

THE
STUFF
OF
LIFE

TED GLOBAL 2011

TEDGLOBAL 2011 **The Stuff of Life**

In July 2011 a small group from Arup participated in a variety of activities with the TED community. Enclosed are some thoughts on how Arup could develop this relationship going forward and some observations on the event in 2011.

If you are currently involved with TED in your local community or are interested in becoming part of the Arup TED community then please get in touch.

Arup Foresight + Innovation
July 2011

What is TED?

TED (Technology, Entertainment, Design) is a global not-for-profit organisation which aims to bring together inspiring, energetic, extremely smart and renowned individuals from different disciplines – art, business, politics, science and much more – to share "ideas worth spreading".

Started as a four-day conference in California 25 years ago, TED has grown to disseminate and support world-changing ideas with multiple programmes and initiatives. The annual conference invites the world's leading thinkers and doers to speak for 18 minutes. Their talks are then made available, free, at TED.com. Speakers have included Bill Gates, Al Gore, Jane Goodall, Sir Richard Branson, Nandan Nilekani, Philippe Starck, Ngozi Okonjo-Iweala and former UK Prime Minister Gordon Brown.

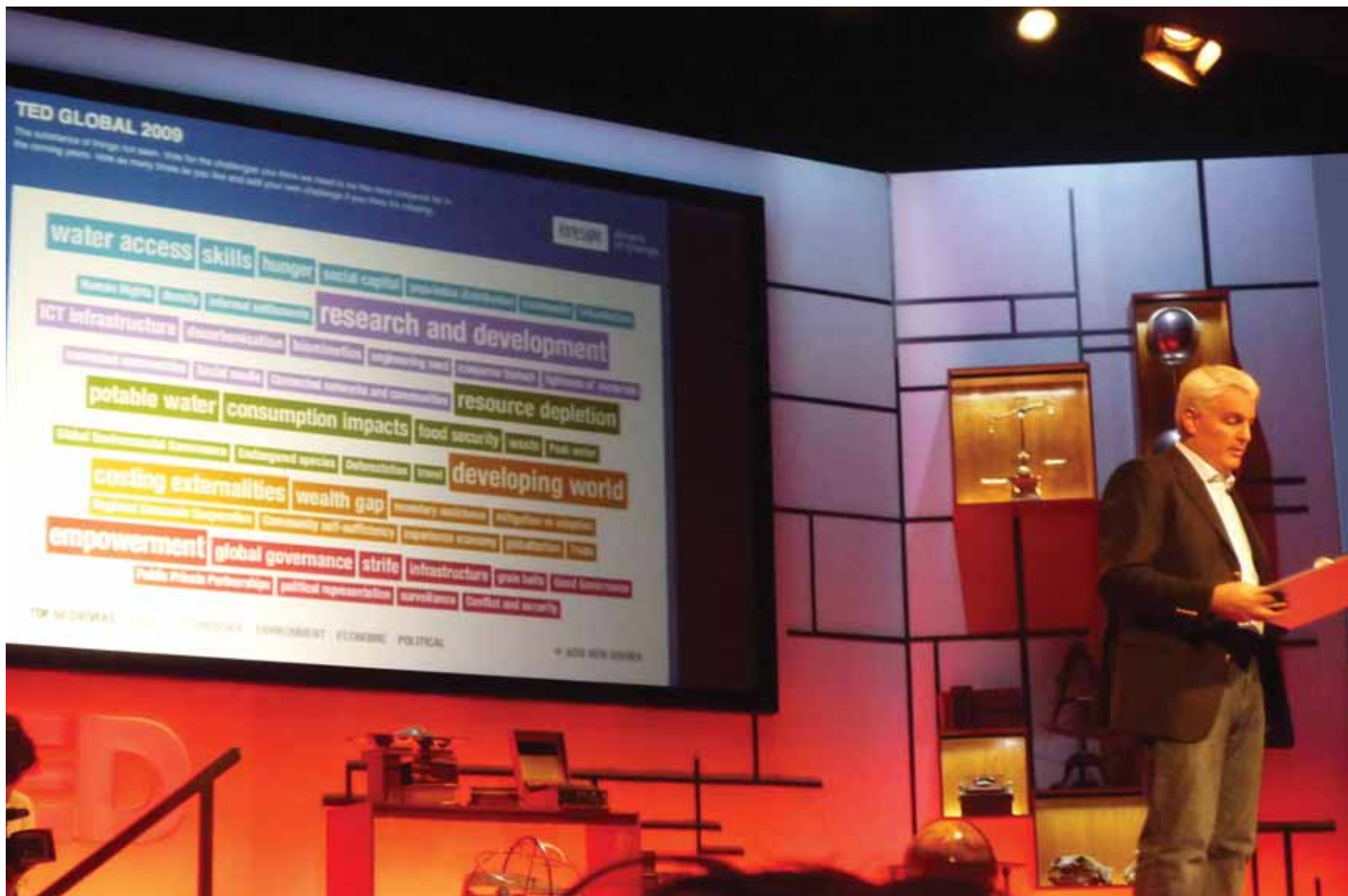
TED's media initiatives include TED.com, where new talks are posted daily, and the Open Translation Project, which provides subtitles and interactive transcripts as well as the ability for any talk to be translated by volunteers worldwide. The annual TED Prize provides three exceptional individuals with a wish to change the world with the opportunity to put their wishes into action. TEDx offers individuals or groups a way to host local, self-organized events around the world, and the TED Fellows program, helps world-changing innovators from around the globe to become part of the TED community and, with its help, amplify the impact of their remarkable projects and activities.

