muir have inspired us to consider the wellbeing of future generations of humans as well as our companion

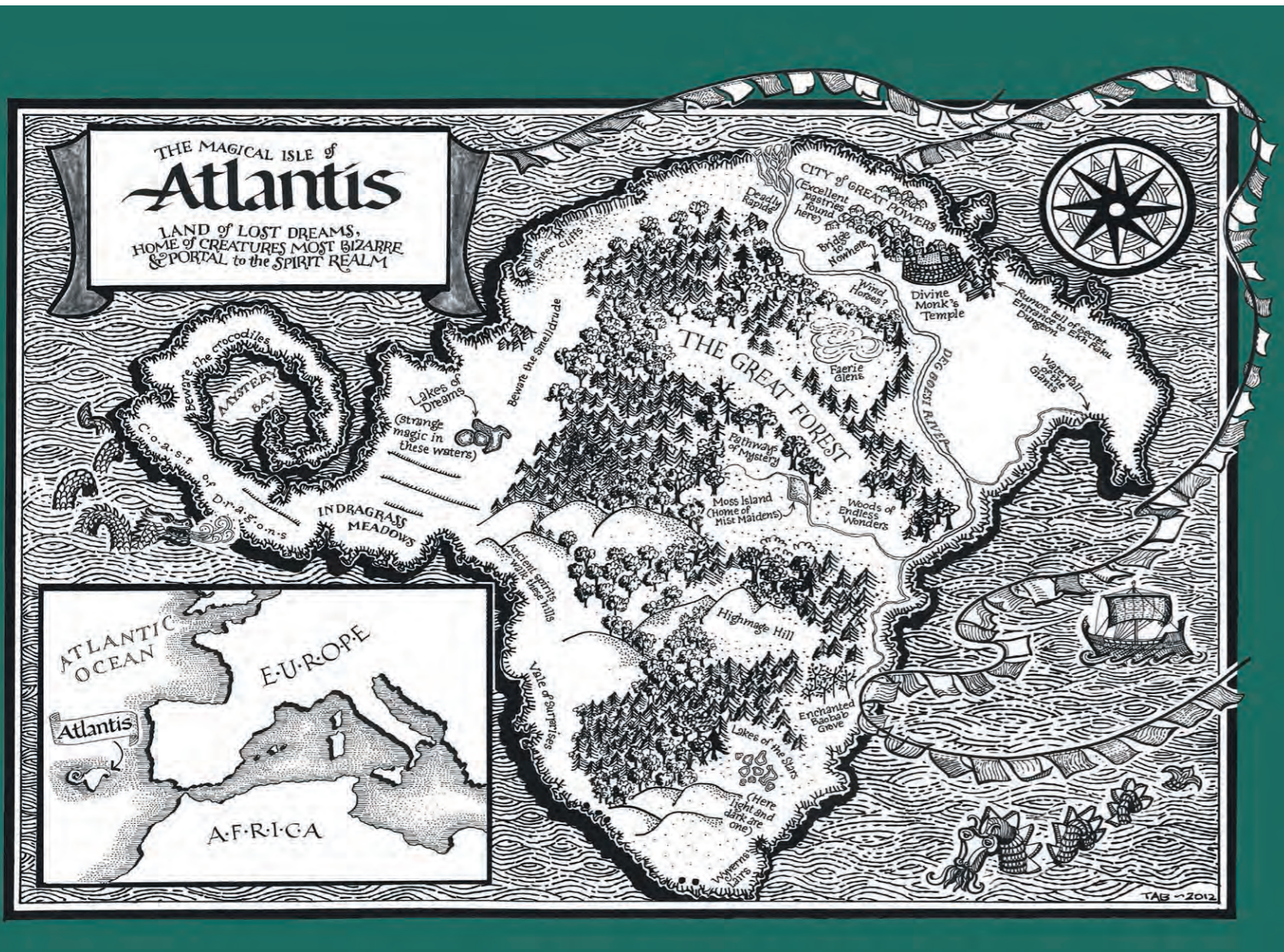
The search for truth
inspires our greatest stories



Map of the Great Tree of Avalon, hand drawn by T. A. Barron



Book cover for Book One of *The Merlin Saga* by T. A. Barron

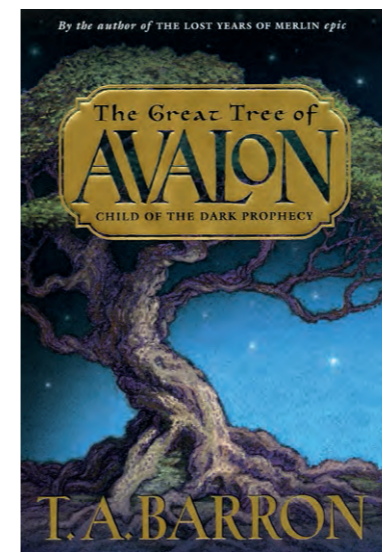


Hand-drawn map of Atlantis by T. A. Barron from his book *Atlantis Rising*

forms of life. How will they live, find clean water, breathe freely, and experience the grandeur of nature, if we don't do everything possible to protect all of that?

Given today's mounting problems of global climate change, damaged ecosystems, species loss, vanishing wilderness, and depleted oceans, we need stories that inspire a renewed connection to the Earth. To fill us with gratitude – and the determination to save our home as well as ourselves.

Lastly, I'd like to mention one more way that stories have shaped our world – through new forms of expression, even new languages. Dante's *Divine Comedy*, in addition to giving us vivid descriptions of the afterlife, helped to create the modern Italian language. And while we're on this topic... how many of the nonsense words invented by Lewis Carroll are now galumphing along in everyday conversation, causing us to burble, gyre, and gimble? (Even if we maybe feel a bit brillig afterward.)



Book cover for *The Great Tree of Avalon*, Book Nine of *The Merlin Saga* by T. A. Barron

Recreating Ourselves

From earliest times, people have crafted tales to explore our innermost yearnings and to help us make meaningful lives. Through the conceptual maps of stories, we are guided on journeys of self-discovery, learning the surprising geography of our souls.

Just as a lone candle doesn't flood a room with light, but gently illuminates the room while still leaving space for quivering shadows... stories light our most mysterious inner journeys. Importantly, these candlelit quests require respect for the contradictory parts of ourselves, reverence for the mysteries beyond our ken, and humility to accept how much we still have left to learn. If these quests are often difficult, that's because those difficulties help us grow.

The most profound stories invite us to examine our assumptions, our values, and our worldviews. Such stories challenge us to meet other people and other cultures very different from our own. As a result, we discover the dignity of others – and become more compassionate, humble, and wise.

Think of the beautiful stories of writers such as Jhumpa Lahiri, Elie Wiesel, and Chimamanda Adichie. Or the wonderfully evocative poetry of Mary Oliver. In her poem, 'Wild Geese', she coaxes us to explore honestly who we are, without ever forgetting our worth as individuals:

Meanwhile the wild geese, high in the clean blue air,
are heading home again.
Whoever you are, no matter how lonely,
the world offers itself to your imagination,
calls to you like the wild geese, harsh and exciting –
over and over announcing your place
in the family of things.

Many of humanity's most inspired – and inspiring – uses of imagination welcome us into life's spiritual dimensions. What culture or faith doesn't have its own cherished tales, luminous candles that help us to glimpse deep spiritual truths?

One of my favorites is the Tibetan chant that says that when we die, we become 'rainbow bodies'. Those ethereal forms, radiant and shimmering, then merge seamlessly into the wider universe. What marvelous imagery – evoking wonder, jubilation, renewal, and the mysteries of transformation!

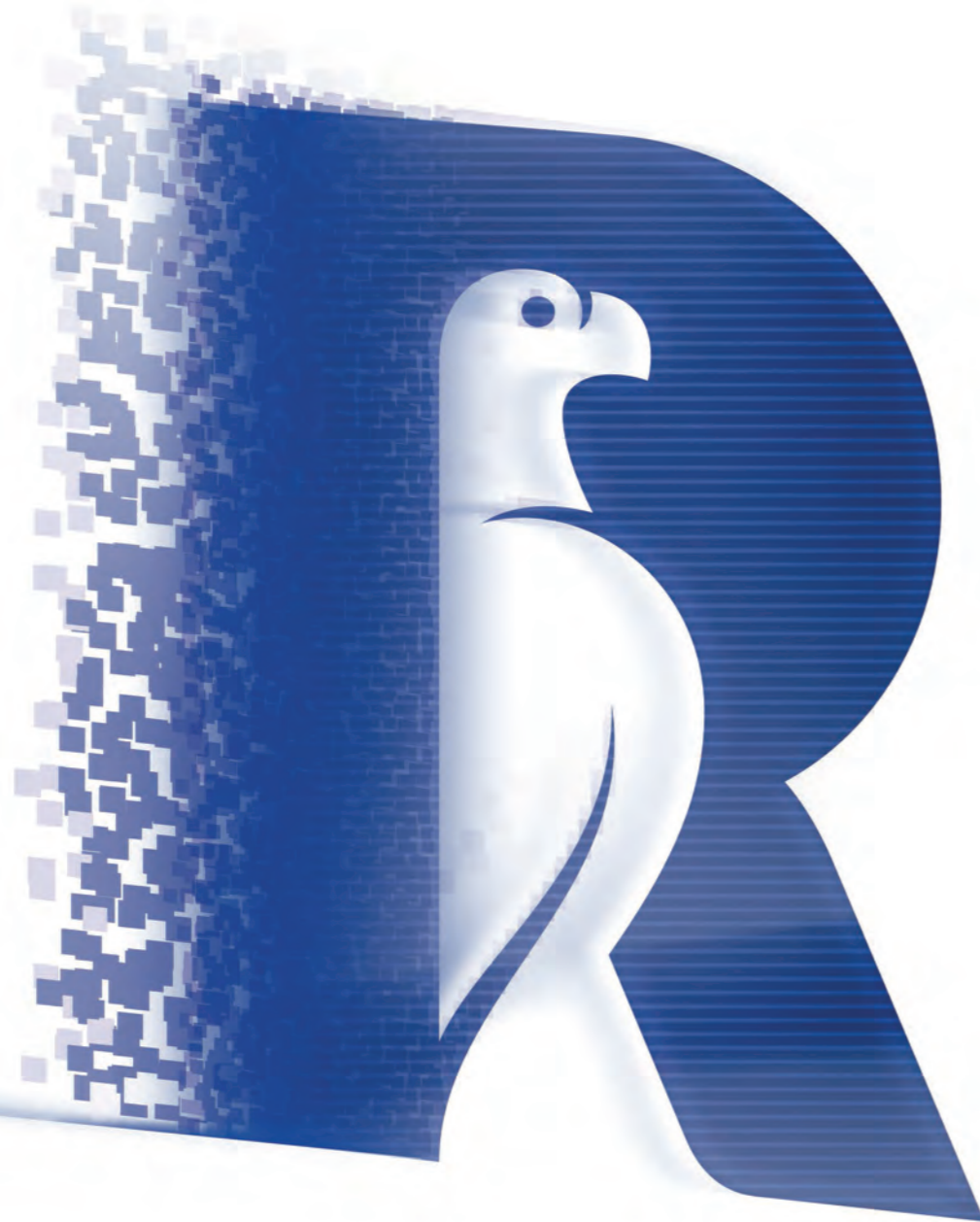
Celtic spirituality is rich with such evocative images. Always imbued with deep reverence for nature, Celtic tales also seek to enliven our senses. As John O'Donohue wrote in his masterwork *Anam Cara*, 'You hear the sound of the winds, you taste the fruits, and above all you get a wonderful sense of how nature touches human presence.'

On top of that, Celtic tales have always called to me for another reason: their enduring appreciation for what lies beyond our reach, between the visible and the invisible. That realm 'in between' holds many sources of mystery and inspiration – just as mist is not quite air and not quite water, but something else entirely.

Maybe that's why I've been drawn to the lore of Merlin, the original wizard, who has deep roots in Celtic lore. Even as I've added a few stories of my own to that lore, I've been following Merlin's conceptual maps to creating a meaningful life. (Along the way, I've also had the fun of drawing a few physical maps of Merlin's magical realms... such as those in the *The Great Tree of Avalon*.)

May you, too, experience the joys and discoveries of stories. May those stories inspire you to explore new worlds. And may you always carry a map... and a candle to light your way.

Will you help us shape the digital future and further enhance the lifelong Rhodes Scholar experience?



A Digital Home Away From Rhodes House

Supporting a more connected, collaborative Rhodes Scholar experience.
By Dr Elizabeth Kiss (Virginia & Balliol 1983), CEO and Warden, Rhodes Trust.

One of the greatest privileges of the Rhodes Scholarships is the opportunity to join a community of incredibly talented, thoughtful and active Scholars across the globe. I have witnessed the magic that happens when Scholars across generations come together for authentic conversation, to share stories, struggles and dreams and to offer mutual support and inspiration. A key focus of Rhodes House today is to foster this sense of community and belonging among all Rhodes Scholars. We want to support greater opportunities for collaboration and connection globally through a variety of means, from alumni programming focused on character, service and leadership, to enhanced support for Alumni Associations, to easier and more transparent ways for interested Scholars to serve as mentors, selectors or ambassadors for the Scholarship. Over time, we hope to find new ways for Scholars to connect and collaborate on solutions to complex problems, from educational access to good governance to climate change.

Developing and sustaining an engaged Rhodes community requires strong connections both in-person and digitally. To build these, Rhodes House is embarking on a Digital Transformation process, embracing modern technologies and communication platforms.

We are creating a new digital home away from Rhodes House.

The Vision

The Trust and technology have had a complicated relationship. We are not the earliest of adopters, nor should we always be. But too many of our administrative processes remain manual and outdated, and our digital presence and communications have too long been fragmented and sporadic. The Rhodes Scholar Network was a valiant effort and served some useful purposes, but is badly in need of a fundamental refresh.

Our community needs a world-class digital home. It needs an intuitive and reliable platform to facilitate meaningful engagement with individuals, ideas and opportunities. It needs to work for all users, regardless of age, location or technical ability, and it needs to attract a critical mass of users to build a robust community.

Our new digital home will be designed to serve all Rhodes Scholars. You might be a fresh-faced Scholar-Elect ticking off your personalised, interactive to-do list of Oxford and Rhodes-related tasks; or a Scholar-

in-Residence registering for the latest Rhodes House event or privately managing your finances and personal details online. You could be an alumni Scholar looking to reconnect with Scholars from your class during an upcoming business trip, or sharing an exciting job opportunity with Scholars contemplating next steps post-Oxford, or looking to travel to Oxford and finding out what events and opportunities are available during your visit.

Building a bespoke platform gives us the rare opportunity to ensure that our technology works to empower our community the way we want it to. Are you looking for curated content from Scholars around the world? Do you want to sign up to events without entering your personal details every time? Are you hoping to update your contact details, areas of expertise and volunteering interests in seconds? Then let us know. Our new digital platform will provide a powerful opportunity to reinvigorate the Rhodes global community and to bring us together wherever we are.

What you can do to help

The Rhodes Digital Transformation is already underway. Since the summer, Rhodes House has been consulting with Scholars of all ages and stages to find out how best to improve their interactions with Rhodes House and with each other.

We are continually seeking input and feedback from Scholars of all constituencies and classes to ensure that the new platform is as inclusive, functional and popular as possible. If you would like to contribute or participate in focus groups please email alumni@rhodeshouse.ox.ac.uk

By October, we expect to welcome the incoming Class of 2019 Scholars onto the new Rhodes Portal and to launch the Scholars-Elect of the Class of 2020 on our new Scholars-Elect Portal. Current Scholars-in-Residence will migrate to the new platform at this time, with our alumni being brought into the fold in 2020.

Finally, we will also be launching a global survey of all living Rhodes Scholars. The five-yearly 'State of the Rhodes Scholarship' survey will help us ensure we have your most recent details so that our new platform is updated and ready to support a vibrant Rhodes community in the digital sphere.

I look forward to connecting with all of you either in person or through our new digital platform!

Education Equity, Not Just Edtech

Abigail Seldin (Pennsylvania & St Antony's 2009) was the co-founder of the edtech start-up College Abacus. Here, she reflects on how cost transparency is only one aspect that needs to be addressed in the challenge of generating educational equity.

My introduction to edtech began in 2012, when I co-founded College Abacus with my husband Whitney Haring-Smith (Pennsylvania & St John's 2007). A free online tool, College Abacus allowed students to compare estimated financial aid packages at different institutions before deciding where to apply. We saw college price transparency as a simple consumer rights issue. Given that higher education is one of the most expensive lifetime purchases made by American families – on a par with a new house – finding price information ought to be at least as easy as shopping for an airline ticket.

Described by CNN as the 'Kayak.com of college financial aid,' College Abacus proved disruptive enough that we drew the ire of schools nationwide, many of whom attempted to block their prices from being compared to other colleges. Officials from the country's most expensive universities fought the need for the tool publicly, with out-of-touch statements like, 'I want a chance to put the price in a context'. The fight landed us on B1 of *The New York Times* – twice. College Abacus had nationwide press, grants from a contest funded by the Gates Foundation, and a financially advantageous exit for us and our investors after only 27 months of operation. Lauded in official speeches by then Secretary of Education John King in 2016, College Abacus looks like a model edtech innovation story.

Unfortunately, showing students what college would cost did not make college more affordable or accessible across the system. Transparency is not a replacement for transformation.

The rise of social entrepreneurship in higher education, and edtech more broadly, has been celebrated as a solution to the equity gap, based largely on the assumption that the resources to help resolve inequities have already been identified and allocated. Many products, like ours, were designed to make accessing information or running routine processes easier, based on the theory that this would help speed progress. In the case of College Abacus, our price transparency engine – designed to help families identify colleges that they could afford – ultimately revealed that 95% of colleges

in the US are financially out of reach for the students in greatest need. While we did not build the pricing structure that disenfranchised aspiring students, our edtech innovation did not automatically solve it either.

Today, institutions and public policy often assume that students are teenagers from middle-class backgrounds, yet more than one third struggle with hunger and homelessness. Promising tools at the intersection of edtech and poverty have begun to emerge and spread; two of my new favorites, Aunt Bertha and Swipe Out Hunger, help link high-need college students to critical social assistance and donated dining hall meals. New systems that track student progress with predictive analytics and prompt interventions have dramatically improved graduation rates at Georgia State University and University of South Florida, among others. Temple University's Hope Center for College, Community and Justice (where I am a board member) has documented the rise of homelessness and hunger on university campuses

We can't rely on edtech to fix the American higher education system

and continues to pursue research on innovative practice.

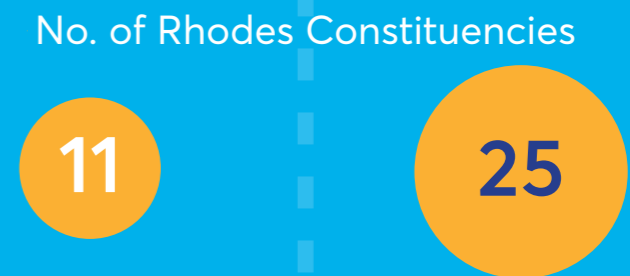
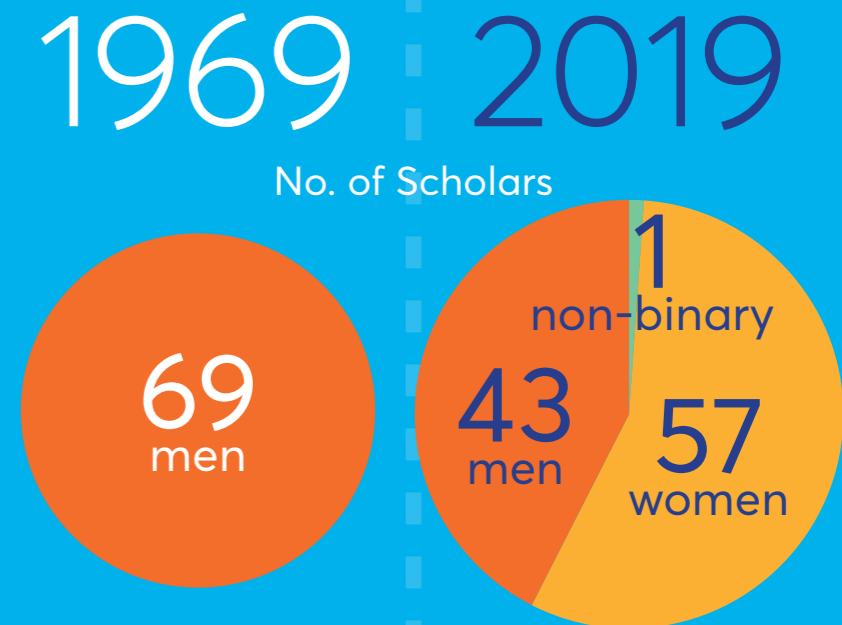
Just as we can't use food pantries to solve hunger, we can't rely on edtech to fix the American higher education system. At a time when most Americans can't manage an unexpected expense of \$400, it shouldn't be surprising that the primary reason students drop out of school is a financial emergency. The most meaningful drivers for innovation – and a national graduation rate above 60% – in American higher education would be large-scale investments to support students while they attend university and to bring down the overall cost to make the long-term debt burden manageable for graduates. These kinds of investment would address education equity challenges and transform the sector – assisted, but not led, by edtech innovation.



Screenshot of a results page for College Abacus in 2016

Rhodes Scholars Standing Up for the World

Our map celebrates Rhodes Scholars across the globe, giving a snapshot of where our alumni currently live. And as the Scholarship continues to expand, we show what a difference 50 years makes!



If your contact information is not up-to-date please email development@rhodeshouse.ox.ac.uk with your new address, email, or contact number and we will update our records.

