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Seven myths that drive the digital economy

Professorial lecture by Andrew Chitty

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INTRODUCTION

I'd like to start on a personal note.

I was also going to take you back, back to 1994. Back in 1994 I used to produce TV programmes and one of the TV programmes I produced was Horizon. A good episode of Horizon would be watched by maybe three million people (those were the days!) and I'd think I'd made a real big impact on the audience if I got maybe four or five letters, one of those would be written in green ink and would be very worrying!

But then I met the team who had just transmitted the first episode of a magazine programme called The Net. At the end of the credits they had put up an email address – it was the first time that a television programme had had its own email address. The audience for The Net was only a million, nothing to shout about in those days. But when they returned to the office from the pub about 2 hours after transmission they had already received 600 emails and the amazing thing about that is not only were there 600 emails where as we only used to get four or five letters but they even got their own email address wrong. They forgot to put in the @ symbol, and even so 600 people had contacted them and wanted to take part!

And that struck me as really extraordinary because for people watching that programme, very early adopters of online, obviously wanted to get involved and it seemed to me that this was the point that it was time to jump ship, because the internet was obviously going to have a real big change on the relationship between TV producers and their audience so I decided then I'd join John Wyver and his team. I had one more job to do at the BBC which was to make the BBC 60th anniversary film. Back in 1996 it was transmitted and my parting shot from the BBC was to call this film 'Television is dead'. The then controller Mark Thompson, of course now Director General of the BBC, decided at the last minute to put a question mark at the end of it - which made it a completely stupid title!. And that's where I've been ever since working in the space between broadcasting media and network media. As of today I'm as excited by the prospect of interactive content and interactive services as I ever have been.

I believe this is the defining medium of the early 21st century just as Television was for the latter half of the C20th. I think it will create a more empowered, fulfilled and more connected society than one dominated by television. And for the UK this sector is a key part of our future prosperity because we're very very good at this stuff, we need to get better. It's also really important that the other thing we were supposed to be really really good at which is financial services has had the shine knocked off it recently.

So when Paul Inman approached me with the idea of giving this lecture I was delighted to accept. Not only because of Falmouth's deserved reputation for producing terrifically talented graduates, but because something like this is a chance to take stock away from the day-to-day issues of running a business.

At the time I'd also just come off the back of nine months' working in government on the Digital Britain Report. It's the first time I'd ever actually worked with policy and seen how policy is made and some of the things that had always nagged me and worried me about the digital economy had become a real concern during that time.

We all know this stuff is interesting. We all know this stuff is cool. We all know that sometimes, some of this stuff actually works. But when it comes to deciding what government should do, policy seemed dangerously close to being based on the same paperback books you or I can pick up in any airport bookshop. I'm sure you know the ones I'm thinking of.

It seems that though it's been around for 40 years and its mass consumption channel, the Web for 15, within government there's a gap in government's knowledge that is almost the size and shape of the internet. And just like the internet that gap is growing all the time.

Now this makes the government very vulnerable to people who assert things with absolute confidence, who use very simple graphs and very catchy slogans – and that's something the digerati and the management consultants who resell their thoughts for large amounts of money are very good at this very catchy very simple sloganising.

The nagging question I had is – what's the evidence that any of these assertions are true? Pundit X might believe that Facespace is reshaping the world of entertainment. But what makes it true, what evidence is there or is it just a belief? I think there's a growing body of beliefs around this stuff and it's time to step back and look and whether these are true and take a contrarian view. Because I believe enthusiastic scepticism is more helpful to us than digital dogma.

So I want to take you on a tour of Seven myths that shape how we think about the digital world. Seven myths that for good or bad power the digital economy.

MYTH 1: 'The Internet was designed by the US Military to survive a nuclear war'

Myth number one is fairly easily disposed of. You've all heard it. It goes something like this:

"The internet started as a US military project to survive a nuclear war. That's why the network structure has multiple redundant nodes so that information can find the most efficient route from one place to another."