The screenshot shows the TED website homepage. At the top right, there are links for "Sign In" and "Register". The main header features the TED logo and the tagline "Ideas worth spreading". Below this is a navigation menu with categories: Themes, Speakers, Talks, and Translations. To the right of the menu are links for TED Conferences, TED Conversations (marked as "new"), About TED, TEDx Events, TED Community, TED Blog, TED Prize, and TED Initiatives. A search bar is located at the bottom right of the navigation area.

The main content area is titled "Riveting talks by remarkable people, free to the world" and includes a link to "Try our new platform for sharing ideas: TED Conversations". Below this is a "Resize by:" section with a list of filters: Newest releases, Date filmed, Most viewed, Most emailed this week, Most comments this week, Rated jaw-dropping, ... persuasive, ... courageous, ... ingenious, ... fascinating, ... inspiring, ... beautiful, ... funny, and ... informative. There is also a "Show talks related to:" section with filters for All, Technology, Entertainment, Design, Business, Science, and Global issues. A "View all tags" link is at the bottom of the filters.

The main content area displays a grid of featured talks, each with a thumbnail image and a title: Paul Bloom: The origins of pleasure; Kevin Slavin: How algorithms shape our...; Geoffrey West: The surprising math of cities and corporations; Thandle Newton: Embracing otherness, ...; Nadia Al-Sakkaf: See Yemen through my...; Mikko Hypponen: Fighting viruses; Tim Harford: Trial, error and the God; Maajid Nawaz: A global culture to fight...; Rebecca MacKinnon: Let's take back the...; Nina Tandon: Caring for engineered tissue; Simon Lewis: Don't take consciousness; Jonathan Drori: The beautiful tricks of...; Rory Stewart: Time to end the war in Afghanistan; and Nathan Myhrvold: Cooking as never.

Follow TED on Twitter (twitter.com/TEDTalks) or on Facebook (facebook.com/TED)



Output from Drivers of Change workshop at TEDGlobal 2009

Why **Arup** gets involved?

TED is a well-recognized, global brand associated with cutting-edge thinking, intelligent design and innovation. The TED events attract many influential thinkers and is seen as a forum for discussion and exchange on topical issues. It has an online and physical following of millions of people worldwide. As such, the association we have built with TED through our partnership reinforces Arup's own brand as an innovative, multi-disciplinary design consultancy and as a responsible global citizen; Arup makes a concerted effort to work with reputable organizations such as WEF and the C40 to tackle major global challenges. Our participation in TED reinforces our commitment to working with inspiring people and our aspiration to shape a better world through design.

This year's TEDGlobal event brought 70 different nationalities to Edinburgh, Scotland. The four day event explored "new ideas, new science, new technology, new social and political thinking, new art and a new understanding of who we are" and was themed "The Stuff of Life".

<http://www.ted.com/talks?event=tg2011>

The following report captures some of the highlights we identified at this year's Stuff of Life.