A Meditation on Medicine and Innovation

Evelyn Chan (Victoria & Hertford 2011) is a physician who is passionate about transforming children's healthcare. Evelyn is the CEO and co-founder of Smileyscope, developing a comprehensive Virtual Reality suite to transform paediatric health experiences.



A young patient getting her procedure done with Smileyscope

I've always been fascinated by healthcare – a delicate balance between art and science, qualitative and quantitative, and the lofty ambition: to do no harm, and hopefully to do good. So I studied medicine, and chose to specialise in paediatrics, aiming to make an impact early on in a person's life trajectory, so that there was the greatest chance of making a difference.

What is impact? In medical science we mostly construe outcomes as numbers: mortality, survival, length of stay: cold, hard, tangible. Yet often what is more important to patients is the art of care. A kind word, bad news broken sensitively, a smile, a hand held, precious time spent – the human touch can have a disproportionate impact.

During residency, there were times when I wondered whether we had focused on the numbers – the science (aggressive treatment – fix the numbers and risk!) at the expense of the art (relating to the patient and family and letting them decide). Rational decisions are complicated by parental guilt, grief or desperation

(theirs, or perhaps ours). We left no stone unturned: in the age of science we surely can extend survival at the mere cost of suffering and resources.

The most satisfying and engaging conversations on these tricky topics were with people working outside the healthcare system – who brought a different perspective. These difficult questions led me to talk with the Rhodes selection committee, and, unexpectedly, to Oxford.

Oxford gave me the realisation that there were so many ways to dramatically improve healthcare outside of coalface clinical practice. Fellow Rhodes Scholars were working on how to foster local community-led solutions to improve public spaces; to give disenfranchised people a voice through writing; to draw up policies and frameworks to improve healthcare access. All this work improved healthcare, yet it was so foreign and fascinating.

I studied two Masters at Oxford. The first was in Medical Anthropology, which profoundly challenged my world view, historical assumptions and the biases we bring to

biomedicine. It taught me to question the status quo and challenge our assumptions around healthcare.

My second Masters was in Public Health, examining the long-term cognitive outcomes of babies born at different gestations. We found prematurity had a dose-effect, affecting children even at near-term. Years later, others are still pursuing this same study question. Replication in science is worthwhile and I am not arguing against it. But at some point, excessive replication becomes resource wastage.

To make matters worse, innovation in medicine is excruciatingly slow. Translatable findings take an average of ten years to disseminate into standard clinical practice. Progress is uneven, and there is little funding dedicated to translating research findings into healthcare. It is assumed that such knowledge transfer is the responsibility of pharmaceuticals and medical device companies, or if it is unlikely to be profitable, it falls to busy clinicians with competing priorities. The commercial route is fraught with risk, and the winners are often those with the biggest pockets. Decisions are made on profitability and market size rather than the more delicate calculus of patient benefit.

So what is the solution? Changing medicine to be kinder and quicker to translate knowledge is a Herculean and perhaps Sisyphean task. For my part, I am fascinated by how we can pay attention to, and improve, common but challenging issues for patients.

We can't leave this to the traditional dissemination model of waiting over ten years when needles confront children and clinicians every day

To create impact that matters for patients.

I've made thousands of children cry with needles. Needles are the most feared part of a child's health experience, and the most common cause of pain; only secondary to the pain that brought them into hospital.

There are currently no good options: toys and TV are usually not enough to distract them, but it's traumatic and costly to pin children down or anaesthetise them.

Our breakthrough came from combining the art of our own clinical practice with the science of evidence.

That led us to develop a virtual reality experience to help keep children calm and still for needles. Others had tried VR distraction, but the evidence was of poor quality: the science was lacking. And the art was wrong too: the virtual reality experiences weren't tailored to children.

We tested our VR experience in a high-quality randomised controlled trial, the world's largest for paediatric VR, conducted at two major tertiary hospitals in Melbourne. The results were astounding. Clinicians started borrowing the VR set to use it for other applications – pre-surgery preparation; supporting patients with disabilities; treatment of elderly patients. We were amazed. Then we had colleagues who started asking how they could buy it. We knew at that point that we were onto something special.

We decided to form a company – Smileyscope – around our innovation, because it was the best chance of being able to make it available and accessible in clinical practice as quickly as possible. We can't leave this to the traditional dissemination model of waiting over ten years when needles confront children and clinicians every day.

I now find myself in the sea of commercialisation – an exciting but uncharted territory with unpredictable waves. I have come full circle: combining art and science, qualitative and quantitative, and the lofty ambition: to do no harm, and hopefully to do good.

My journey began with a decision to study medicine. What I have learned is how I can best achieve that elusive 'impact' I sought: to make a difference to the lives of others. I'm doing so not as a clinician, or a medical researcher, but as an innovator. I lead a company, not a clinical team or research lab, and I have to worry as much about money and corporate governance as I do about patient care. It is an exhilarating journey. If anyone would like to help on this journey with Smileyscope, I'd love to hear from you!

.....
smileyscope.com



Conducting clinical trials on our VR experience for paediatric needle procedures

Aiming at New Solutions to Global Poverty

Efosa Ojomo leads Global Prosperity research at the Clayton Christensen Institute for Disruptive Innovation. Karen Dillon is a former editor of *Harvard Business Review*. With Clayton Christensen (Utah & Queen's 1975) they are both co-authors of *The Prosperity Paradox: How Innovation Can Lift Nations Out of Poverty* (HarperCollins, 2019).

If you're sick of hearing about disruption, blame Clayton Christensen, who introduced the concept into business jargon.' It is hard to argue with that journalist's lament – the term Disruptive Innovation has become ubiquitous and stretched to describe all manner of ambitious upstarts, whether they are truly disruptive or not. But that ubiquity has masked the powerful and important insights that are part of Christensen's Theory of Disruptive Innovation, which explains how newcomers to a market upend industry leaders. *The Innovator's Dilemma*, Christensen's original book on the topic, was reportedly the only business book that Apple founder Steve Jobs kept on his bookshelf. More importantly, Christensen has spent the past two decades refining his thinking, releasing several books on the subject.



Pull, don't push
Development programmes are frequently focused on implementing what we call a 'push' strategy, where they directly push resources and other markers of development into poor communities. While these programmes do lead to improvements in metrics such as literacy and infant and maternal mortality, on their own their impact on poverty reduction is less impressive. After billions of dollars of investment, the majority of economic development progress has been in two countries – China and, to a lesser extent, India. Meanwhile, other areas of the globe are actually seeing an increase in poverty.

Innovation is the key to creating prosperity in low- and middle-income countries

This is partially attributable to the fact that push strategies are driven by the priorities of their originators – often experts who determine that a given community 'needs' this or that resource. But what we see

happen time and time again is that resources are pushed into a context that isn't quite ready to absorb them. Rather than enable sustainable growth, push strategies regrettably create dependence.

By contrast, 'pull' strategies are often originated by innovators on the ground who respond to the struggles of everyday consumers or specific market demands with a specific type of innovation – what we call a *market-creating innovation*. As their innovations are developed, they then pull in appropriate solutions for low- and middle-income countries, such as the infrastructure, resources, and human capital needed to bring the innovations to the new market. Because these things are tied to a market that addresses a previously unmet need, they're more sustainable.

Consider the case of Tolaram Industries, the maker of Indomie Instant Noodles.

In the 1980s, a majority of Nigerians made less than two dollars a day and spent 50% of their income on food. Tolaram identified the unmet need for affordable and convenient food and in 1988 created a market for noodles in Nigeria.

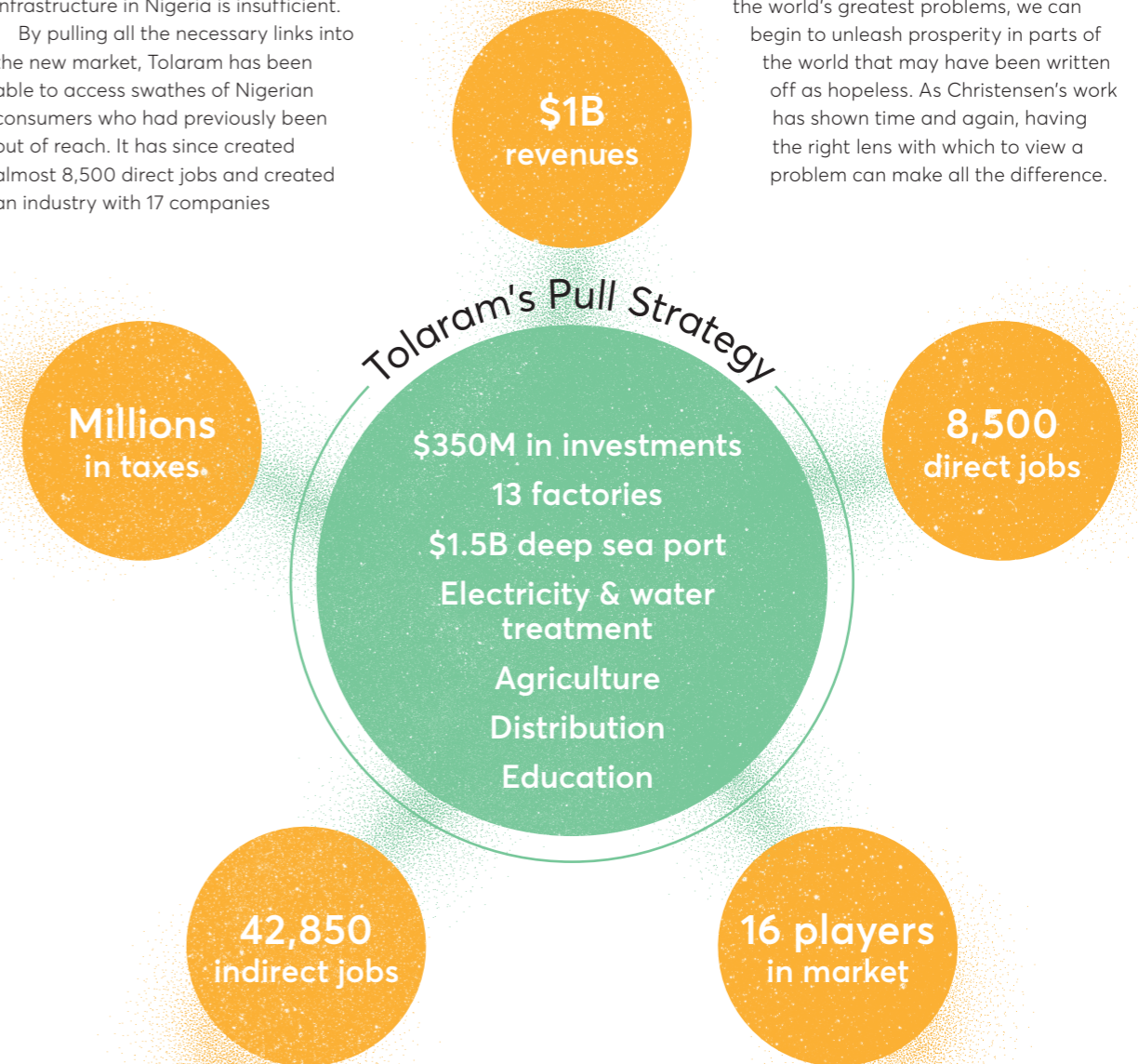
To reach this market Tolaram has had no choice but to pull in the resources it needs to operate. Because of the lack of adequate logistics in Nigeria, Tolaram has had to build – or pull in – networks of trucks, vans, and staff in order to fill this void. The company also provides its own power in all 13 manufacturing plants it runs across the country, so it does not have to depend on unpredictable power supply from the grid. Additionally, Tolaram has invested millions of dollars in training its staff because the existing education infrastructure in Nigeria is insufficient.

By pulling all the necessary links into the new market, Tolaram has been able to access swathes of Nigerian consumers who had previously been out of reach. It has since created almost 8,500 direct jobs and created an industry with 17 companies

that now employs more than 100,000 people. Also, Tolaram's value chain leverages 1,000 distributors, 25,000 wholesalers, and 600,000 retailers. Because they must pull in everything they need to thrive, the impact of market-creating innovations is immense.

Christensen may be most famous for his original work on disruption, but it's possible that his latest thinking will be the work that leaves the greatest mark on the world.

If we can understand and harness the potential catalytic power of innovation on some of the world's greatest problems, we can begin to unleash prosperity in parts of the world that may have been written off as hopeless. As Christensen's work has shown time and again, having the right lens with which to view a problem can make all the difference.



Creating a noodle market from scratch required Tolaram to invest in – or pull in – everything from factories to education

The Ultimate Cities' Challenge: Collaboration for Sustainability

David Simon (South African College School, Newlands & Linacre 1979) is Professor of Development Geography, Royal Holloway, University of London, UK, and Director of Mistra Urban Futures, Chalmers, Gothenburg, Sweden – where the research that informs this article is coordinated.

We live in a competitive world, with unprecedented rates of technological and social change. Progressive globalisation also binds many distant places ever more closely together via material and human flows, telecommunications and the circulation of ideas. The processes are not uniform, however, and each new innovation contributes to the constant differential making and remaking of places and to making at least some of their inhabitants either more connected or more remote. This is true even in towns and cities,

the very lynchpins of our increasingly interconnected world.

Yet these complexities are throwing up challenges every bit as fundamental as the exciting potential of the successive waves of innovation and change. At all levels of society and in very many countries, we are witnessing

social and political polarisation and xenophobic tendencies unprecedented since at least World War II. The basis for mobilising these profound divisions varies according to local and national circumstances but coalesces around deep-seated senses of exclusion and marginalisation, of 'them' versus 'us', often exploited and manipulated by malicious abuse of social media to the point that 'post-truth' almost defines our time.

These fault lines are often most sharply delineated and articulated in urban areas, just as the challenges of tackling environmental (including climate) change

in order to achieve transitions and transformations towards sustainability are finally receiving increased societal and political attention.

One could be forgiven for thinking that each of these challenges is headache enough, but in

It is only by sitting down and ... seeking and developing some shared understanding and common ground that the often entrenched structural and institutional antagonisms might be overcome

Evidence of dysfunctional conventional urban planning processes – epitomised by this example from the 1970s in Cape Town – underlines the need for radically different approaches in tune with the times and diverse stakeholders



combination they are insurmountable. Indeed, with our increasingly discredited and dysfunctional political systems and 'business as usual', they might well be. However, alternative approaches do exist and might well hold the key to doing business very differently.

There have been many attempts over recent decades to develop collaborative forms of research and public consultation that engage research subjects, development project beneficiaries or the public as active participants and decision makers alongside researchers, local authority officials or elected representatives. All involve more in-depth engagement that can be time consuming, more complex and less predictable in outcome, and hence have often been watered down, cherry-picked or bypassed altogether – with predictable consequences in terms of failure to fulfil the original objectives.

Beyond conventional participatory approaches and exercises, however, are various forms of deeper engagement that emphasise the important perspectives, world views and forms of knowledge of different stakeholder groups. These are generally referred to as transdisciplinary co-production but are increasingly called transdisciplinary co-creation or co-design so as to highlight joint engagement throughout the process, not just in the actual production of new knowledge or public engagement.

Transdisciplinarity refers to the engagement of academic and other stakeholder groups, in contrast to interdisciplinarity, which engages just academics or practitioners from different disciplinary backgrounds. That said, however, in North America, transdisciplinarity and interdisciplinarity are often used interchangeably.

Mistra Urban Futures, the international urban sustainability research centre that I head, has been experimenting with these methodologies over the last decade, with two closely related objectives:

- to develop locally appropriate formats for the diverse local contexts on different continents where we work, **and**
- to test their potential as radically different ways of operating in situations of complexity, contestation and often longstanding antagonisms among different groups of stakeholders and institutions.

Central to all of the methods is the acknowledgement of multiple stakeholder interests and perspectives, each of which has legitimacy. Ultimately, it is only by sitting down and – via appropriate methods – seeking and developing some shared understanding and



Co-production methods are being used in Kisumu, Kenya, to address one of the most intractable and conflictual urban problems – the Kachok municipal landfill refuse site

common ground that the often entrenched structural and institutional antagonisms might be overcome.

Most such conflictual situations originate in senses of marginalisation and exclusion, of having been ignored or not mattering, through experience of conventional institutionalised negotiations, consultations, planning and research processes. Instead, these methods assume that with appropriate facilitation and resolve, diverse groups sharing the same cities or neighbourhoods can explore and expand their common ground to reach a situation where what divides them is less than what they have in common.

Only on such a basis can we avoid the discredited top-down, expert-led or politically authoritarian/elitist imposition versions of the required step changes to urban design, lifestyles and consumption patterns that are now widely understood to be essential for transitions and transformations to urban sustainability. The shortness of the timeframes available for such changes was well articulated in the recent 1.5 Degrees Special Report by the Intergovernmental Panel on Climate Change (IPCC).

Results are demonstrating the progress that can be made and we are now undertaking comparative research across seven diverse cities on different topics and themes to develop guidelines and manuals of good practice. Already this comparative research is informing global agendas around implementation of the Sustainable Development Goals and New Urban Agenda through the UN, where these initiatives are being refined and coordinated.

For further details (including relevant publications) see www.mistraurbanfutures.org and two recent Open Access journal articles:

journals.sagepub.com/doi/full/10.1177/0956247818787177

www.tandfonline.com/doi/full/10.1080/19463138.2019.1573172

Warfare and the World's Water

Scott Moore (Kentucky & Merton 2009) is a policymaker focused on emerging environmental, science, and technology issues, especially those relating to China. He is currently Director of the Penn Global China Programme and Senior Fellow at the Kleinman Center for Energy Policy and the Water Center at the University of Pennsylvania. He previously served as a Young Professional and Water Resources Management Specialist at the World Bank.

Back in 1995, former World Bank Vice President Ismail Serageldin made one of the most famous predictions about the future. 'The wars of the next century will be fought over water,' Serageldin warned, 'unless we change our approach to managing this precious and vital resource'. Fortunately for the world, Serageldin has so far turned out to be wrong on the first point. No wars have been fought strictly over water in modern history, and in fact globally the number of international agreements over water far exceeds the number of international conflicts. That paradox forms the heart of my recent book from Oxford University Press, *Subnational Hydropolitics: Conflict, Cooperation, and Institution-Building in Shared River Basins*. As I detail in the book, water can be just as powerful a driver of cooperation as of conflict between nations, regions, and communities.

But that doesn't mean Serageldin was entirely wrong. The world does have a big problem with its most critical resource, and it's very far from managing water effectively. Broadly speaking, the world faces three major challenges when it comes to freshwater. First, water is unevenly distributed across both space and time, meaning it's almost never available where and when we want it, and in the right quantity. This problem is just as bad when there's too much water, causing flooding, as when there's too

little. Moreover, this mismatch is getting worse because of climate change, which in many parts of the world is increasing the frequency of floods and droughts while also making precipitation more variable, and therefore harder to predict.

A second major challenge arises from water quality. The water that exists around the world is as likely as not to be in a state where it cannot be used; most often, it has to be purified or treated. Around the world, about 800 million people lack access to clean drinking water, and many more lack sanitation facilities. The problem of water pollution, too, is getting worse, for two main reasons. First of all, growing cities around the globe are generating increasing volumes of wastewater, most of which isn't treated before being released into surrounding waterways. The accumulation of industrial pollutants like heavy metals in groundwater is cause for particular concern, since purification is very difficult. Second, the increasing use of fertilisers and pesticides

to boost crop yields causes vast quantities of pollutant runoff, literally choking streams and rivers. And unlike many side effects of economic growth, water pollution turns out to be pretty egalitarian: heavy metal and nutrient pollution is a major threat to human health in both developed and developing countries.

But it's the world's third major water-related challenge that is in many ways the most concerning. What water we do have we use poorly – and that's true across the globe. A decade after Serageldin made his prediction, a 2004 World Bank report noted that while most experts agreed on what steps needed to be taken to manage the world's water more effectively, virtually no country had taken those steps. Another fifteen years later, the situation isn't much different. But we do have some examples of where countries have succeeded in making water use more sustainable. As is so often the case, the solutions are economic – but the issues are political.

As complex as the world's water challenges are, many of them stem from the single fact that across the world, water is essentially free. There are very few places in the world where users pay anything close to the total cost of withdrawing, transporting, and purifying water, to say nothing of environmental and other externalities, meaning there's little reason for individual water users to think about not using that last cubic meter, or to avoid applying that last ton of fertiliser. Adam

Smith once observed that while water is about the most valuable commodity there is, hardly anyone values it, while things that are essentially useless, like diamonds, fetch enormous prices on the market. This paradox of value still obtains, and it means that the world's water won't be used effectively unless people learn to value it more highly. More people are going to have to pay more, in some cases much more, for the water that they use.

Of course, water being water, it's not quite as simple as just raising the price. Everyone needs a certain quantity of water just to live, and there are positive externalities to clean water that are hard to capture in a single price. These ethical issues are why it's proven so difficult to put a price on water, and to use it effectively. But going forward, we may not have much choice. In my book, I found that cooperation is more likely than conflict over water – and yet it's not inevitable. There's only so much water on Planet Earth, and we have to find some way short of warfare to use it equitably, efficiently, and sustainably.

Water can be just as powerful a driver of cooperation as of conflict between nations, regions, and communities

Innovating Life Sciences: Innovation through Pricing

Dr Shaan-Chirag Gandhi (Michigan & Magdalen 2007) is a venture capitalist at the Longwood Fund, where he starts and invests in early-stage life sciences companies. Here, he discusses how the actual structure of life sciences innovation is starting to innovate, beginning with drug pricing.

The twentieth century has often been deemed the century of physics because of the great leaps in technological innovation. In the same vein, the twenty-first century is the century of biology. Significant advances in genomics and stem cell biology have been made in just the past nineteen years – coupled with this progress has been an array of new therapeutics that change lives. Where patients stricken with metastatic melanoma or lung cancer would have died just ten years ago, today many are alive, and cured, as a result of innovative antibodies (immune checkpoint inhibitors) that energise the patient's immune system to fight the tumour. Where patients with a rare form of infiltrative neuropathy used to suffer from debilitating and unending pain just five years ago, today many are living normal lives as a result of a first-in-class RNA drug that neutralises disease-driving mRNA molecules.