Reports from the field



The three TED Alumni this year were
Duncan Wilson (Foresight + Innovation Leader UKMEA region, London)
Francesca Birks (Americas Foresight Leader & Sr. Consultant, New York)
Stuart Smith (Director, Building Engineering London D, London)



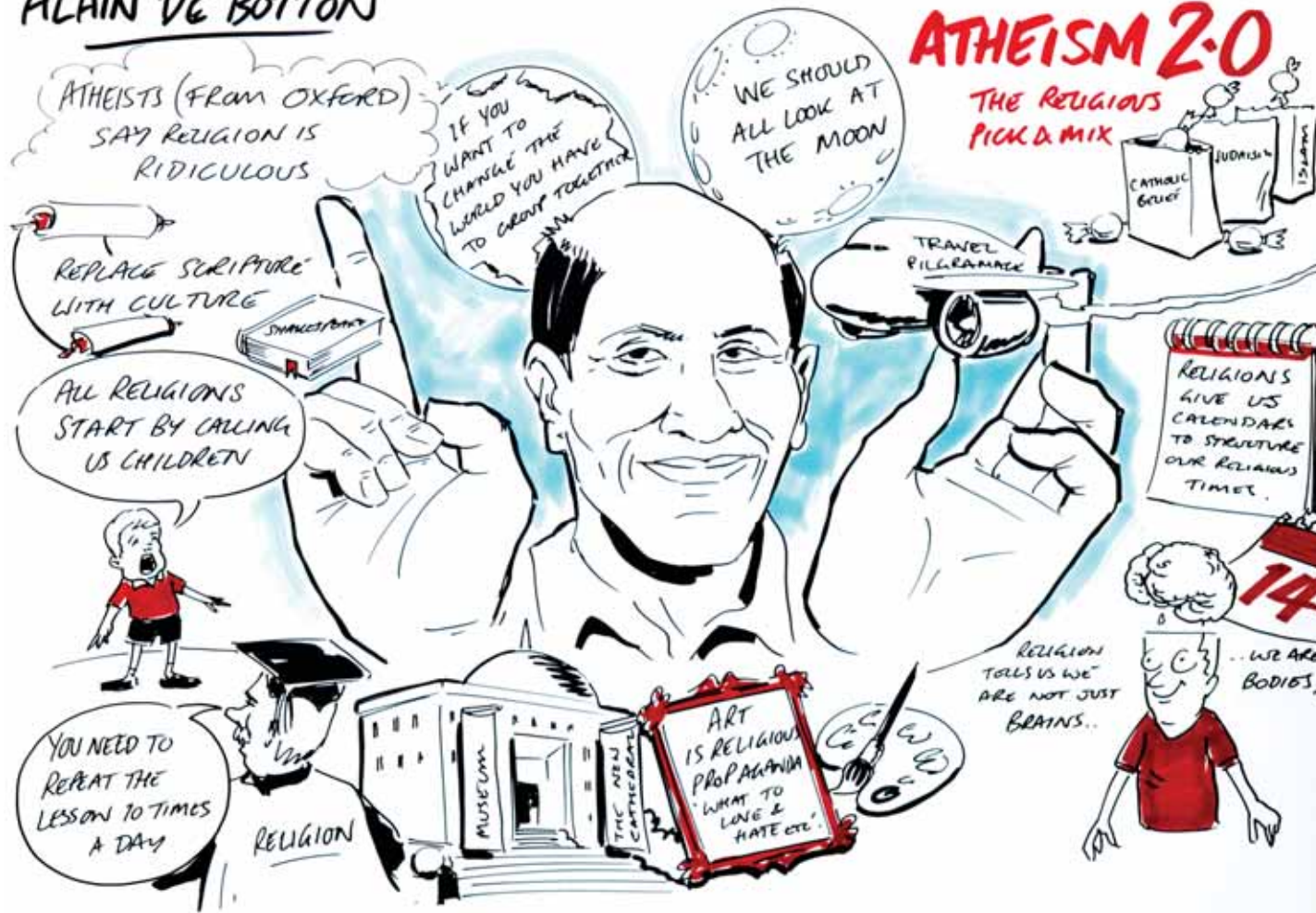
TED (technology, entertainment, design) features prolific intelligent individuals from a diverse set of industries which include economists, psychologists, biologists, technologists, politicians, historians and a few artists to keep the audience's brains from overheating. This year's theme was "The Stuff of Life" and what really impressed me was how Chris Andersen and his team curated the programme for the full four days so that there were life related themes for each of the daily 2 to 4 panels. Their curation is a clever way of ensuring that the talks travel and so do we as their listeners without ever physically having to leave the auditorium. My favorite talks included Tim Harford, the undercover economist, philosopher Alain de Botton, and Brazilian filmmaker Julia Bacha, because of their unique and inspiring ways of encouraging us to look beyond the seductive and somewhat myopic entrapments of our mental models in order to embrace what can be learned through humility, randomness, and attentive listening. Here is my summary of those talks.