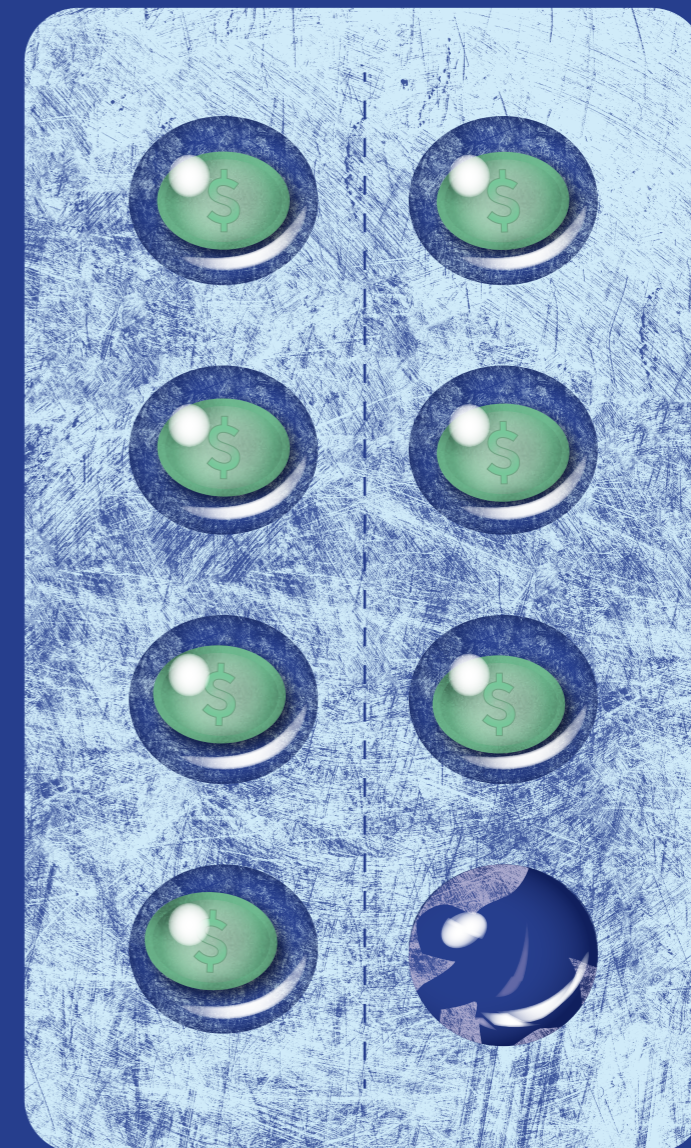
Progress in the life sciences has been astounding, but of course, it comes with significant cost, particularly in the United States. Keytruda, an immune checkpoint inhibitor, costs \$150,000 per year, while Onpatro, a small interfering RNA therapeutic, costs \$450,000 per year. It takes, on average, approximately twelve years and costs more than \$1.4 billion to develop a drug for the clinic. Life sciences innovation addresses the efficacy of health care, but efficiency of and access to care is still lacking in many, more resource-constrained areas of the world, partly as a result of the significant investment and high costs that are associated with therapeutics development. Innovation is thus needed in life sciences innovation.

Thankfully, innovations are afoot to make the costs of new therapeutics more affordable for patients and for payers. Gilead Sciences manufactures Harvoni, a potential antiviral combination that cures hepatitis C, a viral liver disease that can lead to liver failure if left untreated. The list price for the drug is \$94,500 for a 12-week course, which for many public payers, such as the Medicaid program in the state of Louisiana in the

United States, is too high. The solution? Gilead and Louisiana are negotiating a 'Netflix-style' subscription program where Gilead is guaranteed a minimum payment to protect against too few patients requesting Harvoni, and in return agrees to provide medications for all patients with hepatitis C on the state Medicaid programme. Louisiana, for its part, is protected against potential spiralling costs of care if many patients seek treatment. Even for extremely expensive, yet life-changing drugs, biotechnology companies are innovating around pricing. Spark Therapeutics brought Luxturna, a gene therapy that cures a rare inherited form of blindness, to the market in early 2018 at a cost of \$425,000 per eye. Because it is a gene therapy, it offers a cure with only one dose, so the payer responsible for payment at that time bears the cost of the treatment over the lifetime of the patient. As a result, Spark and multiple payers are experimenting with annuity models of payment, where the health payer pays a share of the overall price of gene therapy every year, as long as the patient's sight continues to be improved. Other programmes have taken this annuity model even further. Novartis, the manufacturer of Kymriah (\$475,000), the first therapy that uses a patient's own T cells to fight cancer, worked with the federal health care payer in the United States, the Centers for Medicare & Medicaid Services, to establish a payment mechanism where Novartis would only be paid if Kymriah leads to a tumor response within the first month.

The life sciences continue to innovate, and patients around the world are the beneficiaries of new drugs and devices that treat diseases that were formerly untreatable. At the same time, these innovations are costly and can represent a barrier to access for many people. Innovations around these scientific innovations, particularly with respect to drug pricing, offer approaches to ensure that patients have access to the therapeutics that they need at an affordable price and that the life sciences industry continues to have the resources to develop the next medical breakthroughs.

Scientific innovations ... offer approaches to ensure that patients have access to the therapeutics that they need at an affordable price and that the life sciences industry continues to have the resources to develop the next medical breakthroughs



Collaborating Across Boundaries: Innovating to Change the World

The challenges our societies face recognise none of the orderly boundaries that we traditionally apply to science. Neither does the immense potential that science and innovation offer to improve quality of life for billions of people around the world and create a sustainable future for our planet. Seizing this potential and maximising the impact of science requires scientists to work across disciplines, communicating and collaborating with whoever has the expertise and knowledge to tackle the questions at hand. Here, **Dr Hal Holmes**, a member of the inaugural class of Schmidt Science Fellows, gives his personal perspective on collaboration, communicating across disciplines, and how he believes this will accelerate discovery and innovation.

The brisk air outside was immediately countered by the hot coffee and warm welcome. I was meeting a friend of a friend, but it wasn't initially clear to me why the connection had been established.

As an engineer who spent much of the previous few years in a clean room, I wasn't sure why my long-time friend wanted me to talk about my work with a soon-to-be graduate who specialised in economics.

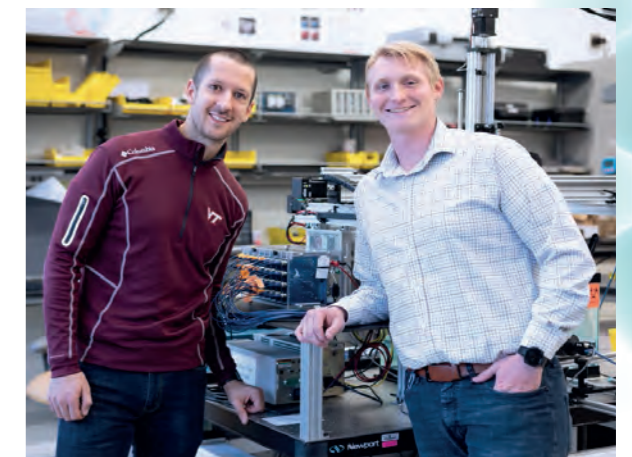
Once we started breaking down what we really did behind the titles on our diplomas, I realised we were working on the same problem. She was developing and applying new financial models to address problems facing the environment, while my work with the non-profit Conservation X Labs has focused on the development and application of new technologies to address problems facing environmental conservation.

I was incredibly impressed by the ideas she described and solutions to problems she was working on. I thought they were truly innovative – a word that had previously been reserved in my mind only for scientific and technological developments. Later that day, I reflected with a mentor about how naive I was to think that other fields and disciplines weren't innovating and advancing at the same rate as my field. His response is still vivid in my memory: 'they do teach all of that in grad school, just not your grad school!'

Throughout my PhD and in my current lab, I have been surrounded with experts in very narrow subsets. This sort of specialisation is necessary to advance technology and our understanding of the universe. Modern civilisation exists because our predecessors were able to specialise in this way. However, these specialties have become increasingly narrow and each one has formed its own identity, culture, and even language. For a long time, I've believed that scientists and engineers (myself included) need to get better at communicating with each other and the public. I often joke that a whole field (science communication) has arisen because we are so bad at communicating our work to others!

Through my conversation with this young economist and my experiences as a Schmidt Science Fellow, I have realised that the same communication barriers also exist in other disciplines – economics, policy, art, and countless other fields, all have significant innovations and face challenges that non-experts are poorly able to appreciate.

We are now facing a critical time, and we are increasingly divided by our specialties, ideologies, and the communication barriers that have arisen in between



Dr Hal Holmes with his Fellowship placement principal investigator, Dr Eli Vlasisavljevich, in the laboratory at Virginia Tech



We are now facing a critical time, and we are increasingly divided by our specialties, ideologies, and the communication barriers that have arisen in between. Meanwhile, our planet is experiencing a mass extinction, the sixth mass extinction in its history, but the first caused by a single species – us. We have pushed our planet to the brink, changing its climate and wreaking havoc on countless ecosystems, many irreversibly so. I still believe that we can reverse this course.

We have recently seen uplifting developments in renewable energy technologies and a few hopeful messages from some governments with new climate-focused policies. But there are still many significant challenges before us, challenges that won't be met by a single specialty or single field. Meeting these challenges will require innovations in many different fields working together – policies and technologies that complement each other and address economic drivers. These challenges can only be met if we are able to communicate across our specialties and partner outside of our institutions. Partnerships between academia, industry, non-profit, and government sectors are essential to addressing the most critical problems of our time.

My experiences as a Schmidt Science Fellow continue to reinforce the importance of partnerships, and it is clear to me that multidisciplinary and inter-institutional partnerships are at the heart of this program. I know the insights and networks I'm building will help me forge my own partnerships throughout my career. However, forming these partnerships and collaborations won't be easy. It will require communicating across many barriers and building trust. I was very fortunate that my trusted friend was able to communicate effectively enough with both me and my new economist colleague to see that we were trying to solve the same problems. I hope she got as much out of that conversation as I did, because I know that working together, we can solve the shared problems of our time much faster than we would alone.

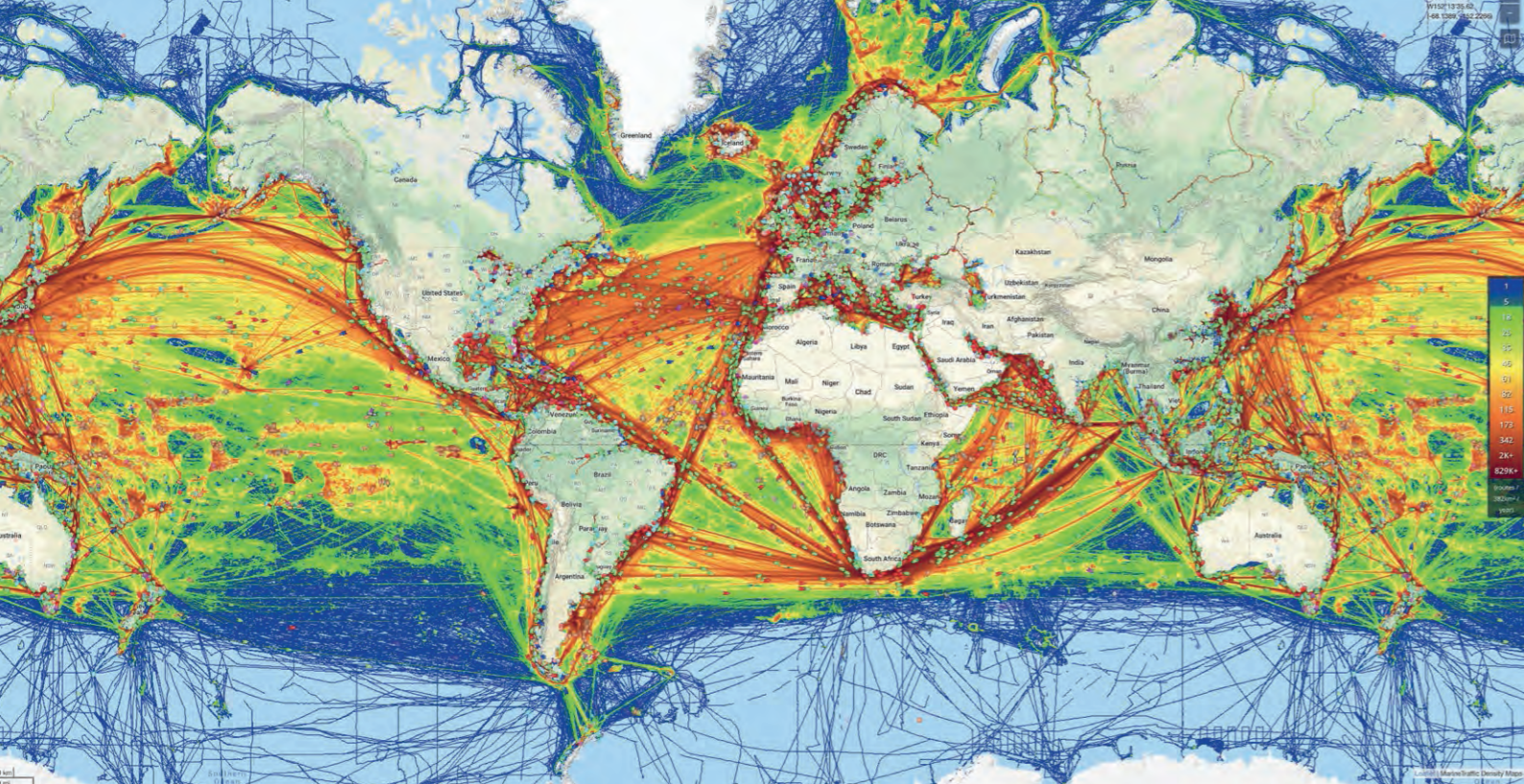


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The Schmidt Science Fellowship, in partnership with the Rhodes Trust, aims to develop the next generation of science leaders to transcend disciplines, advance discovery, and solve the world's most pressing problems. Fellows undertake a postdoctoral placement at a disciplinary pivot from their PhD and participate in Global Meetings where they engage and co-produce with diverse thinkers in science, politics, society and business to catalyze new ideas and connections. Fellows are part of a community of lifelong fellowship and collaboration, with each other and with the cross-disciplinary networks they develop during the Fellowship year.

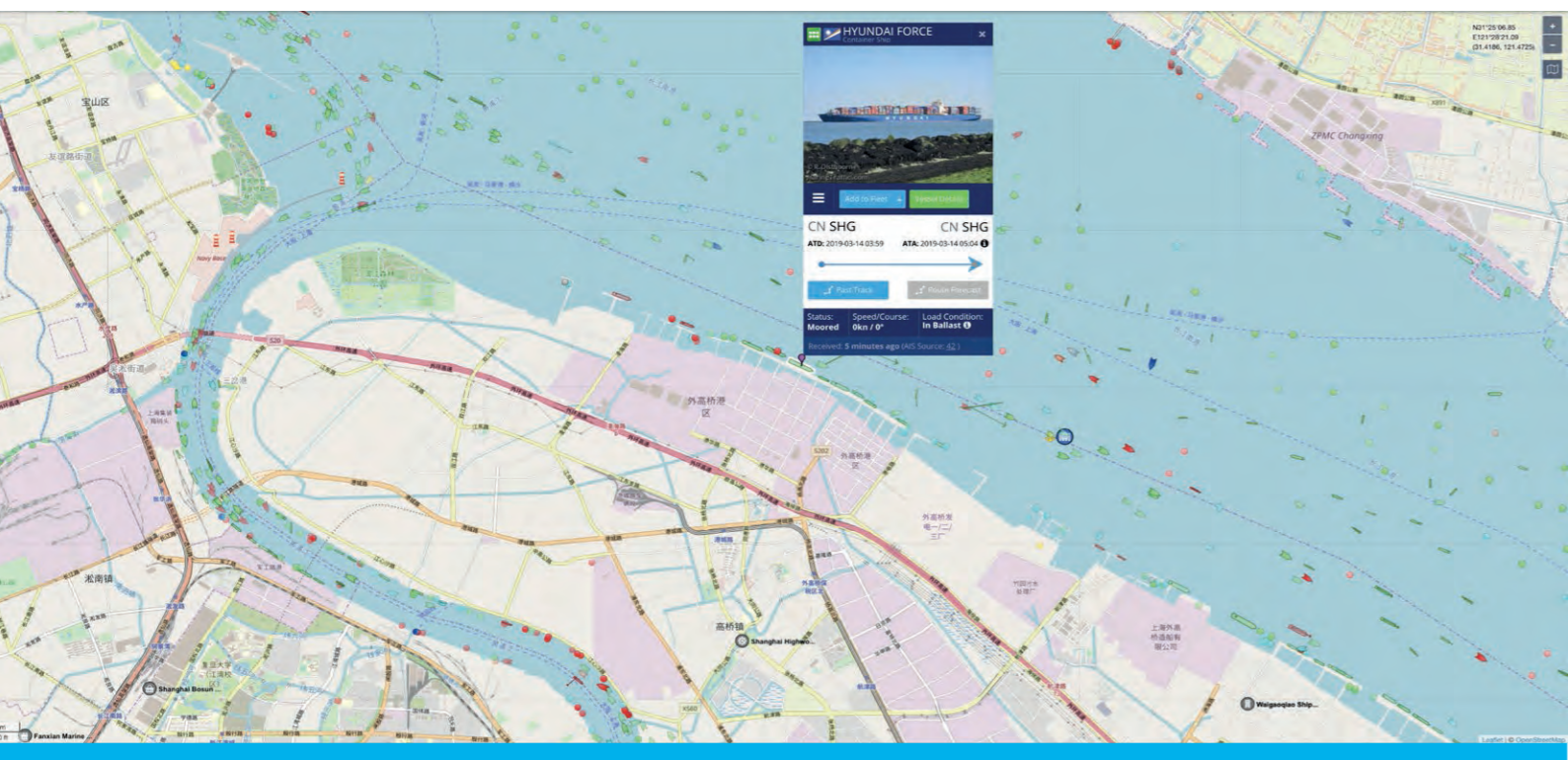
Dr Hal Holmes is an engineer determined to use science to tackle the illegal trade in endangered species products. With a PhD in bioengineering, Hal is now working in a cancer research laboratory at Virginia Tech on ultrasound-based technology to advance techniques to effectively extract DNA from timber samples. He was recently awarded a \$825,000 Moore Inventor Fellowship from the Gordon and Betty Moore Foundation to continue this research following the completion of his Schmidt Science Fellowship placement in July.



A global density map of tracks

A Glimpse into Shipping: Big Data Innovation

Argyris Stasinakis (Greece & Wolfson 1994) is an Executive Partner and Board Member at MarineTraffic, responsible for Corporate Growth. He was awarded a BA Hons in Physics (Keble, 1990) and a DPhil in Particle Physics (Wolfson, 1993).



MarineTraffic live ship map at Shanghai

Shipping is a cornerstone industry to the global economy and yet it is not much talked about in broader circles. I certainly knew as little as some Greek ship owners (the legendary Onassis, for example) at the time of embarking on the adventure of MarineTraffic.

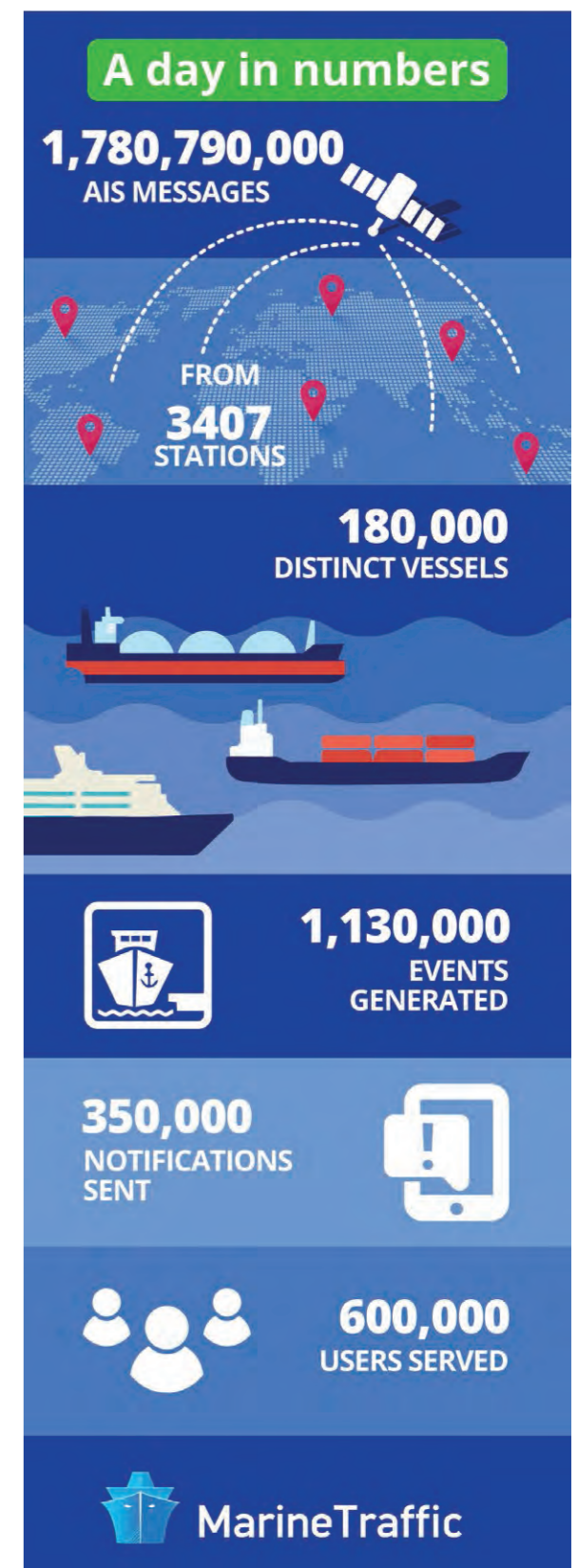
Shipping has been the most cost-efficient mode of carrying cargo since antiquity. Today, more than 80% of global cargo is moved by ships between continents, across oceans and inland. Assets are large, costly and with a relatively long lifecycle. Some 80,000 active commercial vessels are chartered to carry virtually anything, from raw materials to refined, industrial and consumer products – with even more smaller vessels sailing across short-range services. In excess of 7,000 ports serve the global supply chain, each one a complex business ecosystem linking sea and land. Despite its fundamental importance to our civilisation and our lifestyle, shipping is thought to evolve at a slow pace, and is often regarded as the under-developed, black-box link in the global supply chain. This is an industry with hundreds of thousands of stakeholders across the world, where information is money and where asymmetries of information are carefully safeguarded.