Tim Harford is an economist who studies complex systems and through his research he has found that the most successful complex systems are arrived at through trial and error. Unfortunately, we have a tendency to accept and believe the infallibility of our solutions and ideas, which Harford refers to as the God Complex. We retreat into this God Complex because it's comforting to believe that we understand the complexity of the world and that through this understanding we can endeavor to solve complex problems.

What Harford goes on to show is how impossible it would be for any one of us to be able to fully conceive, let alone understand, the complexity of our world. He uses a consumer product project developed by Cesar Hidalgo which tracks the interconnections between 5000 products (Wal-Mart sells 100,000) to show the impossibility and naivety of the God Complex. And ultimately he goes on to demonstrate how the best complex systems, such as children, are born through trial and error.



ALAIN DE BOTTON



Philosopher [Alain de Botton's](#) talk inspired me to buy a book by Sara Maitland on the pleasures and power of silence. In his talk the author makes the case for a new kind of atheism, Atheism 2.0, that spends less time on the science of disputing the existence of God and more time developing some life-affirming rituals. The starting principle of Atheism 2.0 is the assumption that there is no God, but just as I was starting to slip into a self-satisfied crouch in my seat he went on to chastize the audience for too readily dismissing religion entirely. He goes on to explain that you don't need to believe in the doctrines, but what about the aspirations that religion imparts on its believers, such as the pursuit of continued growth and the importance of being better, nobler human beings. Education helps us with these pursuits up to a certain point – graduation – but it somewhat falsely presumes that we are rational beings who won't need any help once we exit the ivy gates.

But the truth is we all need guidance at different points in our lives and if education is no longer there to teach us, and if we are not religious by nature, we atheists need another source for invaluable life coaching. To this point Alain de Botton makes the argument that there is a lot that can be learned from the richness of religion and that atheism should not cut itself off from a time-proven source and disseminator of ideas and meaning.

Brazilian filmmaker [Julia Bacha](#) surprised me with the simplicity of her message. As a documentary filmmaker she has spent a considerable amount of time in the Middle East tracking the relationships between Israel and Palestine. And yet rather than focus her work on the conflict, she has turned her lens on the peace movement which has received so little attention in international media. Her message was simple: the power of attention is exponential. We, in the West, have trained our attention on suicide bombing and the violence between Israel and Palestine. Julia Bacha suggests that if we could divert our focus and simply pay attention to the peace movements, the power of our attention would have a profound impact on the peace movement, and hopefully a positive consequence on the lives of the affected people.

What inspired me about all of these talks was the power that we wield as individuals and as a society to shape our circumstances in an incredible way if we are willing to be humble, listen and accept the randomness of life.



[James Duncan Davidson/TED]

Niall Ferguson - historian

"Why have Western Nations surpassed Eastern Counterparts since 1500s"

The 6 killer apps:



It's not Geography or National Character...



... It's the institutions...



The Re-Convergence

Average USA citizen
was 20x richer than
Chinese Man
Now he is 5x...

in 2016 China will overtake

I found [Niall Ferguson's](#) introduction to the "great divergence" between east and west economic development fascinating. The 'apps' listed in the image to the left were an interesting way of looking at the 'ideas and institutions' that provide the vehicles for our societal development. He also raised some interesting questions: are we deleting some of our apps? is the sequence in which we develop the apps important? Can China do without the "property rights" app? Why do I find this interesting? I like the idea of thinking about how ideas are stored, shared and passed between generations. This is particularly relevant in a growing organisation and raises interesting questions around size, structure and leadership.

Mikko Hypponen - Cybersecurity Expert.



Bank Fraud .com



- Things they track:
- Key loaders
 - Google Searches
 - Online Payments



On the Run...



TRACKING - ONLINE CRIMINAL TO ST PETERSBURG RUSSIA

HE ADVERTISED HIS CAR CRASH ON WEB !! AFTER I FOUND HIS CODE - SAME AS CAR REG !!



Webfraudster Movements

Putting the excellently geeky presentation skills to one side (he ran most his presentation from the command line and ended his show using an overhead projector), this was a funny and scary presentation. Mikko Hypponen walked onto the stage and showed us code from the boot sector of a 5 1/4 inch floppy that contained one of the first computer viruses - 'Brain-A'. In that boot sector he showed us the names and address of the hackers - Basit & Amjit - and then showed a photo of himself standing outside that address a couple of years ago, introducing himself to Basit & Amjit, the brothers who still lived there. Why do I find this interesting? Viruses like STUXNET have come to my attention recently since they are starting to move into the world of PLC's and by implication will soon start to become a bigger issue in the world of Internet of Things. Mikko was championing the creation of an 'internetpol' to support the defence of our networks from largely criminally driven hackers who create viruses - another example of the need for agency beyond borders.



Maajid Nawaz was the first speaker who got my mind racing, thinking about the how the implications of what he was proposing might influence me. He spoke about the 'Age of Behaviour' and how transnational behaviours are influenced by ideas and narratives. Maajid grew up in Essex and as a teenager was recruited into the global Islamist party Hizb ut-Tahrir, rising into its leadership until being sentenced to 4 years in an Egyptian prison in his early 20's. He left prison feeling that Hizb ut-Tahrir was hijacking Islam for political purposes and in 2009 founded Khudi, a counter-extremism social movement working to promote a democratic culture in Pakistan.

What struck me about his talk was the leadership role he had created at young age based upon a new technology base for sharing ideas. His talk provides some interesting insight into the potential for creating bottom-up movements in an environment that thrives on cultural belief. Why do I find this interesting? I am curious to explore ways of building a new way of working within Arup focused on the organic development of the "new generation" in the firm. I suspect that a bottom-up, activist-based approach would work well in our culture.

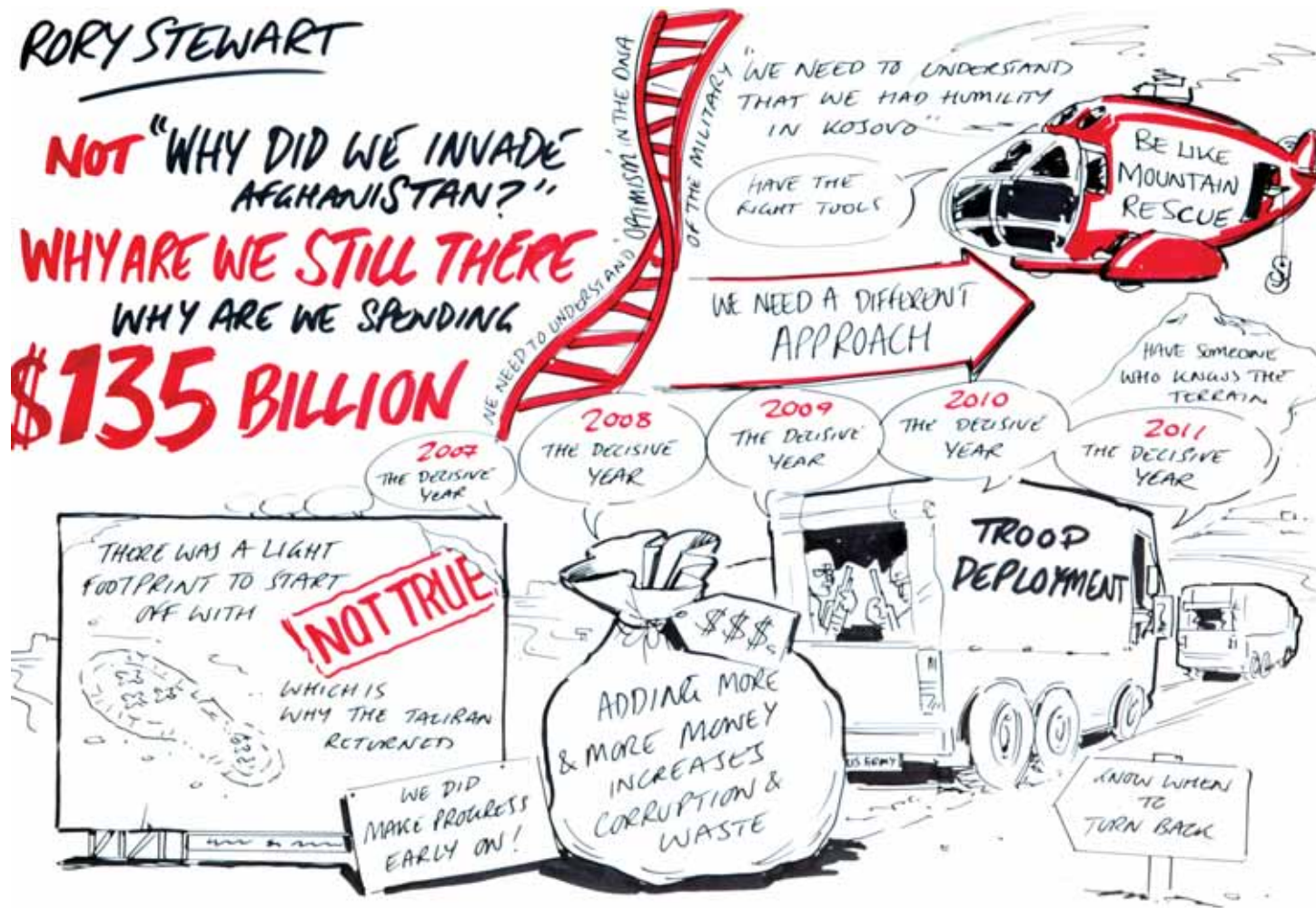
TODD KUIKEN



I loved this talk for the ingenuity that only someone with training as both Doctor and Engineer plus twenty years of hard earned experience could deliver. **Todd Kuiken** introduced a bionic arm created by 'stitching' nerve endings from an amputated arm into muscle tissue on the pectoral. This technology called targeted muscle reinnervation allows the brain to control the arm directly but also had the unexpected effect in some patients that not only can they move their new limb, they can also feel with it. Why do I find this interesting? I am intrigued by the combination of body and technology, and find the adaptability of the brain to 'fix' its understanding of the world in which it operates fascinating.

RORY STEWART

NOT "WHY DID WE INVADE AFGHANISTAN?"
WHY ARE WE STILL THERE
WHY ARE WE SPENDING
\$135 BILLION



This one was unexpected. I guess the label of 'conservative politician' made me jump to some conclusions. But [Rory Stewart's](#) talk about his experiences in Afghanistan were insightful, articulate and at the same time made me frustrated. I was intrigued by his experiences of the light touch (he walked across Afghanistan in 2001/2002) vs the role of international aid and (the very funny) '7 decisive years' by 7 different leaders. Why do I find this interesting? He spoke of a 'mountain rescue' approach to problem solving where experts need local context and knowledge, plus they can intelligently adapt to the environment when it changes. I am not sure if we give enough focus to the right person being in the 'right' job.