Increased transparency is at the root of the success of MarineTraffic, a data intelligence business launched in 2007. We leverage information openly emitted by the ships themselves; the Automatic Identification System (AIS) radio signal, which was introduced by the International Maritime Organisation (IMO), contains the identity of the ship, speed, course and voyage-related data. MarineTraffic manages today in excess of 4,000 AIS radio receivers, installed along the coastline, rivers and lakes across the world, and listens into the AIS radio transmissions from ships worldwide. We deliver the most popular ship-tracking web and mobile services in the world; MarineTraffic.com is used by 600,000 people daily, professionals and consumers alike.

Innovative at its core, our business has been contributing to multiple value chains. We process our base AIS data in real-time, using sophisticated, proprietary algorithms, and generate events describing voyages and actions around vessels. We monitor arrivals and departures at ports/anchorages/terminals and berths through geo-fencing techniques; we record nautical services at ports through ship-to-ship proximity methods; likewise, we identify cargo transshipment; we measure and calculate ship supply at regional level globally; we even identify dark targets and potential threats to national security.

Although the visibility on offer was initially controversial, MarineTraffic was very quickly embraced and adopted as a daily source of information, disrupting working habits and opening new opportunities for process optimisation and business growth. MarineTraffic clients handle our services and data in order to reduce operational costs but also to identify and attract new customers, thus improving their top and bottom line.

Today, thousands of businesses every day regulate



their working schedules based upon validated ETA information supplied by MarineTraffic. Data analysts study international commodity flows (crude oil, oil products, LNG/LPG, iron ore, coal, grains, fertilisers, cement and more) through the voyages of ships across port terminals and deep-sea platforms handling these commodities. Computer models, based upon shipping supply and demand imbalances, facilitate risk mitigation around the volatility of freight rates.

Forecasting models are becoming common practice, exploiting the power of historical data collected during the past decade; algorithms are applied for several use cases. As a next step, global maritime simulation models have been proposed. Oxonomy, a local Oxford start-up, led by industry experts and Oxford mathematicians, aims to apply state-of-the-art agent-based modelling for that purpose.

Going forward, further digitisation of shipping is considered the most valuable tool in tackling emissions from ships. The IMO has set a target for reducing greenhouse gas emissions from shipping by 50% by 2050. A significant fraction of this target can be achieved by adjusting the speed of vessels so that they arrive at port just in time for entry, thus limiting unnecessary fuel consumption. Voyage data analysis by MarineTraffic demonstrates that ships spend approximately 10% of their time at anchorage, waiting to enter port for cargo operations; this is ~35 days per vessel per year! Various

Profitability, sustainability and environmental benefits arise thanks to the widespread adoption of information technology and data flow

analyses by the Port of Rotterdam and other partners under the Port Call Optimisation Taskforce estimate that CO2 emissions could be reduced by 4% if terminals and ships were to co-ordinate their exact time of arrival within 12 hours from port – to understand this, simply consider that fuel consumption is a function of the 3rd power of speed of the vessel over water. It is further estimated that, for voyages towards Rotterdam, CO2 emissions could be

reduced by 35% if waiting at anchor were reduced by 12 hours, which is certainly possible with today's data processing and communication capabilities.

The global data monitoring coverage of MarineTraffic would enable rapid implementation across multiple ports at all continents. These ideas have found fertile ground at the

IMO and are the subject of forthcoming guidelines drafted under the auspices of the Global Industry Alliance (the Just-In-Time project was proposed by the Port of Rotterdam, Shell and MarineTraffic). The legal framework (charter parties) needs to follow suit, with parties like BIMCO being involved.

Do you seek opportunities to innovate? Shipping is everywhere, touches most of the items around you and will constantly evolve. In the case of MarineTraffic, AIS has exceeded its humble purpose beyond expectations, and we are only halfway there. Innovators: this is a domain worth exploring!



Photo: Peter Probst / Alamy

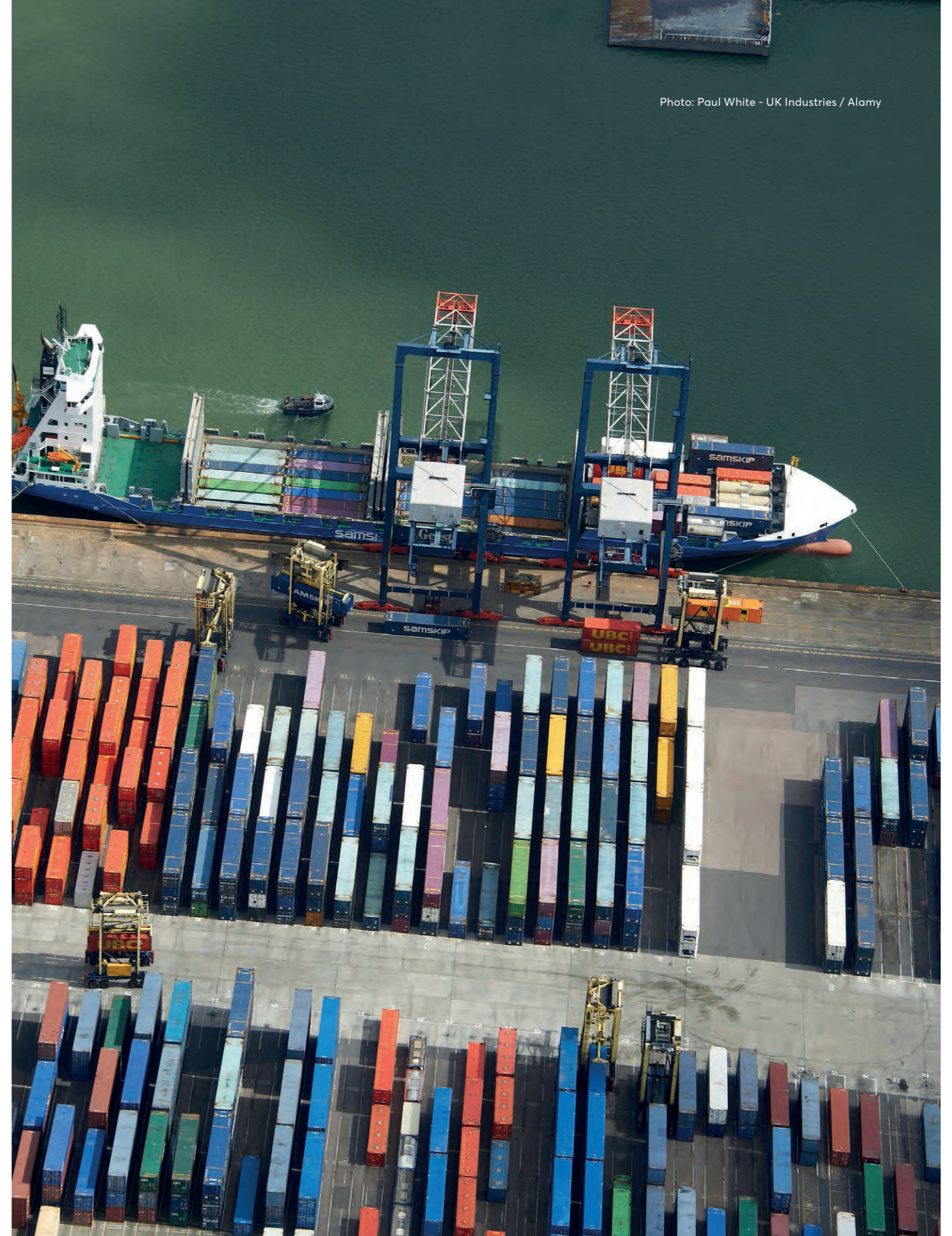


Photo: Paul White - UK Industries / Alamy

Learning to Lead

Two weeks after graduating, Oscar Lyons (New Zealand & Balliol 2016) was working in a small rural hospital in New Zealand as a first-year doctor. 'There were no senior trainees in the hospital,' he recalls. 'When the team consultant wasn't on the ward, we were given full responsibility to manage our patients, to admit emergency department patients, to respond to resuscitation calls. I was somewhere close to clinically competent for my role, but I found myself grossly underprepared for the leadership aspects of it...'

Most definitions of leadership (and there are many), involve a vision, a team and a goal. Perhaps most simply, leadership is achieving results through others. This is the day-to-day work of every doctor. From the first day, our work involves coordinating teams to help our patients get healthier. To be fair, there's nothing glamorous about this kind of leadership. It's organising the ward

round, asking nurses to give drugs, calling the lab to add on a test, and communicating treatment plans to patients and their families, in the hope that they might follow them. Good leadership has been correlated with good outcomes. Bad leadership has been correlated with bad outcomes.

Not to train us in this vital aspect of our role is to do a disservice to underprepared doctors, a disservice to those we work with, and a gross disservice to our patients.



And yet we're not prepared for it. When I reviewed leadership development programmes in medical schools back in 2016, I could find only 11 programmes that had been evaluated, worldwide. For perspective, there are around 3,100 medical schools in the world. There are 38 in the United Kingdom alone, and 190 in the United States.

I started my DPhil because of a love of teaching and came to Oxford with the hope of exploring a little of how leadership development programmes might achieve better clinical outcomes for our patients. At the end of my first year, I made the mistake of mentioning to the director of medical education at Oxford University Hospitals that I was really interested in his idea of setting up a leadership programme for newly qualified doctors. I meant evaluating it. He meant running it.

I had never run a leadership development programme before, so I was explicit with the participants that this course would be constantly adapted to their feedback. I wasn't quite so explicit about the constant feeling that I was a fraud, standing in front of them pretending to know what I was talking about and wondering why they hadn't figured me out.

The Oxford Emerging Leaders Programme is a seven-month course, now with 12 doctors from one to seven years post-qualification, alongside team leaders from nursing (two), physiotherapy (two) and midwifery (two). Over the programme, they work in teams on real quality improvement projects, and receive mentoring and facilitation from a team made up mostly of



previous graduates from the first cohort. Once a month, we run a half-day workshop introducing key leadership concepts and skills, such as stakeholder analysis, process mapping, finances, communication, working styles and project management. We invite experienced external speakers for discussions and teaching sessions, and give our participants time to present their progress.

We teach as much as possible through games, with the philosophy that when people laugh, they learn, and they engage. It's not unusual to see golf balls flying around the room to demonstrate the value of iterative improvements, or to hear the whole group singing an African round to demonstrate that different people react in different ways to new and uncomfortable experiences.

Not to train us in this vital aspect of our role is to do a disservice to underprepared doctors, a disservice to those we work with, and a gross disservice to our patients

The feedback from the first cohort was phenomenal, and the results of the course evaluation were impressive. Participants increased over a series of measures of leadership capability, showing changes in behaviour, and half the project teams won awards for their work. Perhaps most strikingly, half of the first cohort has returned to lead a teaching session in the second cohort.

It would be gratifying to think these outcomes were because of the quality of my teaching. I have the strong suspicion, however, that the outcomes spoke more of the desire and drive of our new doctors to learn skills they are sorely missing and to pass them on, and of the willingness of senior medical leaders to give their time to support and empower junior colleagues.

Sometimes, letting those with the power to make changes know that we have a passion for something important isn't a mistake. Even when it leads to work and stress and discomfort and self-doubt. Because sometimes those mistakes are in fact opportunities to innovate and to introduce change.

I miss working clinically as a doctor and working with patients. There is something particularly rewarding, however, about seeing students blossom and become teachers in their own right. Maybe if we can better equip them to become leaders and teachers, they won't feel as fraudulent or underprepared as I did.

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Educating the Next Generation of Changemakers

Mira Debs (Iowa & Magdalen 1999) is the Executive Director of Yale's Education Studies programme and a lecturer in sociology. She recently published a book on US public Montessori schools.

If you've heard of Montessori education, you might have a mental image of the people who send their children to Montessori schools. Maybe you're one of them. In 2016, the *New York Post* described Montessori as 'the educational approach favoured by future kings - along with pop stars, tech geniuses and Hollywood's A-list'. But the elite reputation of Montessori today is countered by the contemporary growth of public Montessori schools in the United States, the UK, Thailand and India. Today, as educators and policy-makers seek to increase quality educational offerings for children in underserved communities, they are increasingly turning towards the Montessori method.

Maria Montessori, an Italian doctor, pioneered her method at the start of the 20th century working with children in Europe, the United States and India. She observed that poor and wealthy children wanted the same thing: they were motivated to learn when they could choose and work independently. And very few schools were set up to support these goals.

In contrast to teacher-directed learning, in the classrooms Montessori subsequently created, children as young as three choose from a variety of hands-on lessons, moving freely around the classroom and collaborating with their classmates. And the results are impressive. Children develop longer attention spans and experience the joy of entering deeply into their work, all executive functioning skills that influence their long-term success.

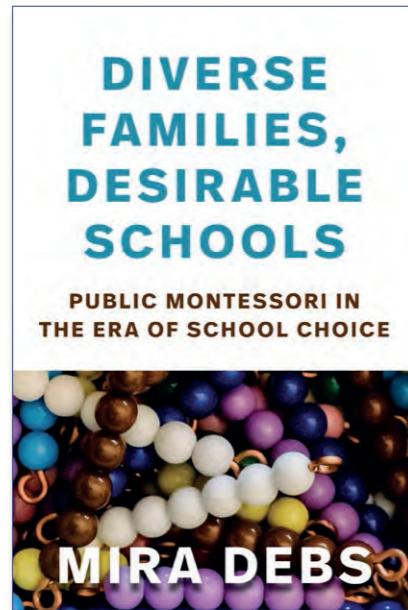


Image: Harvard Education Press

Today, as educators and policy-makers seek to increase quality educational offerings for children in underserved communities, they are increasingly turning towards the Montessori method

Five years later, this question turned into my book, *Diverse Families, Desirable Schools: Public Montessori and the Era of School Choice* (Harvard Education Press, 2019). As I discovered, our new school was part of a bigger movement of over 500 public Montessori schools in the United States enrolling over 125,000 students. Over half of them are located in urban areas, and the number of schools has doubled in the last 15 years. Moreover, the majority of public Montessori schools are racially diverse, and the method has been embraced by black and Latino

Despite the universal promise of this method, for many years, Montessori's elite reputation has predominated. Though I attended a Montessori preschool when I decided to become a teacher, Montessori teaching didn't occur to me. After completing the Oxford Postgraduate Certificate Education (in history), I taught high school history for five years in Boston area public schools. I loved being in the classroom, and teaching generated bigger questions about educational inequality that brought me to graduate school at Yale.

Fortuitously, this move brought me back to Montessori. I worked with fellow parents in New Haven, Connecticut to open a local public Montessori school that would be racially, ethnically and socioeconomically diverse. Our school, Elm City Montessori School, opened in the fall of 2014.

I started wondering why I knew so little about this important public education story.



A small group lesson in teacher Ramya Subramanian's Oak classroom at Elm City Montessori school (Photo: Elm City Montessori School)

Montessori educators as a way to instil cultural pride.

Public Montessori is not perfect. Parent demand can flood the schools with privileged families. And maintaining student diversity is only the starting point to ensuring that all families feel empowered in the school. The movement has a majority of white teachers, and only recently have educators of colour begun to organise to centre diverse voices in the movement.

With this work in mind, Montessori expansion is increasingly gaining momentum. This fall, Jeff Bezos, himself a Montessori alumnus, announced plans to create a US \$1 billion network of free-tuition Montessori schools for underserved communities. Montessori policymakers, foundations and grassroots groups are joining together to create new schools and support existing schools.

Today in New Haven, Elm City Montessori School now enrolls 185 students from ages three to nine. The school reflects the population of the city of New Haven. The school is still a work in progress. But student by student, we are developing the next generation of changemakers and altering the perception of what education can deliver to all children.



Preschool students represent four-digit numbers with hands-on Montessori materials (Photo: Elm City Montessori School)

No One Left Behind. Seeking Inclusivity in Healthcare Provision for Migrant Workers

Tharani Loganathan is an Atlantic Fellow for Health Equity in Southeast Asia. A Public Health Specialist and Medical Doctor with the Ministry of Health, Malaysia for 17 years, Loganathan now lectures in Global Health, Health Law, Health Management, and Health Human Resources at the Department of Social and Preventive Medicine, Faculty of Medicine, University of Malaya. She is particularly interested in health systems and policy research towards advancing health system goals of achieving Universal Health Coverage.

You're a Doctor working at the University. How come you are so concerned about migrant workers?' I was asked this rather profound question by an advocate for the rights of migrant workers in Malaysia. Her question speaks volumes. Migrant workers, though ubiquitous in Malaysia, are seldom considered by the average Malaysian.

I owe my own professional transformation to a life-changing Fellowship program. In 2017, I was selected to be part of the Atlantic Fellows for Health Equity in Southeast Asia program, based at The Equity Initiative (EI). This innovative program is funded through the auspices of the philanthropist Chuck Feeney and the Atlantic Philanthropies, and the Rockefeller-endowed China Medical Board (CMB) foundation. It aims to nurture and develop the next generation of leaders in health equity while building a collaborative community to improve health equity in Southeast Asia.

Equity in health considers fairness in the distribution of health benefits among all members of society, particularly the marginalised and vulnerable. Reducing health inequities is a moral and ethical imperative, and is an important global challenge. This challenge is especially pertinent in the economically disparate nations of Southeast Asia and China, that together make up close to a quarter of the world's population. Health equity is a concept that extends beyond the purview of the health sector to encompass areas including education, trade, the environment and politics. As such, the Atlantic Fellows for Health Equity in Southeast Asia comprise Fellows from diverse professional backgrounds, from the ten countries within the ASEAN region and China, with the aim of collectively tackling the social determinants of health.

Being the first Malaysian to join this international Fellowship program, I was grateful for the opportunity

Reducing health inequities is a moral and ethical imperative, and is an important global challenge



Tharani Loganathan at the Annual Forum 2018

to learn from global and regional experts. While I was already committed to a life of public service, being a part of a community of changemakers inspired me to venture beyond my predefined boundaries and work for the benefit of

the most vulnerable. The first year of the Fellowship program involved an intensive schedule of five in-person professional and personal development sessions that exposed us to real-world equity challenges while enhancing our leadership skills and competencies.

After the first active year, the Fellows were encouraged to work together to develop cross-country health equity projects. I teamed with Fellows from Myanmar and China to study the policy gaps in protecting the health of migrant workers in our countries. Migration is a timely issue, as rapid population movement within the region has made millions of migrant workers the most vulnerable and neglected group. Myanmar is the largest migration source country in the Greater Mekong Subregion, while Malaysia

and China are major destination countries for migrants. There are a substantial number of non-citizens in Malaysia seeking employment. Migrants are employed in low-skill, low-wage jobs unfavourable to citizens. Migrant workers in Malaysia are estimated to number at least five million in total, or one-sixth of Malaysia's population of 31 million.

Malaysia has been praised for achieving Universal Health Coverage (UHC), through a tax-based public healthcare system, which guarantees access to a wide variety of healthcare services for citizens at minimal user fees. However, the accessibility of healthcare services for migrants is questionable as non-citizens are charged much higher rates at public facilities. Mandatory health insurance for migrant workers only covers public hospital admissions and excludes undocumented migrants.

I conducted a qualitative study to better understand the barriers faced by migrant workers in accessing healthcare in Malaysia. I interviewed key informants from civil society organisations, trade unions, academia and the medical profession, as well as migrant workers and their representatives. Major barriers identified were affordability, the need for legal documents like valid passports and work permits, language barriers, discrimination, physical inaccessibility and employer-related barriers. These access barriers are complex, and many reside beyond the control of the health sector. Proposed solutions include implementing a comprehensive health insurance package that ensures healthcare access

and financial risk protection, as well as migrant-friendly healthcare services. Potential non-health sector solutions include the formation of a multi-stakeholder migration management body towards a comprehensive national policy on labour migration that includes health.

Ultimately, excluding non-citizens from national health provisions violates human rights and undermines national public health goals. A rights-based approach to health, integrating migrant workers' health needs within national health strategies, would benefit the entire population.



The 2017 Fellows for Health Equity in Southeast Asia meet again at the Annual Forum at Pattaya, Thailand



A traditional Thai Bai Thi ceremony marks the completion of the first active year of the Fellowship

The Civic Challenge of Governing AI

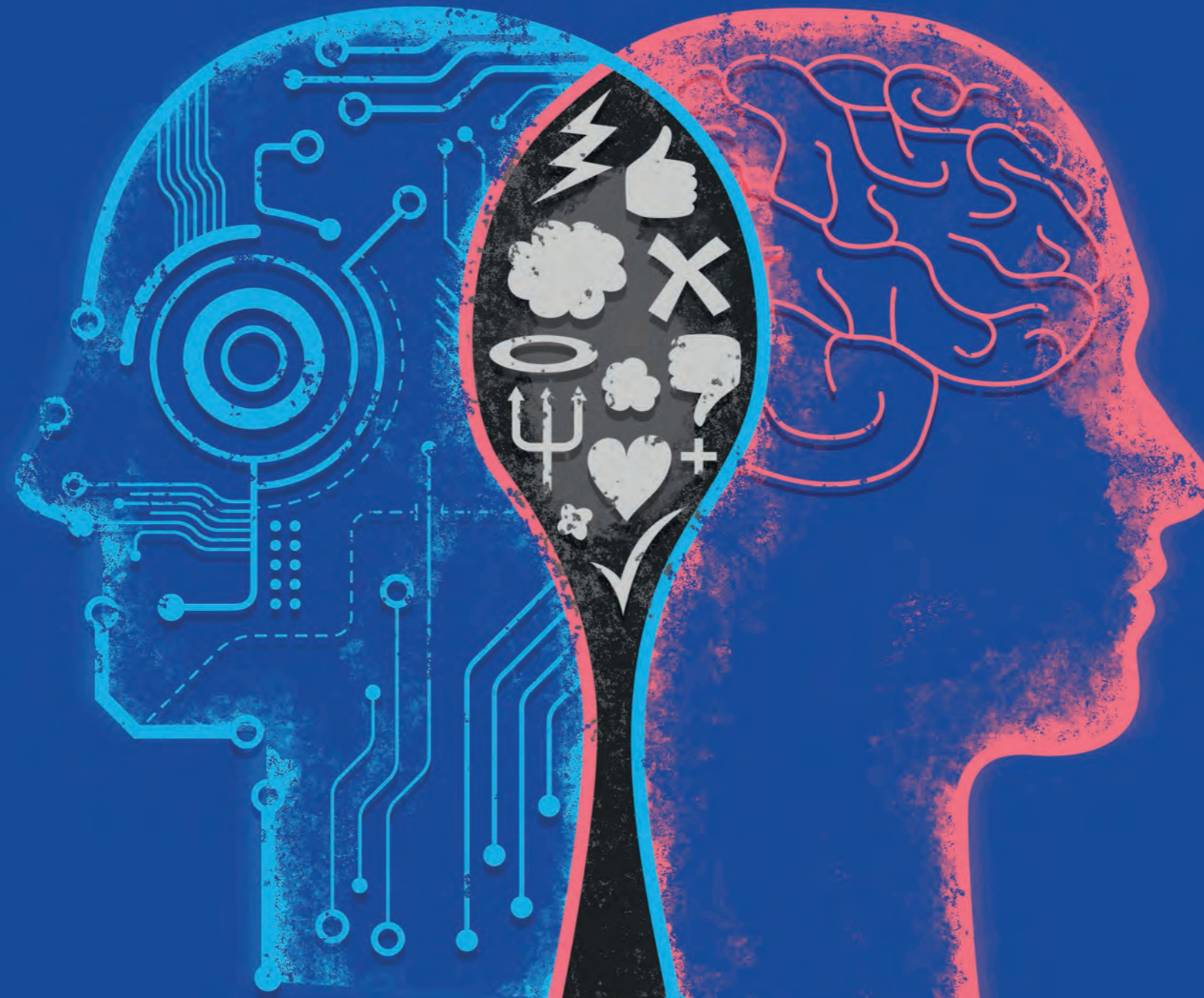
David Robinson (Maryland & Balliol 2004) is co-founder and Managing Director of Upturn, a US-based nonprofit that works for equity and justice in the design, governance and use of digital technology. He is currently a visiting researcher in Cornell's Department of Information Science.

Discussions of artificial intelligence are often abstract or future-focused, and yet AI is already having a profound impact on many people's lives. AI now beats the best humans at a growing list of tasks, offers a reasonable substitute for human effort in an even wider range of scenarios, and transforms what is possible not only in commerce, but also in courtrooms, hospitals, social service agencies and other vital public settings.

Innovation is less widespread – and is urgently needed – on the civic side of artificial intelligence. How can communities understand these systems and decide what role AI and other automated decision-making should play in their lives, particularly when such systems wield public authority? And who should set the limits for what these tools will be allowed to do? Software that makes or informs important, life-altering decisions will inevitably require a moral compass. Designing such systems – and even fine-tuning them – is in part a moral exercise. It should be recognised as a shared civic responsibility.

For instance, in the US, AI systems are increasingly popular in the courtroom to evaluate newly arrested defendants. People who are classified as high risk will be recommended for jailing, while those deemed low risk will be more likely to be sent home. But while judges and prosecutors frequently imagine that a 'high risk' person must be dangerous, they seldom stop to ask, 'risk of what?' And in fact, these newly popular statistical models are usually predicting something very mundane: the likelihood that a defendant will miss a future court date, or be rearrested for what are usually minor infractions. In other words, a 'high risk' person may be relatively likelier than most defendants are to miss the bus or otherwise be unable to make it to a court appointment, or to be rearrested for jaywalking or loitering – hallmarks of poverty and over-policing that often correlate with race, and that do not represent a danger to others.

A software system that tacitly stigmatises such people as dangerous – sometimes literally painting a name in red or displaying a stop sign while a judge considers the person's fate – is a morally untenable embarrassment to our civic aspirations. Moreover, setting the cutoff numbers for 'high' and 'low' risk might sound technical, but it is in fact a moral judgment that will shape how many of these presumptively innocent people are caged and how many of them are set free. Similar challenges arise with other algorithms, for



instance ones that assess the risk of child abuse and neglect (sometimes leading children to be removed from their parents' homes) or that evaluate eligibility.

In situations like these, political leaders and their constituents need to be involved in making the civic decisions that go into the engineering and design of AI systems. And that will require an old-fashioned, deeply human kind of innovation: it will require engineers, civic leaders, and the public to build trust and comfort talking together about what technology makes possible, and what kind of a world we want to live in.

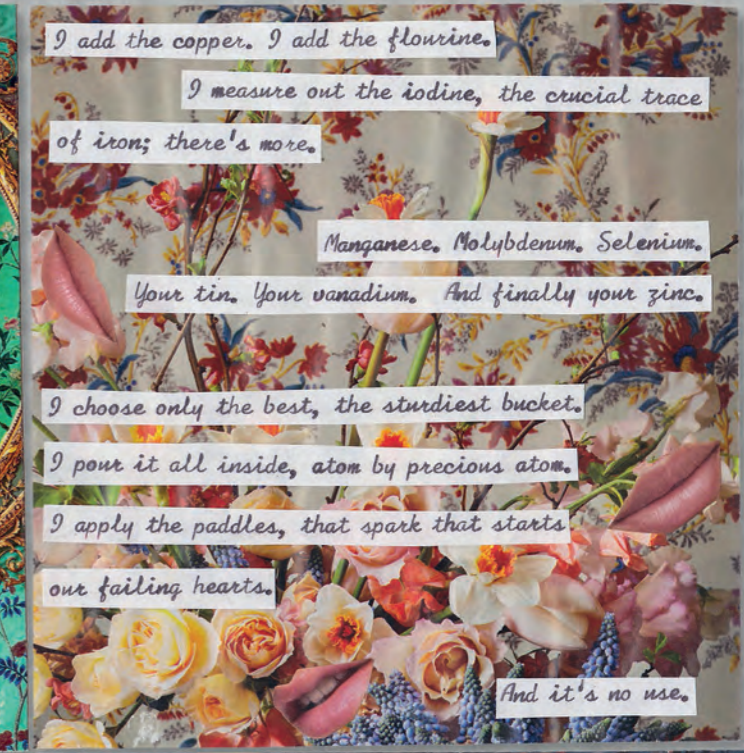
Building a moral compass for AI will require new human connections

As a scholar who studies the governance of AI, I am working to make such innovation possible, particularly in the criminal justice area. One major focus of my work is to study other real-world situations where important algorithms are already designed collaboratively. For instance, the field of organ transplantation depends on algorithms that match available organs with patients, and those algorithms reflect a careful, collaborative design process including public debate, where patients, doctors and organ donors explicitly balance the moral factors of equity (treating people alike) and utility (maximising the total amount of life saved). I believe systems in criminal justice and other areas could benefit from a similar approach.

At the same time, no amount of institutional innovation can replace the need for compassion and understanding on the part of those who design, govern, and build AI systems intended to further the public good. Architects of such systems enjoy substantial political and social power, while the people who face their consequences often come from the margins and lack power. That is why it is crucial for the field of AI to become more diverse, and for AI architects to intentionally seek out, understand and honour the lived experiences of those who are governed by the systems they build.

Creative Corner

Winning Oxford Graduate Photography competition photo for 'Best Radcliffe Camera Photo' taken by Ahmed Ahmed (Minnesota & Lady Margaret Hall 2017)



By Jacquelyn Bengfort (North Dakota & Wolfson 2006)

Creating a GPS for Global Health

Prabhat Jha (Prairies & Magdalen 1987) is harnessing the power of big data in the Million Death Study by counting the dead to improve the health of people living in more than twenty countries. Jha is Professor of Epidemiology at the University of Toronto's Dalla Lana School of Public Health in Toronto, Ontario, Canada where he holds the Dalla Lana Chair in Global Health and Epidemiology. He is also Director of the Centre for Global Health Research, based at St Michael's Hospital in Toronto. He regularly publishes research on cause-of-death statistics, disease control, tobacco control and economics. Here, he is interviewed by Nicole Bodnar, Director of Communications at the Dalla Lana School of Public Health.

Prabhat Jha wanted to improve the way death statistics or mortality data are collected globally, so he used a distinctly innovative, yet low-tech, approach to create the first study of its kind. The problem he's addressing is simple: there are 60 million deaths in the world every year, 45 million of which occur in low- and middle-income countries where often no death certificate is provided. Ultimately this results in a basic knowledge gap that limits how governments can address their country's unique public health challenges.

'One of those deaths that got me thinking about how to understand causes was that of my grandfather who died at age 54 in rural India,' said Prabhat. To fill the gap in India, Prabhat founded the Million Death Study, where he trained teams of local non-medical surveyors to visit homes and

conduct 'verbal autopsies' or structured interviews with family members to determine cause of death. Prabhat knew that visiting individual households and talking directly with family members was the only way to acquire the necessary information about how loved ones died.

As an epidemiologist, Jha understands how death statistics are an important tool to improve public health because they can identify major trends like declines in child mortality and the rise in tobacco-attributable deaths. 'In 2002, we proposed a solution to the Indian government in which we would take a random sample of homes and follow up with them every six months to record deaths, and assign causes to those deaths,' said Prabhat. If a death occurred, the team completes a simple two-page form to capture key symptoms and treatment history. Then,

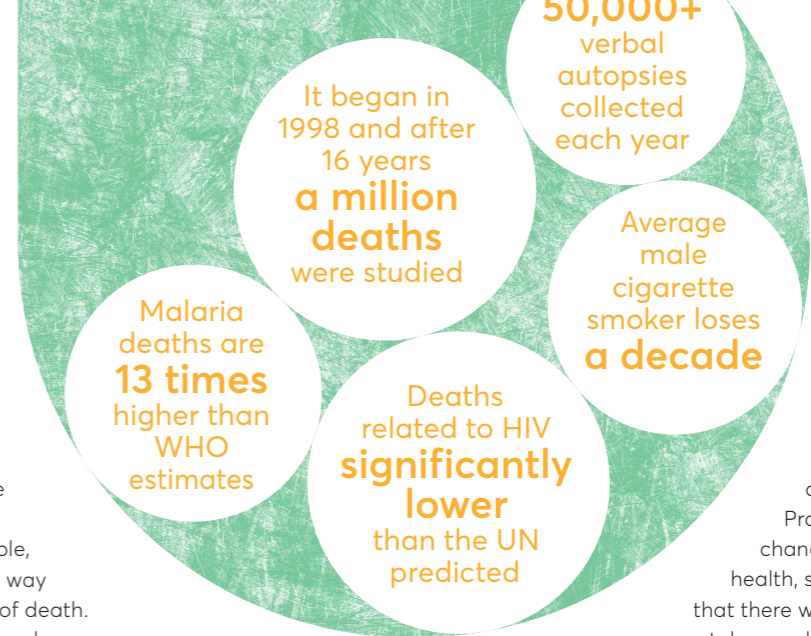
physicians code the completed form and classify the cause of death. According to Prabhat, it is a simple, cheap and innovative way of monitoring causes of death.

Prabhat and his team have conducted more than two million verbal autopsies in India, China, Brazil and Mexico. The death information is analysed and shared with governments to help policy-makers devise plans to reduce the impact of particular diseases, identify new disease targets and minimise risk factors to improve the lives of communities worldwide.

The power of mortality statistics to drive global health initiatives has fascinated Prabhat for a long time. He was born in central-east India and his family immigrated to Winnipeg, Manitoba, Canada when he was six years old. After receiving his medical degree from the University of Manitoba, he pursued a doctorate in epidemiology and public health from the University of Oxford, where he studied as a Rhodes Scholar. At Oxford, Prabhat met world-renowned epidemiologist Sir Richard Peto, who continues to be his mentor. Sir Richard encouraged him to focus his research on the huge burden of avoidable disease in developing countries. Today, Prabhat is a global health powerhouse who is turning this research into impact.

Since the Million Death Study launched in 2002, it has reached more than two million households and has now expanded to several African countries. It is on its way to covering 20 countries. As one of the largest studies

The **Million Death Study** is a human premature mortality study conducted in India



of mortality ever undertaken anywhere in the world, Prabhat's study has changed global public health, showing, for example, that there were three times as many tobacco deaths than estimated earlier, and ten times more malaria deaths than estimated earlier, but only a quarter of HIV deaths versus earlier guesses. He has shown that the national health programme for child health has saved about one million children over the last decade. In fact, his research on tobacco control is so significant that it enabled a global treaty that is now signed by more than 180 countries and is helping to reduce smoking worldwide.

If you count the dead – and accurately record the causes – you have a way of helping the living

Prabhat has received numerous accolades for his impact on global health and is an elected member of several prestigious societies, including the US National Academy of Medicine and the Royal Society of Canada. Today, Prabhat is teaching students from low- and middle-income countries to count the dead through the Queen Elizabeth Scholars-Statistical Alliance for Vital Events (QES-SAVE), which is a summer institute in mortality measurement and policy change. Bright students from around the world congregate in Toronto to apply mortality data to major questions in their own countries.



'Counting the dead is a simple, powerful idea,' he says. 'We've shown it can be done on a national scale, at low cost and high quality, simply by talking to people. Improving this basic information on cause of death yields a big return on global health and opens the door to future innovation.'



Rhodes Scholars as Innovators in Oxford

Rhodes Scholars are bringing new ideas, imaginings and creative thoughts to equality, equity, medicine, technology, education, accessibility and community amongst the dreaming spires of Oxford.

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 so we can share your news!

 Rhodes Trust
 Tonight at #RhodesHouse the #Wiki Editathon has started! This evening is about improving the representation of women on #Wikipedia as only 25% of biographies are women. #VisibleWikiWomen @WhoseKnowledge @wikimediauk



6:02 PM - 23 Nov 2018 from Oxford, England

 Rhodes Trust
 Watch all 4 videos on 'Rhodes Scholar Research in 60 seconds' here! youtube.com/watch?v=zQl6T-.... #RhodesScholarship



12:01 PM - 20 Dec 2018

 Rhodes Trust
 Read latest #RhodesScholarBlog on 'Tasilu: Supporting Syrian Refugees in Oxford' by Rachel Mullin who shares how her English tutoring service supports Syrian #refugees in #Oxford which she co-founded with Leah Michalove. Read at: htl.li/lnAD30ITBBo.



9:44 AM - 20 Sep 2018 from Oxford, England

 Rhodes Incubator
 Thanks to the support of the OXFO Booster Grants, we hosted our 1st Ideate session on 22 Oct bringing together problemsolvers to kick off our 2nd year @OxFoundry. If u're a @unioxford student interested in entrepreneurship for impact learn more on rhodesincubator.com




2:20 PM - 26 Oct 2018

 Enterprising Oxford
 #SocEnt startup @sociabilityapp set up by @rhodes_trust scholar, Matt Pierri is helping centralise #accessibility information for #Oxford & promote #inclusive design. ow.ly/oS3K30mluCK @oiioxford @BlavatnikSchool @TheOxStu @OxfordHub @LincolnAlumni



10:30 AM - 17 Dec 2018


 Rhodes Trust
 Today is International Day of Women and Girls In Science! Gladys Ngetich (Kenya & Oriel 2015) researches the turbine section of jet engines. She looks at cooling schemes that improve engine efficiency and reduce harmful emissions. @gladys_ngetich #RhodesScholar #WomenInScience



2:00 am - 11 Feb 2019

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 Nelisa Tebeka (Zambia & Wolfson 2016) is working to find a link between islet enteroviral infection and the progression of type 1 diabetes. #RhodesScholarship #RhodesScholar #WomenInScience



6:00 am - 11 Feb 2019

 Rhodes Trust
 Thanks to the Rhodes Disability Project for putting on a reflective workshop which explored people's perceptions and realities of disability. Great conversations which undoubtedly helped break down barriers to increase understanding about #disability. #RhodesScholarship



5:16 PM - 22 Feb 2019

At the Frontier of Medicine

Jonas Bovijn (Paul Roos Gymnasium, Stellenbosch & Christ Church 2016) is a physician and current DPhil student in Genomic Medicine and Statistics. He is passionate about the applications of genomics and biotechnology in healthcare. Here, he details the pioneering work of Fred Cohen (Florida & Wolfson 1978).

Emily Whitehead was only five when she was diagnosed with acute lymphoblastic leukaemia, a typically curable form of childhood blood cancer. But after multiple rounds of gruelling chemotherapy her cancer was not responding, and soon, Emily and her parents had run out of options. In a desperate effort to save her life, they approached the Children's Hospital of Philadelphia, where an experimental new therapy was being tested in adult patients with blood cancer. Emily would become the first paediatric patient to enter the trial. Within weeks, she was in remission – a medical miracle by all accounts. Emily had received a treatment called CAR-T cell therapy, the latest innovation in the burgeoning field of immuno-oncology, a class of drugs that exploit the immune system to attack cancer cells.

CAR-Ts have since received FDA approval, though the process for delivering them remains fraught with difficulty: it requires cancer patients to first donate some of their white blood cells, which are then re-engineered in a laboratory into cancer-fighting cells, before being

infused back into the same patient. This process can take several weeks and partly explains the price tag these therapies carry (in the \$300,000-\$500,000 range). 'We are trying to create the next generation of CAR-Ts,' says Fred Cohen, University of California, San Francisco (UCSF) endocrinologist and biotechnology entrepreneur and investor. One of the most recent companies Cohen has been working with, Allogene, is attempting to do away with the back-and-forth process, and rather, to create an off-the-shelf version of these immune cells that works for anyone. Their goal is ambitious. The human immune system is notoriously heterogeneous between individuals, leading to challenges related to infusing such cells whilst also avoiding life-threatening complications. Nevertheless, with a recent \$300 million-plus raised in their initial public offering, and promising results from early clinical trials, they are certainly well positioned to realise their vision.

Fred Cohen presenting at the 4th edition of the Rhodes Healthcare Forum in February 2019



I meet Cohen on a typical, rainy winter's day in Oxford, right before the start of the fourth iteration of the Rhodes Healthcare Forum, where he is due to speak on translating biomedical innovation into patient therapies. He concedes that he was up late to deal with a patient

consult – one of his patients back home had ended up ill in the emergency room and he had been called for advice. Despite the countless sleepless nights throughout his career, Cohen is adamant: 'Remaining a practising physician has been an integral part of my career, and has afforded me the ability to really understand problems in healthcare at a fundamental level.'

Cohen grew up in Miami and always thought he would return there. 'I never would have guessed that my career would take me where I am today. The Rhodes Scholarship has opened many doors for me.' He completed a bachelor's in Molecular Biophysics and Biochemistry at Yale, before pursuing a doctorate at Oxford in the same field. In Oxford, he attended Wolfson College, which, despite being a graduate-only college, he distinctly recalls 'had the unusual advantage of having showers with both hot and cold water', a notable luxury in 1970s Oxford. Cohen's time in Oxford was not solely focused on science – he even had a brief stint as a winger for his college rugby team (admitting that a crushing tackle in his second year made him reconsider his future prospects in the sport).

After completing his DPhil, Cohen moved to California

'We are in the midst of what is probably the third revolution in biotechnology... The impact of these new technologies on healthcare will be enormous.'

to pursue his medical training at Stanford, followed by a Residency in Medicine and a Fellowship in Endocrinology at UCSF. Whilst specialising, he continued his research and eventually landed a junior faculty position as an Assistant Professor. It was there that he had his first foray into

biotechnology, when, in 1988, he was recruited to do part-time consulting for Bill Rutter, head of Biochemistry and Biophysics at UCSF and cofounder of Chiron, a Bay Area biotech that would go on to discover the hepatitis C virus.

The bug had bitten. Soon, Cohen was consulting for legendary Silicon Valley venture capital firm Kleiner Perkins Caufield and Byers, helping them identify opportunities in biotech and healthcare. 'I learned that the scale of the impact I was able to have on medicine and people's lives was far greater than what I had experienced as an academic physician-scientist.' When TPG Capital recruited Cohen to set up and lead their new biotechnology venture capital fund in 2001, he knew he could not pass up the opportunity. At TPG, Cohen would spend the next 15 years building, advising and investing in dozens of companies addressing a wide range of health problems - from Genomic Health, whose test has spared thousands of women with breast cancer unnecessary chemotherapy, to CareDx, which has revolutionised solid-organ transplant care. Before retiring from TPG, he co-founded Cell Design Labs, a biotech focused on developing methods for controlling the activity of CAR-T cells in the body.