Other **speakers** that caught our attention

Justin Hall Tipping - Technology to drive the future energy neutral building.

<http://nanoholdings.com>

Geoffrey West - On bounded growth, sub-linear scaling and why do cities live but companies die?

<http://santafe.edu>

Kevin Slavin - On our new 'Algoworld', an increasing trend which sees various aspects of our lives being run algorithmically and with a complexity that we can no longer meaningfully understand.

<http://www.about.me/slavin>

Mark Pagel - On how language provided the mechanism to allow cooperation in cooperative societies.

<http://reading.ac.uk/biologicalsciences>

Joe Castillo - Amazing sand artist

Ben Goldacre - "Bad Science" author, really funny, slightly alarming, frenetic talk. Definitely worth 18 minutes of your life.

<http://badscience.net>

Daniel Wolpert - On the brain, movement, sensory processing and tickling robots.

<http://wolpertlab.com>

Nadia al Sakkaf - When she took over as Chief Editor in 2005 she sacked half of the senior male staff and replaced them with 'women and younger men'. Diversity in the workplace, leadership and a very brave woman.

<http://yementimes.com>

Bunker Roy - Inspiring talk about making your own destiny and two of my favourite quotes: 'a dignity of labour' and 'these [hand] puppets are made of recycled WorldBank reports.

<http://barefootcollege.org>

Richard Wilkinson - Social epidemiologist, for arguing that more equal societies are healthier, happier societies, and that if we want to live the American dream, we should move to Denmark.

Alison Gopnik - On kids' spheres of exploration rather than focus of attention (interesting ideas on play and innovation here).

<http://alisongopnick.com>

Michael Biddle - MBA Polymers, plastic recycling, waste and over-ground mining.

Harald Haas - Edinburgh University, wireless communications via LED light using orthogonal frequency division multiplexing. Geniunely impressive live demo that falters to show that it is real.

Markus Fischer - Smartbird is a project to create an artificial bird capable of flying like a real bird. Inspired by the herring gull and inspiring factory automation products for Festo, this creature is awesome!

http://www.ted.com/talks/a_robot_that_flies_like_a_bird.html

Pavan Sukhdev - Nature accountant, for trying to end the economic invisibility of nature, for advocating a valuation of biodiversity and for pointing out our inability to perceive differences between private profits and public losses.



ARUP foresight

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