Fred Cohen with a group of current Rhodes Scholars at his home in San Francisco. Cohen hosted the group during the Rhodes Incubator's inaugural trip to the Bay Area in September 2018



Cohen's aforementioned retirement from TPG in 2016 was of short duration. He was soon swept back into the industry and recently cofounded Vida Ventures, a new fund through which he has helped set up companies like Allogene and Kadiant, a provider of a holistic set of services for children with autism. Most recently, he joined the board of Intellia Therapeutics, one of a handful of companies trying to bring the genome editing technology, called CRISPR, to the clinic. Like Allogene's vision, theirs is no easy feat. Some studies have suggested that CRISPR could have effects on non-targeted parts of the genome (which may raise the risk of cancer developing) and more recently, a Chinese scientist generated controversy when he announced he had created the first genome-edited babies – a flagrant disregard for international agreements barring the practice. This has led to growing calls for more stringent regulation of the technology. Despite these setbacks, several CRISPR-based therapies for a range of diseases – such as sickle cell disease and rare genetic causes of blindness – are now entering clinical trials. Cohen is convinced that we are only at the beginning of a brand-new generation of therapies. 'We are in the midst of what is probably the third revolution in biotechnology. First we had small molecule drugs, then biologics such as synthetic antibodies, and now cellular and genetic therapies. The impact of these new technologies on healthcare will be enormous.'

Cohen admits that, despite the promise of this unprecedented clinical impact, we are still facing considerable challenges with pricing and funding. For genetic therapies expected to gain approval this year, unprecedented multimillion-dollar price tags have been proposed, and he thinks that industry and payers will need to come together to find a way forward. Part of the issue is that many of these new therapies are essentially one-shot cures, which represents a significant departure from the chronic treatment paradigm that much of the industry is used to. Cohen thinks that it is likely we will see more mortgage-style agreements between drug-makers and payers, with a focus on patient value being key. If a therapy stops providing benefit to a patient, payers should not be expected to continue their payments. Likewise, if a one-shot drug provides substantial long-term cost-savings, that should be taken into consideration when pricing these therapies.

Cohen delivers his talk at the Rhodes Healthcare Forum to a room packed to the brim with Scholars and alumni – all eager to learn from his journey in harnessing biotechnological innovation to the benefit of patients. As he is about to wrap up his session, his final slide flashes onto the screen with a single sentence in bold letters. 'Do something that matters.' With millions of patients like Emily still waiting for a cure, it is clear that our journey is only just beginning.



CAR-T cell therapy is short for Chimeric Antigen Receptor T-cell therapy. A type of cancer treatment in which a patient's T-lymphocytes (a type of immune cell) are re-engineered in the laboratory so they will attack cancer cells. The re-engineering process involves inserting a receptor into the T-cell's membrane that specifically recognises and targets cancer cells.

CRISPR is short for Clustered Regularly Interspaced Short Palindromic Repeats. Discovered in 2012 by teams at both UC Berkeley and MIT/Harvard's Broad Institute, CRISPR enables scientists to make precise DNA edits at specific locations in the genome. Whilst adoption of the technology in research labs has been swift, translation into the clinic has been slower, with first-in-human trials only getting underway now. It is important to differentiate between germline-editing (editing the genome of an early-stage embryo, where such genetic changes can ultimately be passed onto future generations) and somatic editing, where specific cells in children or adults are targeted for therapeutic purposes (and therefore not passed on to offspring).

Rhodes Inspirational Educator Awards

The Inspirational Educator awards were first pioneered by the Rhodes Trust in 2016 to celebrate the wonderful contribution of teachers throughout all stages of education who not only taught, but also inspired. Excerpts from the nomination letters are featured here.

PROFESSOR LARRY DIAMOND Stanford University

Nominated by Alexis Kallen (California & St John's 2018)



“Larry supported me whenever I doubted myself, giving me a sense of stability that allowed me to succeed. Larry was there at every step of the Rhodes application process to remind me that I would be a brilliant lawyer and there was a network of people who would not let me fail. He ensured that I had a stipend to work an internship at the Supreme Court, allowing me to pursue my dreams. When I got to Oxford, Larry paid for my LSAT out of his own pocket to ensure I would be able to take the test. Larry has gone the extra mile to support me at my most vulnerable moments and is truly an 'inspirational educator'.”

MR DAVE LICHTER Pocopson Elementary School

Nominated by Meghan Shea (Pennsylvania & Green Templeton 2017)

“Mr Lichter rejected the notion that the most important lessons are purely academic. He pushed me out of my comfort zone – whether trying to understand a scientific method for the first time or figuring out how to use a dehydrator. At the same time, he cultivated a community in the classroom where those challenges were validated – where he was just as excited as you were about your new poem or your jar of tadpoles. I left Fifth Grade feeling like I could tackle any academic challenge and instilled with a love of learning and science. These are the characteristics that have allowed me to pursue increasingly challenging educational opportunities.”

DR STÉFANIE VON HLATKY

Queen's University, Canada



Nominated by Claire Gummo
(Prairies & Green Templeton 2017)

“I had the great privilege of learning from Dr Stéfanie von Hlatky. I am inspired by the way Dr von Hlatky's confidence and intelligence never fails to command the respect and admiration of her colleagues. She has acted as a crucial role model for me, shaping my approach to professional and academic endeavours. She founded Women in International Security Canada (WIIS), which has provided support to more than a hundred young academics. These characteristics have greatly inspired every student who is fortunate enough to have the opportunity to learn from, and with, Dr von Hlatky.”

PROFESSOR RHONDA BREITKREUZ

University of Alberta



Nominated by Carley-Jane Stanton
(Prairies & St Anne's 2016)

“I would not be attending the University of Oxford without Professor Breitzkreuz's influence and direct support. I have been amazed at the time she makes for students and course development at the undergraduate and graduate level. Professor Breitzkreuz's approach to mentorship sets her apart: she takes care to include personal support, trust, fair financial compensation and co-authorship in all of her mentoring relationships. Inspired by her leadership, Professor Breitzkreuz's students go on to follow her example of feminist mentorship in our own careers, creating deep change across disciplines and institutions.”

DR OKECHUKWU UCHE

University of the West Indies

Nominated by Tariq Parker
(Jamaica & Linacre 2015)

“Dr Okechukwu Uche was an outstanding mentor and friend. Students gravitated to his brilliance and mentorship. I vividly remember celebrating my selection for the Rhodes with Uche and hoped that all my future successes would be celebrated similarly. Unfortunately, Uche was soon diagnosed with ALS (Lou Gehrig's disease). Despite his illness, Uche remained committed to teaching. When I last saw Uche he imparted his final lesson: 'Your life is of value now. Protect it'. The name Uche in Nigerian means 'beautiful mind'. He certainly lived up to it. They say bright lights tend to burn out fast, and Dr Uche was taken from us last year at the age of 44. He is gone but will never be forgotten.”

DR RALPH A. TWUM

University of Ghana



Nominated by Emmanuelle Afaribea
Dankwa (Ghana & St Peter's 2018)

“When Dr Twum proposed we meet every working day for at least one hour and a half to enable me to prepare adequately for Oxford, I thought his plan was too ambitious. However, I was utterly amazed at the level of commitment he demonstrated as he made time for our meetings week after week. I am still thriving because of those months of preparation and encouragement. His humility, approachability and genuine care towards all his students make him distinct; such character is rare.”

MR MARTIN K. KAYAWE

Chitwa Basic School

Nominated by Cephas Samende
(Zambia & Linacre 2016)

“Mr Martin K. Kayawe's inspirational and tireless motivational efforts in my childhood make me who I am today. Although the Zambian schooling system deemed me too young to attend school at six, Mr Martin Kayawe saw my love for school and decided to enrol me secretly in his class without the consent of the headmaster on one condition: that I needed to perform better than everyone in class for me to be officially enrolled. I worked hard, and I was the best in his class. He kept giving my testimony to every class he taught, and this made me work hard not to disappoint him. Truly his words and encouragement to work hard are still echoing in my ear even now.”

PROFESSOR KEN ONO

Emory University



Nominated by Xavier Gonzalez
(Texas & Balliol 2018)

“The passion and caring Ken demonstrated at the summer research programme he runs where he served as my mentor was inspiring. He believes in his students as mathematicians, challenging us to interact with state-of-the-art research. Yet he also believes in his students as full people. During his programme, he requires all of his research mentees to give presentations to secondary students and also to listen attentively to the secondary students as they give their own presentations. He frequently joins his students for running and swimming on the Emory campus! He embeds his work and his mentoring in the broader context of the world's fight.”

PROFESSOR DAVID W. CHRISTIANSON

University of Pennsylvania

Nominated by Alan Yang
(Pennsylvania & University 2018)



“One of my favourite aspects of taking biochemistry with Professor Christianson was that he supplemented his lectures with discoveries from his own lab. I had never seen a professor integrate his own research into his lectures the way he did. It helped me recognise that the course did not simply consist of discoveries from long ago. Instead, I realised that understanding biochemistry is an ongoing endeavour, driven by inquisitive, hard-working individuals like Professor Christianson. Inspired by his example, I also wanted to contribute to our understanding of life's chemistry. He gave me the confidence to pursue an academic career.”

DR IAN SUTHERLAND

Memorial University of Newfoundland

Nominated by Michael O'Keefe
(Newfoundland & Oriel 2018)



“Dr Ian Sutherland's interdisciplinary and trans-industry career, consistent with many Rhodes Scholars in their quest to stand up for the world, mentored and motivated me to curate my education at the intersection of music, diplomacy and public policy. A leading expert in the art and business nexus, Dr Ian Sutherland combines expertise in sociology, philosophy, creativity, music and leadership studies. He has developed a dynamic career as an academic leader, educator, researcher and consultant spanning more than 30 countries. Much of his most recognized work is in the area of experiential arts-based methods of management and leadership development.”



Career Choices in this Era of Technological Innovation

Dr Glenn Leighton (Western Australia & St John's 1993) is an investment banker and start-up investor with a long-term interest in African and Asian business environments. Here, he reflects on how innovation and demographics are changing the world of work.

23 years ago, as I peered through the pre-internet fog having just submitted my Law DPhil, I was pursuing job interviews with both law firms and banks. 'La banque,' my French wife's grandfather suggested, may have 'plus d'avenir (more of a future)'. Today's parents and grandparents may not have had any personal experience of YouTubers, artificial intelligence experts or social media influencers. If so, how can they usefully guide millennials on career choices?

Recent technology investment flows suggest that some careers may be innovation-proof. According to Crunchbase, the leading tracker of venture capital globally, the top five sectors in terms of funding raised from start-up

investors in 2018 were: financial services, transportation, health care, commerce and shopping, and internet services. Similarly, PwC's 2018 Survey of European Private Equity observed that just five sectors – business services, energy mining and utilities, technology media and telecoms, industrials and chemicals, and consumer – absorbed 66% of the €256 billion in 2016-17 buyouts.

From studios some 8,700km from Oxford, Netflix's 7,100 staff produce pay-per-view

television programmes that generated \$15.8 billion in annual revenues last year. Since the 2007 launch of Apple's iPhone®, the mobile app developer community has reached 12 million programmers and should exceed 14 million by 2020. The top ten female YouTubers have a combined subscriber base exceeding 120 million, earning them big sums (while the viral video trend lasts). Forget about that unfinished physics homework and instead ask your teenagers whether they have played enough video games, or chalked up their 10,000 hours on social media yet.

Demographic trends provide useful career signposts. According to the 2017 World Population Prospects report by the Population Division at the Department of Economic and Social Affairs, the United Nations' median fertility projection is for Africa's population to outstrip that of China by 2023, double it by 2054, and reach 4.47 billion by 2100. Employment opportunities will inexorably follow these trends. As of 2018, professional jobs already accounted for 6% of total employment in Uganda and a similar 5.3% in South Africa, according to their respective government statisticians. The biggest career optionality for young people may come from the educational bets they place on foreign languages. By 2050, the global village will house around 1.4 billion Mandarin speakers and also some 536 million who will cite Swahili as their first language (just by combining Tanzania, Kenya, Uganda, and the Democratic Republic of Congo – where it is the national language). Understanding how demographics will evolve is a useful career-planning tool.

Other innovations point to careers

worth considering. Healthcare staff will use new diagnostic tools to target age-related ailments. Regulators will administer improved privacy and data security rules and no doubt continue to look at the borderless nature of ecommerce. By 2030, air traffic controllers will oversee suburban air taxi flights, as well as domestic and international airways. Environmental scientists will invent innovative solutions for carbon sequestration, water shortages and ocean plastics. Exciting times lie ahead.

Still, as globalisation continues and jobs in fields such as textiles begin moving from Asia to Africa, economist Kate Raworth, in her book *Doughnut Economics* (2017), frets that paid employment markets will become deeply polarised and riddled with even greater inequalities. As but one example, given impending innovations such as self-driving vehicles, more public policy advocates will be needed to defend outmoded transport workers. To help de-risk traditional careers, many people are setting up businesses that sell via the internet (the US had 42 million independent workers as of 2018, according to MBO Partners).

Increasingly, such entrepreneurs can raise finance through innovative mechanisms such as crowdfunding (admittedly not an entirely new technique: London's Albert Memorial was funded by public subscription back in 1872). Although technology and innovation may have been leading the way in recent years, finance and public policy now need to catch up and address inequalities more aggressively, ahead of the next surge in the world's population.

My grandfather-in-law ran a successful medical business and knew what lawyers and bankers did – but those were the only two options I gave him. If faced with today's much wider variety of choice and rapidly changing technology, he would probably have recommended I focus on maximising my adaptability. Career management looks like it will require much greater fluidity going forward.

Employment prospects will follow population trends: by 2054, Africa's population will be double that of China and some 536 million people will speak Swahili



Books

A selection of books written or edited by Rhodes Scholars. For the complete virtual bookshelf, go to www.rhodeshouse.ox.ac.uk/impact/book-listing-page



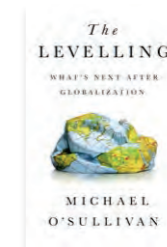
Bu Al Sallasel by Dubai Abulhoul (United Arab Emirates & Trinity 2017). This is the fourth book in a series of Arabic children's books on Emirati folklore. It aims to introduce stories of Emirati folklore, particularly of Djin, which have historically been passed down through oral storytelling to younger generations.



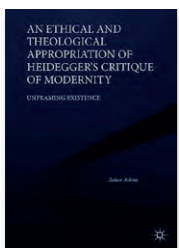
War on Peace: The End of Diplomacy and the Decline of American Influence by Ronan Farrow (Maryland/DC & Magdalen 2012). A harrowing exploration of the collapse of American diplomacy and the abdication of global leadership, by the winner of the 2018 Pulitzer Prize in Public Service.



A Dream Too Big: The Story of an Improbable Journey from Compton to Oxford by Caylin Louis Moore (California & Jesus 2017). By all rights, Caylin Louis Moore should be dead, in prison, or stalking the streets of Compton with his fellow gang-members. Instead, he's a Rhodes Scholar, author, speaker, and role model for every kid deprived of hope in downtrodden communities. *A Dream Too Big* is the story of Moore's exodus from one of the most impoverished, gang-infested communities in the United States to the golden, dreaming spires of Oxford, England.



The Levelling: What's Next After Globalization by Michael O'Sullivan (Ireland & Balliol 1995). Michael shows the many ways the levelling of the twenty-first century will unfold: the levelling out of wealth between rich and poor countries; of power between nations and regions; of political accountability and responsibility between political leaders and 'the people'; of institutional power – away from central banks and defunct twentieth century institutions such as the WTO and IMF.



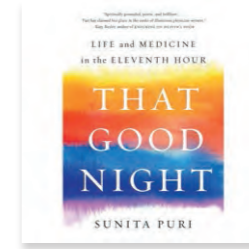
An Ethical and Theological Appropriation of Heidegger's Critique of Modernity by Dr Zohar Atkins (New Jersey & Balliol 2010). A work of timely use to philosophers, theologians, artists and seekers who wish to dive into Martin Heidegger's 20th-century philosophy.



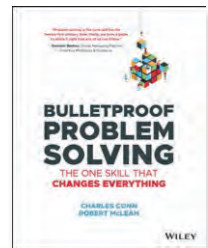
Watson's Pier by Joshua Funder (Victoria & St Catherine's 1996). *Watson's Pier* is beautifully told, a mix of fact, fiction and veterans' stories reaching back across generations to trace one man's personal journey, and with it the history of a nation. It also challenges the historical record of the final moments at Anzac Cove and offers a new perspective on the meaning of Gallipoli.



Music and Freedom by Zoë Morrison (South Australia & Linacre 1999). This novel's love story is that of a woman who must embrace life again if she is to survive. Inspiring and compelling, it explores the dark terrain of violence and the transformative powers of music and love.



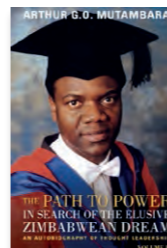
That Good Night: Life and Medicine in the Eleventh Hour by Sunita Puri (California & St Antony's 2002). This is a memoir of how the lives – and especially the spiritual practice – of Dr Puri's immigrant parents shaped her views on death and dying, ultimately leading her to practise palliative medicine.



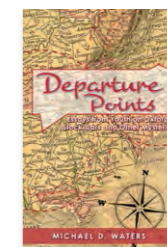
Bulletproof Problem Solving: The One Skill That Changes Everything by Charles Conn (Massachusetts & Balliol 1983) & Robert McLean. The reader will learn the seven-step approach to creative problem-solving developed in top consulting firms that will work in any field or industry, turning you into a highly sought-after bulletproof problem solver.



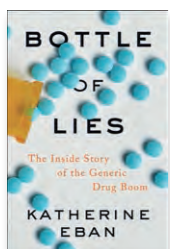
Setting up Community Health and Development Programmes in Low and Middle Income Settings by Nathan Grills (Victoria & St John's 2002) & Ted Lankester. This book covers the theory and practice of community-based health care in the Sustainable Development Goals (SDG) era.



Path to Power: An Autobiography of Thought Leadership by Professor Arthur G. O. Mutambara (Zimbabwe & Merton 1991). This is the second of three volumes in a series that traces the leadership thoughts and philosophical disposition of Zimbabwean politician and former Deputy Prime Minister Arthur Mutambara over a period of 35 years.



Departure Points: Essays from Youth on Oxford, Stock Cars and Other Mysteries by Michael Waters (Alabama & Merton 1973). This is a collection of Michael's remembrances. The title of the principal Oxford story, 'You Won't Learn Nothing Over There,' is a quotation from former Alabama Governor (1947-51, 1955-59) James 'Big Jim' Folsom on learning that Mike had been selected as a Rhodes Scholar. Mike was childhood friends with Big Jim's son and namesake (also subsequently a Governor of Alabama, with whom Mike played in a rock & roll band in high school).



Bottle of Lies: The Inside Story of the Generic Drug Boom by Katherine Eban (Rhode Island & St John's 1989). Katherine Eban's *Bottle of Lies* exposes the deceit behind generic-drug manufacturing and the attendant risks for global health. She draws on exclusive accounts with whistleblowers and regulators, and pages of confidential FDA documents to reveal where industry fraud is rampant and unsafe practices are conducted to keep costs down but maximise profit.

If you have recently published a book and would like it featured on the Rhodes House website, please email babette.tegldal@rhodeshouse.ox.ac.uk

Rhodes Ahead Podcast: Healthcare Series 2019

HEALTHCARE SERIES 2019



Recorded at the 4th Annual Rhodes Healthcare Forum, podcasts feature Rhodes Scholars and experts discussing the global drive to achieve universal health coverage, covering the following topics:

- Introduction: From Surviving to Thriving
- Mental Healthcare Coverage
- Equal and Inclusive Healthcare Coverage
- Transformative Tools and Patient Therapies

Listen here:
soundcloud.com/rhodestrust/sets/rhodes-ahead-healthcare-podcast-series-2019

Email for life

Make sure you stay connected with us with a lifelong Rhodes Trust email

If you have not yet signed up for your lifelong Rhodes Trust forwarding email address you can do so at mail.rhodestrust.com/register to stay easily connected with your fellow Rhodes Scholars. Once registered, your email address will take the format of firstname.lastname.electionyear@rhodestrust.com and will forward messages to any email address you specify. We suggest that all users, new and existing, use a personal rather than professional email address so that your emails can follow you through your life's journey! Updating your details is quick and easy. If you have any questions please contact alumni@rhodeshouse.ox.ac.uk

Alumni Weekend

All alumni are warmly invited to join us at the Oxford Alumni Weekend from 20 to 22 September 2019. As well as the usual afternoon tea at Rhodes House on Sunday 22 September, we invite any alumni who will be in Oxford to join our reunion classes and Rhodes Scholars in Britain for a dinner on Friday 20 September. More information can be found on our website.



50th reunion class of 1968 with Warden Kiss at the 2018 Alumni Weekend



Speaking in China

Warden Travel

Since starting her role as the Warden last August, Warden Kiss has visited alumni in: Auckland, Beijing, Boston, Cape Town, Hong Kong, Johannesburg, Kigali, Lusaka, Melbourne, Nairobi, New York, Ottawa, San Francisco, Shanghai, Sydney, Toronto and Washington. We will keep all of the alumni community informed of upcoming travel to ensure we continue to build an even stronger community of Rhodes Scholars.



At the Australian National Dinner

Alumni Updates

Microsites

We are in the process of creating microsites (websites that sit underneath the official Rhodes Trust main website) for all of our Alumni Associations so that it's easier to find news and events in a certain country, whether it is your election country or where you currently reside! Our first site has launched for ARSA, the Association of Rhodes Scholars in Australia, with sites for our American, UK and Southern African alumni associations currently in production. These can be found by visiting the Alumni Association section on our website, under the 'Alumni' tab.

The Alumni Team at the Rhodes Trust is growing!

Co-ordinated from Oxford by Rodolfo Lara, Director of Programmes and Alumni Relations, and Rebecca Martin, Alumni Relations Manager, the Trust has new international colleagues who will be feeding into our alumni relations efforts, providing valuable on-the-ground community insights alongside their other responsibilities. Their names and regions are below. If you have any general alumni questions, event ideas or wish to volunteer for the Trust, we advise you in the first instance to contact Rebecca at alumni@rhodeshouse.ox.ac.uk who will be able to ensure that your query is dealt with by the correct team, in the correct country!

Australia: Gillian Fullilove, Development Director, Rhodes Scholarships Australia

Canada: Pamela Chang, Director of Engagement and Support

South Africa: Beverly Johnson, Regional Manager, Rhodes Scholarships for Southern Africa

Save the Dates

Anniversary Rhodes Class Reunions:

18 – 22 September, Oxford

Oxford Alumni Weekend:
20 – 22 September, Oxford

Bon Voyage Weekend:
27 – 29 September (different locations depending on constituency)

Oxford unveils plans for new graduate college

A new college opposite Rhodes House

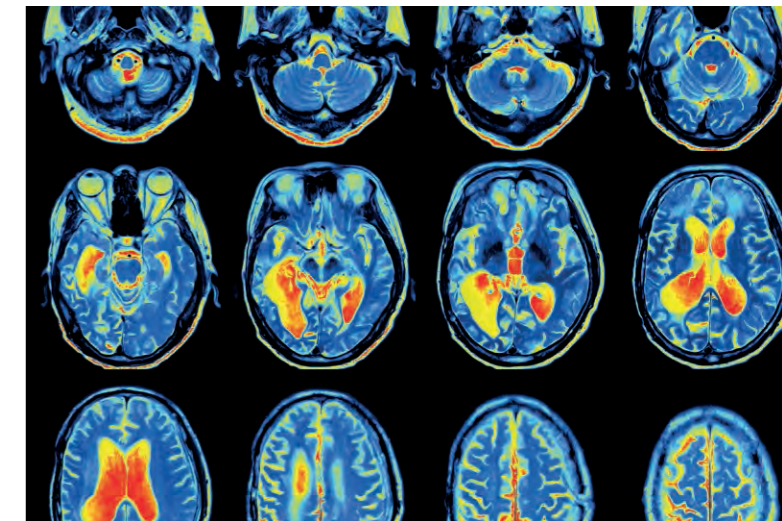
The University of Oxford has announced initial proposals for the location, character and provisional leadership of a new graduate college. It is anticipated that a majority of students will be drawn from departments across the Division of Mathematical, Physical and Life Sciences – but other disciplines will also be represented. The 21st-century academic community will enjoy a central Oxford location and a vibrant scholarly, sporting and cultural life. The new college will occupy the historic Radcliffe Science Library site on Parks Road, situated opposite Rhodes House. Radcliffe Science Library’s signature building was constructed in 1901 to a design by the renowned architect Sir Thomas Jackson. Jackson’s other works at Oxford include the Examinations Schools, the celebrated Bridge of Sighs at Hertford College, much of Brasenose College, and the former Oxford High School for Boys, which today houses the Faculty of History.



Radcliffe Science Library (Photo: Bodleian Libraries, University of Oxford)

First genetic analysis of brain function and structure using UK Biobank

Oxford scientists have reported exciting new insights into the structure and function of the brain using genetic information and detailed brain images from UK Biobank. The researchers took data from detailed MR images from 10,000 UK Biobank participants, which are freely available from the resource to researchers around the world, to examine thousands of different measurements of the brain. It is hoped their results will provide a huge impetus to new research for a wide range of degenerative and psychiatric disorders. With a further 20,000 participants already imaged, and 70,000 more to be scanned in the next three years, the resource is set to transform research into brain development and ageing, and understanding how it functions, becomes damaged by disease, and heals itself.



(Image: Shutterstock)

New £50m physics building opened by Sir Tim Berners-Lee



Beecroft Building interior (Photo: Jack Hobhouse/Department of Physics)

The University of Oxford has marked the opening of the Beecroft Building, a new 8,950sqm building for experimental and theoretical physics. The Beecroft Building sits above the deepest basement in Oxford: a 16-metre-deep complex of high-specification laboratories intended to house extremely environmentally sensitive atomic-level experiments that will advance the University’s research into areas such as quantum science and technology, and probe the fundamental laws of nature. The new laboratories are among the very best globally. They can maintain temperature to within a tenth of a degree, and reduce the amount of vibration down to the width of a few atoms.

Oxford ranked world’s best university for third year running

The Times Higher Education World University Rankings 2019 were unveiled at the World Academic Summit in Singapore in September 2018, with Oxford first among the 1,258 universities assessed worldwide, including 98 from the United Kingdom. The Times Higher Education rankings are described as the only international league table which assesses universities for all their activities, considering teaching, research, citations, industry collaboration and international outlook. Oxford was highly rated on all factors, reflecting its all-round strength at the forefront of the full range of academic disciplines, spanning medical sciences, science and engineering, humanities and social sciences.



Students discussing a problem in the Maths Institute (Photo: John Cairns/OUIImages)

Astronomers detect hundreds of thousands of previously unknown galaxies

A major new radio sky survey has revealed hundreds of thousands of previously undetected galaxies, shedding new light on many research areas including the physics of black holes and how clusters of galaxies evolve. An international team of more than 200 astronomers from 18 countries, including researchers from the University of Oxford Hintze Centre for Astrophysical Surveys, has published the first phase of the survey at unprecedented sensitivity using the Low Frequency Array (LOFAR) telescope. Radio astronomy reveals processes in the Universe that we cannot see with optical instruments. In this first part of the sky survey,

LOFAR observed a quarter of the northern hemisphere at low radio frequencies. Today, around ten percent of that data is being made public. It maps three hundred thousand sources, almost all of which are galaxies in the distant Universe; their radio signals have travelled billions of light years before reaching Earth. Dr Leah Morabito (a Hintze Fellow in the Department of Physics and the Millard and Lee Alexander Postdoctoral Fellow at Christ Church, Oxford) said: ‘We will be able to identify hidden black holes, study individual clouds of star formation in nearby galaxies, and understand what jets from black holes look like in the most distant galaxies.’

Text and images for these items taken in part from www.ox.ac.uk/news as published in 2018 on 17 September, 26 September, 12 October, 5 December and 7 December and in 2019 on 19 February.

Obituaries

A few of the obituaries from the past year. For all Rhodes Scholar obituaries, please visit www.rhodeshouse.ox.ac.uk/alumni/obituaries

BOB HAWKE

Western Australia & University 1953
9 December 1929 – 16 May 2019

Bob Hawke was Australia's longest-serving Labour Prime Minister, an economic and social reformer whose consensus-focused leadership paved the way for economic modernisation, environmental protection, alliances with Asia and improved relations with Indigenous Australians. In addition to his successful time as Prime Minister, he was a great supporter of the Rhodes community in Australia.

PEGGY D. CETTI

Rhodes House staff
d. 3 May 2019

Peggy was an Accountant at Rhodes House during Warden Fletcher's time 1981-89 and remained a close friend of several 1980s era Scholars. Recently Peggy reflected: 'We were always very busy and since I had an office to myself Scholars soon found I was a confidante to all comers. As to the extent of my experience at Rhodes House, I can only say I have never worked so hard, laughed so much and enjoyed any job more.'

HERMAN HARDY HAMILTON Jr

Alabama & Exeter 1950
4 February 1928 – 30 April 2019

Herman was a lawyer who practised more than 40 years as partner at Capell Howard Knabe and Cobbs, PA. He was active in the early civil rights cases involving the City of Montgomery, including the Rosa Parks and Tuskegee Syphilis Cases.

FINN LOWERY

New Zealand & University 2015
1 October 1990 – 24 March 2019

Finn, together with his wife Rebecca, were much loved members of the Rhodes Scholar community, 2015-2018. He died at home in New Zealand on Sunday 24 March and our thoughts remain with Rebecca, his family and all his friends. Finn was a lawyer who had captained the New Zealand waterpolo team. At Oxford he rowed, played football, gained an MSc in Latin American Studies and fully engaged in the experience. He will be remembered for his warm smile, his skill at sport, his championing of mental illness awareness, his passionate caring for others and most loving partnership with his wife, all of which he generously shared with his fellow Scholars and staff around Rhodes House.

GEORGE CAWKWELL

New Zealand & Christ Church 1946
25 October 1919 – 18 February 2019

George was Fellow and Praelector in Ancient History from 1949 to 1987 and thereafter an Emeritus Fellow at University College, Oxford. He held most of the offices of the College at some point in his lifelong association with the College and was held in high regard throughout the College and by the many students whom he taught and mentored.

BRUCE ROSIER

Western Australia & Christ Church 1950
18 November 1928 – Thursday 28 February 2019

Bruce was an Anglican priest and former Bishop of Willochra in South Australia.

SATISH KESHAV

South Africa-at-Large & Balliol 1987
16 August 1962 – 23 January 2019

Satish was a Clinical Director for Gastroenterology, Endoscopy and Churchill Theatres and an Honorary Senior Lecturer specialising in Inflammatory Bowel Disease (IBD) at the Nuffield Department of Medicine.

JAMES BILLINGTON

New Jersey & Balliol 1950
1 June 1929 – 20 November 2018

James was an eminent American scholar of Russian culture, and served for three decades as Librarian of Congress, propelling the expansion of the world's largest library.

DONALD SNIEGOWSKI

Indiana & Exeter 1956
11 February 1935 – 18 September 2018

Donald was Professor Emeritus of English at the University of Notre Dame where he spent the entirety of his career, with a particular interest in 19th-century Victorian poetry and African literature. He also for many years served as Assistant Dean for the College of Arts and Letters.

PETER PIERCE

Tasmania & Balliol 1973
15 January 1950 – 4 September 2018

Peter was Professor of Australian Literature at James Cook University from 1996 to 2006. He also worked at Monash University. His research interests included 19th century and contemporary Australian literature and literary history, and war literature.

Appointments and Awards

Congratulations to these Rhodes Scholars for their recent awards and appointments.



DR MARTIN-IMMANUEL BITTNER
Germany & Trinity 2014
Appointed member of the Young Academy of the German National Academy of Sciences Leopoldina and the Berlin-Brandenburg Academy of Sciences and Humanities.



DR TARUNABH KHAITAN
India & Exeter 2004
Won the Letten Prize 2018 for his work across disciplines, including discrimination law, constitutional law, legal theory, political philosophy, democratic theory, constitutional design and ethics.



DR ALMA BRODERSEN
Germany & St John's 2012
Won the Manfred Lautenschlaeger Award for Theological Promise 2019 for her Oxford DPhil project. Her work is titled, *The End of the Psalter. Psalms 146-150 in the Masoretic Text, the Dead Sea Scrolls, and the Septuagint.*



DR KATHERINE LARSON
Minnesota & Lincoln 2000
Admitted to the Royal Society of Canada's College of New Scholars, Artists, and Scientists.



ADALSTEINN (STEINI) BROWN
Ontario & Lincoln 1993
Appointed Dean of the Dalla Lana School of Public Health. He was also named to a healthcare advisory council struck by the Ontario government that will recommend a strategic, long-term vision for health care in the province.



PATRICK PICHETTE
Québec & Pembroke 1987
Appointed Chair of Oxford Science Innovation.



SABEEL RAHMAN
New York & Pembroke 2005
Appointed President of Demos.



CHARLES CONN
Massachusetts & Balliol 1983
Appointed CEO of Oxford Science Innovation.



DR ELIZABETH SHERWOOD-RANDALL
California & Balliol 1981
Appointed as a Distinguished Professor at the Georgia Institute of Technology, with a joint appointment at the Strategic Energy Institute and the Sam Nunn School of International Affairs.



MIKE FITZPATRICK AO
Western Australia & St John's 1975
Appointed as an Officer of the Order of Australia in the 2019 Australia Day Honours. Mike received his AO for distinguished service to Australian Rules football in business and as a Board member of the Walter & Eliza Hall Institute of Medical Research.



DR DIANA FU
Manitoba & Linacre 2006
Selected as one of 20 public intellectual fellows at the National Committee on US-China Relations.



PROFESSOR PRABHAT JHA
Prairies & Magdalen 1987
Elected as a Fellow of the Royal Society of Canada.

If you have a new appointment or award, please email babette.tegldal@rhodeshouse.ox.ac.uk to be listed on the Rhodes House website.

1959

Paul Dodyk (Michigan & Magdalen 1959) After receiving an MPhil in Economics, Dodyk graduated from the Harvard Law School, clerked for the Hon. Potter Stewart on the Supreme Court and became a Professor at the Columbia Law School. There he edited the first casebook on Law and Poverty and directed a federally-funded centre devoted to expanding the reach of public assistance to the poor. After the disastrous 1972 presidential election and ensuing rightist bias of the Supreme Court which brought an end to the Second Reconstruction, Dodyk became a partner in the New York City law firm of Cravath, Swaine and Moore, where he represented clients such as IBM, GM, Time, Novartis, Bayer and PPG and engaged in an active pro-bono practice representing death-penalty defendants, the Yale Law School and the ABA, among others. Since leaving the courts in 2007, Dodyk has served as Chairman of Americans for Oxford and the Center for Law and Economic Justice, Secretary of the Rhodes Scholarship Selection Committee for New York, and as a supporter of a variety of Oxford-related institutions.

Michael Fried (New Jersey & Merton 1959) retired from teaching at Johns Hopkins two years ago. But not from research, writing, poetry. Recent books include *Another Light: Jacques-Louis David to Thomas Demand* (2014), *After Caravaggio* (2016), *Promesse du Bonheur* (poems with photographs by James Welling, 2016), and *What Was Literary Impressionism?* (2018). He is currently completing a study of the art of Gerolamo Savoldo. He and his wife Ruth Leys (Somerville, 1958), also retired from teaching at Johns Hopkins, travel widely but continue to live in Baltimore, as does their daughter Anna.



Don Mathieson (New Zealand & University 1959) joined the Faculty of Law at Victoria University of Wellington as Senior Lecturer and, subsequently, Associate Professor. He also practised as a barrister sole at the New Zealand bar. Early lecturing centred on jurisprudence and the law of torts. From 1971 onwards he spent six years in the Crown Law Office, heavily involved in administrative law. He was awarded the LL.D degree for his book on Industrial Law in New Zealand. He returned to VUW as Professor in 1976 and later practised as a QC. He was heavily involved in successive editions of *Cross on Evidence* (NZ ed.), having sat at the feet of Rupert Cross in Oxford. In 2003-4 he spent an academic year at Uganda Christian University. He was extensively involved in three law reform committees, and shepherded the NZ Universities Law Review into existence. He married Sally in 1961, at St Aldates, and they have three children and seven grandchildren, and now lead a busy retirement life in Waikanae.

John Womack, Jr. (Oklahoma & Merton 1959), Professor Emeritus of History at Harvard University, works daily on the history of 19th- and 20th-century Mexico, and when possible also the history of the US working classes and US labour movement. Otherwise he reads as much as he can, mainly in theology and about contemporary finance. He has two children, a daughter of 57, a son of 33, and one grandson, having lately lost a younger grandson. He is Roman Catholic and a Communist, to put a fine point on it, no fooling, an Augustinian Stalinist.

William S Yeowart (Eastern Province & St Edmund Hall 1959) has retired from active business. He was previously Chairman of Simpson McKie Stockbrokers and served on many educational bodies such as the Independent Schools Association, Michaelhouse, Rhodes University, St John's College, St Peters Prep. He was a member of the State Presidents' Economic Advisory Board, King Commission on Corporate Governance, and Securities Advisory Panel. Now fully involved with four grandchildren! And learning chess!

1969

Derek Allen (Ontario & Magdalen 1969) is Professor Emeritus, Department of Philosophy, University of Toronto. Vice-Provost & Dean of Arts, Trinity College, UofT (1996-2012). President of the Association for Informal Logic & Critical Thinking (2007-2013). Chair, former Ontario Long-Term-Care Interaction Committee (1992-96). Ontario Rhodes Scholarship Selection Committee (1979-83, 1988). Recipient of several awards, including a province of Ontario award for Leadership in Faculty Teaching, a 3M National Teaching Fellowship Award in recognition of teaching excellence and educational leadership, and the Vivek Goel Faculty Citizenship Award for 'a faculty member who has served the University of Toronto with distinction in multiple leadership capacities in diverse spheres over many years'. Publications mainly in argumentation theory and Marx studies. Married Margaret Woollard, distinguished freelance book editor, in 1987.

Tom Cloete (St Andrews College, Grahamstown & Trinity 1969) returned from Oxford to Grahamstown where he obtained the LLB degree (cum laude) from Rhodes University. He practised at the Bar in Johannesburg, was awarded Silk and appointed a judge of the Witwatersrand High Court. After 12 years he was promoted to the Supreme Court of Appeal in Bloemfontein over which he frequently presided towards the end of his judicial career ten years later. Over 100 judgments he authored found their way into the Law Reports. In retirement, he has been actively engaged in private commercial arbitrations and takes frequent holidays with Janet (his wife of 40 years), their children and grandchildren at their holiday home in Skiathos, Greece.

Marc Lackritz (New Jersey & Wadham 1969) enjoyed a 35-year career in Washington, D.C., which began as an Assistant Counsel to the Senate Watergate Committee in 1973, and included three stints in the public sector on various Committee staffs, before he led the Securities Industry Association and its successor for the last 15 years of his career. He then became an Adjunct Professor of Finance at Georgetown's McDonough School of Business in 2008, and eased into a delightful retirement of teaching, learning, writing, travel and child care. During his career, he testified before Congress more than 30 times, and helped enact a number of laws affecting financial services and the securities industry. He and Mary DeOreo, his wife of 44 years, are most proud of their more lasting contribution to 'the world's fight' – three bright, thoughtful, loving daughters and seven delightful grandchildren. And he remains both amazed and very grateful that his journey has turned out so very well!

Chris Sherwell (Rhodesia & Corpus Christi 1969) is currently in gentle transition after 15 years as a non-executive director of offshore investment companies in Guernsey. Previously managing director of Schroders in the Channel Islands (2000-2004) and investment director (1993-2000). Worked earlier as a journalist for 15 years, on *Nature* (1975-77) and then the *Financial Times* (1978-1990), where he served as foreign correspondent in South Asia, South-East Asia and Australasia. The Guernsey move followed a jump to an analyst position at broker Smith New Court (1990-1993). The original leap into journalism followed a post-Oxford return to Rhodesia as a university lecturer (1973-1975). Continues to track the country's saga of failed statehood.



David V. Williams (New Zealand & Balliol 1969) is a Professor Emeritus and Research Fellow at the University of Auckland, New Zealand. He has tertiary qualifications in history, law and theology. He taught and researched at the University of Dar es Salaam (Tanzania) and the University of Auckland. His passion is legal history. His research and his political activism have supported claims by indigenous Maori concerning historic acts and omissions of the Crown. He has held visiting appointments at Exeter College, St John's College and Corpus Christi College in Oxford; and at the University of Dar es Salaam. He was elected an Honorary Fellow of the American Society for Legal History in 2017 and a Fellow of the Royal Society of New Zealand in 2018.

1979

Ruth Mazo Karras (Oregon & New College 1979) is the Lecky Professor of History at Trinity College Dublin, where she recently moved after 17 years at the University of Minnesota. Her research deals with various topics in the history of gender and sexuality in medieval Europe. She is President of the Medieval Academy of America, the major professional organisation for medieval studies in North America, and General Editor of the Middle Ages Series for the University of Pennsylvania Press. She and Chris have two adult daughters and three granddaughters.

Robert Maloney (California & Magdalen 1979) has spent his time since Oxford practising, researching and innovating in LASIK and other forms of vision correction surgery. In a bold reach upward, he married Nicole Miller in 1996. Nicole is an accomplished photographic artist and author (not to be confused with the fashion designer). They have three children: Keller and Pierce, who are undergraduates at Princeton, and their youngest, Cleo, who is an even better artist than her mother. Robert is passionate about fly fishing, shooting and NASCAR racing. His years have been brightened by too-rare contacts with Bill Crowley (1979), Karen Stevenson (1979), Elizabeth Sherwood-Randall (1981), Jessica Teich (1981), Dan Goodgame (1979) and Margaret Vaillancourt (1979). He is beyond excited about the upcoming class reunion in Oxford in September of this year.

David Simon (South African College School, Newlands & Linacre 1979) is based at Royal Holloway, University of London, serving as Head of the Geography Department from 2008-11. He specialises in development theory, policy and practice; and urban sustainability/climate change issues. He publishes widely and has led major international research projects in Ghana and South/Southeast Asia. Since September 2014 he has been on 80% secondment as Director of Mistra Urban Futures, a leading international research centre on urban sustainability based at Chalmers University, Gothenburg, Sweden, and using co-design/-production methodologies in city-based institutional partnerships. Comparative research informs global agendas, especially on implementation of the Urban Sustainable Goal (SDG 11). Recent books include *Rethinking Sustainable Cities* (2016), *Urban Planet* (2018) and *Holocaust Escapees and Global Development: hidden histories* (2019). He is married to Sheryl and has two adult sons.

Anthony Staak (South Africa-at-Large & Balliol 1979) After a short stint as Dean of Engineering, Anthony served as Deputy Vice-Chancellor: Academic at the Cape Peninsula University of Technology for a period of 17 years. During that time, he was also actively involved at a national level in the higher education sector serving on a number of task teams of the Higher Education and Training Ministry, as well as committees established by various national agencies. He remains involved in international projects predominantly in the sustainable energy field. He was awarded a Fulbright Scholarship to complete further postgraduate studies in Technology Policy at the Massachusetts Institute of Technology. He and his wife Wendy reside in Cape Town and continue to pursue their passion for long distance running.

1989

Michael Buchanan (Tasmania & Brasenose 1989) moved in 2012 to Temasek, a Singapore investment company with around \$300bn in assets. His main role now is head of investment strategy, but he also heads the Australia & NZ direct investing team, which gives him an opportunity to pop home occasionally. He was previously at Goldman Sachs for 12 years and the IMF for seven years. Michael continues to sail competitively when he can, and likes getting away on the boat with his family (although four kids can make that hectic!).



Ike Chioke (Nigeria & Wadham 1989) Ike continues to labour as a banker despite the industry turbulence he has witnessed since 1991 in New York, London and now Lagos where he leads Afrinvest, a boutique investment bank. Ike admits that his best transaction yet was his 'merger' with Yvonne which has led to three lovely daughters. His tenacity paid off in 2017 with the establishment of the Rhodes Scholarship for West Africa following his 23-year battle to bring back the Nigerian scholarship which was suspended in 1994. In addition to the Rhodes Trust, Ike volunteers his time supporting governments in formulating appropriate policies to encourage private sector investment. Ike is a fitness enthusiast and recently set up his own commercial gym business, Fitness Factory.

Gerhard C. Cruywagen (Paul Roos Gymnasium, Stellenbosch & Lincoln 1989) After his DPhil (Mathematical Sciences) at Oxford Gerhard took up a post-doc position at the University of Washington, Seattle. He continued his research career with a position as Oceanographer at the Sea Fisheries Institute in Cape Town. In 1996 he made a career change into the financial sector. He obtained the CFA designation in 1996. Since 2002 he served as Chief Investment Officer, first at Prudential Portfolio Managers and, since 2008, at Sanlam Investment Management, Cape Town. Gerhard is married to Marié, and they have two children. They live in the shadow of Table Mountain in Cape Town.

Katherine Eban Finkelstein (Rhode Island & St John's 1989) continues her work as an investigative journalist and contributing writer at *Fortune Magazine*. Her most recent book, *Bottle of Lies: The Inside Story of the Generic Drug Boom* will be published by HarperCollins this May. It exposes widespread fraud in the far-flung manufacturing plants in India and China, where most of the world's generic drugs are made. She lives in Brooklyn, New York with her husband Ken Levenson, an architect, two children, Amelia and Isobel, ages 12 and nine, and their 185 lb Newfoundland dog, Romeo, who takes up a lot of space.



Stephanie Malia Fullerton (Hawaii & Somerville 1989) continues in her role as Associate Professor of Bioethics and Humanities at the University of Washington School of Medicine in Seattle, where she moved in 2005 after retraining in the Ethical, Legal, and Social Implications (ELSI) of genetics with a fellowship from the NIH National Human Genome Research Institute. Her research and teaching centre on the ethical and social implications of genomic research and its equitable and safe translation for clinical and public health benefit. She and her wife Rachel Ceballos (Associate Member, Public Health Sciences Division, Fred Hutchinson Cancer Research Center) live in the Ballard neighborhood and are currently enjoying (?) the trials and tribulations of parenting a teenager (son, Zachary).

Sarah Harding (Maritimes & Lincoln 1989) is leaving academia at the end of this year after a successful and fulfilling 24 years as a law professor and law school administrator. Her plans are to spread herself among multiple projects, including continuing her work with multiple non-profit boards in the arts and education fields, building her own organisation to provide more arts opportunities for low income children, completing a book of short stories about her 99-year old aunt who passed away recently, and tending to her Vermont farm.



Heidi C. Hauffe (Ontario & New College 1989) moved to a small Alpine village where with Ezio she raised two children on the family dairy farm, while continuing her research on evolutionary biology with several 'virtual' postdocs at Pavia, York, and the Czech Academy of Sciences. Since 2011, she has been the Head of the Department of Biodiversity and Molecular Ecology, and the Conservation Genetics Research Unit at the Fondazione Edmund Mach, Trento, where she and her team apply genetics to wildlife conservation and management, mainly of vulnerable Alpine species such as amphibians, game birds, and wolves, but with many international collaborations on organisms from gut bacteria to primates and polar bears. She has edited one book, and has co-authored more than 80 peer-reviewed articles.

Paul Markovich (North Dakota & University 1989) is President and CEO of Blue Shield of California, a \$20 billion not-for-profit health insurance company serving over four million Californians. He also serves on multiple health insurance industry Boards and is currently the Board Chair for the Blue Cross Blue Shield Association nationally. He is passionately committed to creating a US health care system that is 'worthy of our family and friends and sustainably affordable' and is focused on bringing health care into the digital age so that we can fully utilise the latest technology to achieve that goal. His wife, Lisa, is an entrepreneur and they have two children, a son who just started college and a daughter in high school.



Brian Rolfes (Prairies & Wadham 1989) on left, above, is the Partner lead for recruiting globally at McKinsey; he is also a diversity leader, having founded and led McKinsey's LGBTQ+ group since 1995. Hired out of Cambridge, Brian was a human rights academic wannabe; he is called to the bars of Ontario and Saskatchewan. Brian is past Chair of the Metropolitan Community Church of Toronto, one of the successful litigants for equal marriage in Canada. He currently is the Ontario Rhodes Scholarship Selection Committee Secretary, and sits on the Stratford Shakespearean Theatre Festival Board. Brian lives in Toronto with his husband Brad Berg; they were among the first gay married couples in Canada. In 2018, Brian was #17 on the Financial Times' global 'OUTstanding LGBTQ+ Role Models' list.

Barry Uphoff (Nebraska & Lady Margaret Hall 1989) is the Managing Partner and Founder of Martis Capital and Partner at Capricorn Investment Group. Barry lives in the San Francisco Bay Area and enjoys spending time outdoors in both the Lake Tahoe area and Nebraska. He and his wife, Linda, have been happily married since meeting at the University of Chicago in 1991 and have three sons – Drew, Peyton and Trystan.

Kate Vinot née Bird (Australia-at-Large & Balliol 1989) has always sought out ways to make a difference to the sustainability of the planet and our communities. An MSc in Economics for Development at Oxford after a Bachelor of Civil Engineering and two years working as an environmental engineer gave Kate experience in the Triple Bottom Line before the term was coined. She has worked in climate change since her Oxford research into the uptake of solar energy, as a consultant and C-suite Executive in strategy and sustainability. Her current roles include Chair of Zoos Victoria, Non-Executive Director of Parks Victoria and General Manager, Energy and Resources at the Australian Bureau of Meteorology. She has a French husband, Blaise, and four adult children.

1999

Mira Debs (Iowa & Magdalen 1999) continues her work as the Executive Director of Yale's Education Studies programme. Her book *Diverse Families, Desirable Schools: Public Montessori in the Era of School Choice* (Harvard Education Press, 2019) came out in April. She looks forward to seeing Oxford friends each year at a small Northeast US family-friendly summer reunion, now in its 7th year. Please email her miradebs@gmail.com if you would like to be added to the friends' reunion mailing list.

Sophie Dumont (Québec & Merton 1999) After leaving Oxford, Sophie did her PhD work in Biophysics at the University of California, Berkeley, working on the mechanics of individual biomolecules. She was then a postdoctoral fellow at Harvard working on the biophysics of cell division. She is now a professor at the University of California, San Francisco, working on the self-organization and mechanics of cell division's machines. She loves research, teaching and being a mentor. She lives in San Francisco with her husband Manu Prakash, another scientist, and their two-year-old twin girls Maya and Mira. They love traveling to places near and far.

Jon Finer (Vermont & Balliol 1999) spent five years after Oxford as a journalist in Asia and the Middle East, mostly covering conflicts for *The Washington Post*. He returned to the US for law school at Yale, and then joined the foreign policy team at the Obama White House. He later served at the State Department, as Chief of Staff to Secretary Kerry and Director of Policy Planning. Since January 2017, he has spent time at the Institute for Advanced Study and Harvard's Institute of Politics, and is currently a Senior Fellow at the Council on Foreign Relations and a lecturer at Princeton's Woodrow Wilson School. He oversees political risk and public policy at Warburg Pincus, a global investment firm, and lives in Brooklyn.



Adeel Malik (Pakistan & St Peter's 1999) is a political economist who joined the Oxford Department of International Development as a University Research Lecturer after finishing his DPhil in Economics in 2004. He has published in several prominent journals and is recognised as an influential emerging scholar on Middle Eastern political economy. His co-edited volume, *Crony Capitalism in the Middle East: Business and Politics from Liberalization to the Arab Spring*, has been published by Oxford University Press in 2019. He is also preparing an introductory text on Islamic Finance to be published as part of OUP's Very Short Introductions series. Malik's research on Middle Eastern political economy has been featured on CNN and in the *Financial Times*, the *New York Times*, *Project Syndicate*, and *Foreign Affairs*. He is married to Hazar Saheon and enjoys travelling, cooking and reading with her.



Robert McGill (Ontario & Wadham 1999) is the Director of the Creative Writing MA program at the University of Toronto. He has published two novels, *The Mysteries* and *Once We Had a Country*. His most recent book, *War Is Here: The Vietnam War and Canadian Literature*, examines the war's impact on Canadian identity. In 2018, he won the Robert Kroetsch Teaching Award for curricular innovations promoting the study of 'literary citizenship': that is, the work of developing and supporting literary communities and culture.

Manuel-Julian R. (MJR) Montoya (New Mexico & University 1999) After working on continued graduate schooling at NYU and Emory University, and work as a policy analyst for the United States Senate, Manuel returned to Albuquerque to become a professor at the UNM's Anderson School of Management. He has since advanced to the rank of Associate Professor with tenure, focusing his research on the convergence of planetary culture, global political economy, and management strategy. He is working on a book based on his theory of 'global legibility' and he has also written a collection of poetry entitled *The Promethean Clock*. For the past 12 years, he has practiced as an amateur watchmaker and he and his partner, Ronda, enjoy time with their two shelter puppies, Matilde and Tito.

Martin Nel (Paul Roos Gymnasium, Stellenbosch & Brasenose 1999) is currently launching his own firm serving Retail Banking clients in Canada, and is working on a book set against the backdrop of the Financial Crisis of 2008. Since finishing in Oxford, Martin spent seven years in Paris, France working for McKinsey & Co and a decade in Canada working for the Bank of Montreal, most recently as Head of Retail Banking. One of his favourite projects at BMO was launching a venture with the Canadian Defence Community to improve banking services and financial literacy for Canadian soldiers. Martin continues to love climbing, running, rowing and hiking – these days with his children Sasha (14) and Liliana (11) as well as his partner Susan, a psychotherapist.

Dilip Ninan (Prairies & Magdalen 1999) is an Associate Professor of Philosophy at Tufts University, where he teaches the philosophy of language, mathematical logic, and theoretical linguistics. He publishes regularly in these and related fields, and recently became an Editor-in-Chief of the journal *Linguistics and Philosophy*. After completing the BPhil in Philosophy and the MSc in Economic and Social History at Oxford, he did his PhD in philosophy at MIT. He is married to Gillian Sinnott, a fellow Magdalen College alum and a lawyer who currently teaches on the Writing Programme at Harvard College. They live in the Boston area with their two children, Eliza (five) and Thomas (three).

Tom Sebastian (India & St Peter's 1999) spent seven years after Oxford working at the Advisory Centre on WTO Law in Geneva litigating WTO disputes for developing countries. He then moved to London and currently works as a barrister at Monckton Chambers. He has a varied practice which ranges from inter-state cases about national security to standard commercial disputes about the quality of coal shipments. A good chunk of his time recently has been devoted to advising the UK government on Brexit (and look at how well that is going). He also teaches international economic law at the LSE where he is a visiting professor. He goes to India as often as possible and lives in north London with his wife Meghna.



Romi Fuller Sigsworth (Zimbabwe & St Hilda's 1999) returned to South Africa after completing a final year at Oxford in 2005, where she joined the Centre for the Study of Violence and Reconciliation as a researcher in the Gender-based Violence Programme. In 2011, she moved to the pan-African Institute for Security Studies (ISS) as the Editor of the peer-reviewed *African Security Review* and later transitioned into the position of Gender Specialist. With a permanent move to the United States in 2016, Romi has become a (remote) research consultant to the Transnational Threats and International Crimes Division of the ISS. Romi and Philip have two children, Ethan and Gabbi, and have recently taken up triathlons in an attempt to defy their age.

2009

Jess Auerbach (South-Africa-at-Large & St Antony's 2009) completed a PhD in social anthropology at Stanford, where she did extensive fieldwork in Angola and Brazil. The book from this project, *From Water to Wine: Becoming Middle Class in Angola*, will be published later this year with the University of Toronto Press. She then moved to Mauritius where she pioneered toolkits for decolonial social science curricula, and has begun work on a new project on peace in the Indian Ocean. She is also currently undertaking the Dharmapāla Training as a mindfulness practitioner being co-offered by Harry/Kittisaro Weinberg (Tennessee & Worcester 1974) alongside fellow 2009 Scholar Noelle Lopez. She lives with her partner, Aarvin Jahajeeh, in Hermitage, Mauritius.



Lucas Brown (Virginia & Magdalen 2009) recently left the White House after two and a half years. Lucas was the Chief Technology Officer of the largest payment reform effort in Medicare history, building a software platform to award about \$180 billion in financial incentives for higher quality care at more efficient costs. After spending five months backpacking from Mexico to Canada on the Continental Divide Trail, Lucas is now getting back to his passion in clean energy, and is joining a small Google-backed startup in San Francisco that uses machine learning to make renewable energy more profitable.

Brian Coulter (Keble & Ontario 2009) After completing his DPhil in Financial Economics with a focus on banking, Brian moved back home to Toronto in 2014 to rejoin the Canada Pension Plan Investment Board. He married his fellow Keblite Bronnie Johnston at a ceremony in the Bodleian Library in 2016, and the two of them welcomed daughter Eleanor in 2017. Brian, Bronnie, and Eleanor now live in London, England, where Brian continues to work for the CPP Investment Board and focuses on structured credit and related investment opportunities in European financial markets.



Anthea Lindquist (Victoria & Green Templeton 2009) returned to Melbourne, Australia in 2012 to continue specialist training in Obstetrics and Gynaecology whilst concurrently completing her DPhil in Perinatal Epidemiology. She finished her specialist training in 2017 after another stint overseas in Lille, France where both she and her husband (a vascular surgeon) undertook clinical fellowships and soaked up the French way of life. Anthea and Charlie have since had two daughters – Florence (two) and Genevieve (nine months) – and continue to do their best juggling parenthood and busy careers: the challenges definitely outweighed by the joys! Anthea is working as a consultant obstetrician and also holds an academic appointment through the University of Melbourne. Her current research focuses on the association between obstetric risk factors and childhood educational outcomes.



Benedict Coxon (South Australia & Magdalen 2009) has returned to Oxford as a Fellow in Law at Hertford College, where he teaches Constitutional Law and Administrative Law. Following his DPhil, he spent two years in legal practice at an international law firm in London, before returning to academia. Benedict has held visiting appointments in London, Perth (Western Australia)

and Hong Kong. He maintains links to Australia through an Honorary Research Fellowship at The University of Western Australia and as many trips as he can manage – especially during the Australian summer.



Peter J. Gill (Alberta & Magdalen 2009) After finishing his DPhil and MSc, he returned to the University of Alberta for his final year of medical school before moving to Toronto for paediatric residency training at the Hospital for Sick Children (2014-2018). Peter is now a Staff Physician at SickKids and Assistant Professor in Paediatrics at the University of Toronto where his research focuses

on improving the care and outcomes for hospitalised children. He remains connected with Oxford, returning annually for a conference as an Honorary Fellow of the Centre for Evidence-Based Medicine. Peter and his wife Jayme McColl are excited to be welcoming a daughter to their family this year.



Gregory E. Lippiatt (Virginia & Hertford 2009) is currently a Leverhulme Early Career Fellow at the University of East Anglia, where he is studying French baronial government around the Mediterranean in the thirteenth century, and an external associate member of the Centre d'Études Supérieures de Civilisation Médiévale at the Université de Poitiers. In 2017, he published his book on Simon of

Montfort with OUP as part of the Oxford Historical Monographs series; he was elected a Fellow of the Royal Historical Society the same year. He and his wife, Sophie, a writer, live in Norwich with their two daughters, Evangeline and Virginia. They still visit Oxford frequently and are always very glad to catch up with Scholars and other friends from his time there.

Josh Lospinoso (New York & Magdalen 2009) recently separated from the United States Army, where he served for 15 years across several branches including the infantry, military intelligence, and cyber. RedOwl Analytics, a company he co-founded, was acquired by Forcepoint in 2017. He recently finished drafting his first book, *C++ Crash Course* published by No Starch Press, and is involved with several cybersecurity startups in the Washington DC area. His wife Danielle and he are expecting their third child in August 2019.

Scott Moore (Kentucky & Merton 2009) traded some rapidly-accumulating frequent traveller points for greater sanity by leaving the World Bank for a new position as Director of the Penn Global China Programme at the University of Pennsylvania in Philadelphia, where his wife Marisa is Head of a private girls' school. He continues to focus on environmental issues on one hand and China on the other, and his first book, on the subject of water conflict and thrillingly titled *Subnational Hydropolitics*, was published last year by Oxford University Press. He would delight in hosting fellow Scholars passing through, or residing in, Philadelphia.

Timothy Nunan (New Jersey & Corpus Christi 2009) After returning to the United States for a post-doctoral fellowship at the Harvard Academy for International and Area Studies, Timothy moved to Berlin to begin a position as an Assistant Professor at the Free University of Berlin. The book resulting from his DPhil on the Cold War in Afghanistan was published with Cambridge University Press in 2016, and at present he is writing a new book on Islamism and the Cold War. Beyond journeys to various archives for his research, teaching students, and exploring the German capital, he enjoys serving as his year's Rhodes Class Secretary.



Nanjala Nyabola (Kenya & Harris Manchester 2009) is a writer and political analyst based in Nairobi, Kenya. After completing her JD at Harvard Law School (Class of 2014), she moved to Madagascar to work on humanitarian relief before returning to Kenya to write. Nanjala is the author of *Digital Democracy, Analogue Politics: How the Internet Era is Transforming Politics in Kenya* (Zed Books, 2018), a co-editor of *Where Women Are: Gender and the 2017 Kenyan Election*

(Twaweza Publications, 2018), and a contributor to numerous newspapers, magazines and edited collections. Nanjala also serves on the advisory boards of several non-profits including Amnesty International (Kenya), The Centre for Culture and Development in East Africa (Tanzania), and Asterisk Inc. (USA), which challenges stereotypical representations of Africa in the press.

Mallory (née Dwinall) (Washington & Brasenose 2009) and **Chase Palisch (Kentucky & Queen's 2009)** recently bought a house in the Bay Area. Chase is working as an emergency medicine resident at Highland, Oakland's County Hospital. Mallory continues on as the co-founder of Oxford Day Academy, a public charter high school that employs the Oxford tutorial method to develop underserved youth as critical thinkers and agents of social change. They live with their dog (Huckleberry), their cat (Spartacus), and the constant familial reminder that they're not getting any younger and should have kids already.

Abigail Seldin (Pennsylvania & St Antony's 2009) After Oxford, Abigail launched and successfully exited a social impact start-up in the edtech space. A Forbes 30 under 30, she founded an 80% female tech/design lab in DC for the acquirer and collaborated with the Obama Administration on data transparency issues in higher education. Abigail serves on the boards of the Hope Center at Temple University and AARS. She and Whitney Haring-Smith (Pennsylvania & St John's 2007) have been married for seven years. Abigail, Whitney and their two sons split their time between FL and DC, and welcome visitors.

Lik Hang Tsui (Hong Kong & Pembroke 2009) continues his research and teaching on Chinese history and the digital humanities. His DPhil thesis was awarded the 'Most Accessible and Captivating Work for the Non-Specialist Reader' accolade by the International Convention of Asia Scholars and he was also elected as a Fellow of the Royal Asiatic Society of Great Britain and Ireland. After his DPhil and lectureship at Oxford, he became a Postdoctoral Fellow at Harvard with the China Biographical Database, a digital project to harness big historical data for studying China's past. He has also spent time at Peking University and the Max Planck Institute for the History of Science as a visiting scholar. Lik Hang has now moved back to Hong Kong to teach.

Amol Verma (Maritimes & St Hilda's 2009) works in Toronto as a physician and scientist at St Michael's Hospital and the University of Toronto, where he is an Assistant Professor. His clinical work is in general internal medicine and his research is focused on improving the quality of hospital care by drawing insights from electronic clinical data. In 2018 he was named Ontario's inaugural Provincial Clinical Lead for Quality in General Internal Medicine and he is working with a team of clinicians to develop a provincial quality network. He and his wife, Reema, have their hands full with their six-month old, Nyra, who already knows how to outsmart her parents and does not like mashed peas.

Shad White (Mississippi & St John's 2009) was appointed the 42nd State Auditor of Mississippi in July 2018. He is currently running for a full four-year term in that office in a November 2019 election. Mississippi's state auditor is responsible for investigating embezzlement of public funds and misappropriation. He and his wife, Rina, are also expecting their first child, a daughter, this year.

Images from the last year



Chinese Scholars at Welcome Day



First Year Retreat 2019 – Rhodes Alumni Moderators



Thanksgiving Dinner 2018



Coming Up Dinner 2018



Class of 1968 at Alumni Weekend



Canadian Scholars at Welcome Day



Rhodes Disability Project Workshop 2019



Coming Up Dinner 2018



UAE Scholars at Welcome Day



Welcome Day 2018



DPhil Advice by Rhodes Alumni February 2019



Rhodes Healthcare Forum 2019 Committee



West African Rhodes Scholars at Welcome Day 2018



Scholar Christmas Dinner 2018



Spring Festival 2019



Schwarzman-Rhodes Leadership Symposium October 2018



Second Year Retreat 2018