In some ways this is the founding myth of the internet, that its origins gave the network a sort of mystical power to 'route around damage' an almost organic power to grow, adapt and evolve. It's an unstoppable force – an idea you'll find used to explain everything from the impossibility of defeating illegal file sharers to the idea that in the end in a battle about security 'the hackers will always win'.

Well the network architecture is undoubtedly resilient and flexible. But it's got nothing to do with being designed to survive some kind of Terminator style Judgement Day. It's got far less to do with the military than you might think and a lot more to do with doing things cheaply.

Part of the confusion is that ARPANET, the first network that evolved into the internet, was funded by the US department of Defence's Advance Research Projects Agency. Which sounds very spooky and rather Dr Strangelove - US department of Defence = military project. But in the late 60s ARPA was really interested in funding research into technology

well beyond the needs of the guys in uniform. One of these areas was whether connecting the powerful (but increasingly expensive) computers at some of the US's major universities into a network would mean they could be used more efficiently and accessed by a wider group of scientists and technologists. To do this cheaply meant creating a network where data could be shifted rapidly and reliably between one machine and any of the others over long distances without building expensive hubs and which could cope with some of the unreliability of the technology of the time. The solution was packet switching, a concept pioneered by Donald Davies at the UK's National Physical Laboratory in Teddington. Packet switching splits up information into blocks and shunts them around the network in the most efficient way at that time to be reassembled at the destination computer.

ARPANET was designed by engineers, for Universities, for reliability, cheapness and efficiency, with the crucial technology invented in the UK not in an underground bunker in Arizona. Part of the confusion may have come from the fact that this guy, Paul Baran, had previously written a RAND study suggesting that the US military needed its own telephone network that could survive a nuclear war. When BARAN pitched for the job to build ARPANET he realised that pointing out the network might survive a nuclear exchange might look good on the grant application since the money was coming from the Department of Defence.

So despite appearances, the internet wasn't designed by Dr Strangelove to survive a nuclear war; it was designed to join up a bunch of university computers in an efficient way; the distributed network was designed to make it cheap and reliable and packet switching was the key technological advance that made it work and the internet possible. The nuclear war thing was just an argument to put in on a funding application. A lesson I think we can all learn.

MYTH 2: We live in a time of unparalleled technological development and its getting faster all the time.

So let's turn to our second myth. And in a way this is the mother of all myths. So I'll spend a bit of time on it.

Simply put this is the idea that "we live in a time of unparalleled technological development and that this development is getting faster all the time".

This idea that we have to ride the crest of a technological wave that's getting faster all the time is part of the soundtrack to modern lives. As are claims for the huge changes that digital technologies are going to usher in.

Here's Lord Stephen Carter in the forward to the governments otherwise sober Digital Britain Report.

SLIDE: "On 26 August 1768, when Captain James Cook set sail for Australia, it took 2 years and 320 days before he returned to describe what he found there. Yesterday, on 15 June 2009, 20 hours of new content were posted on YouTube every minute, 494 exabytes of information were transferred seamlessly across the globe, over 2.6 billion mobile minutes

were exchanged across Europe, and millions of enquiries were made using a Google algorithm" …….. "the volume of digital content will increase 10x to 100x over the next 3 to 5 years … we are on the verge of a 'big bang' in the telecommunications sector"

Impressive big numbers, a total break with the past, a sense of compound advances. You'll find a version of this narrative in pretty much every technology story in the media. Now it may seem like common sense that in the digital age technology is advancing more rapidly than ever, but what's the actual evidence?

The first point of call is the idea that technologies have Adoption Curves. Now I'll apologise here in advance – there are going to be quite a few curves and graphs in this presentation – simple graphs and patterns have a big impact on the way we think. So what do these adoption curves show us?

Well here's the basic curve. Whenever some new device or technology becomes available its first picked up by a few innovators, then by the early adopters so beloved of marketing folk, then the early and late majorities and then finally by those irritating laggards who won't get with the programme.

If you add up the people over time you get a sigmoid curve like this starting with nobody using the tech, rising slowly, accelerating as it becomes mainstream with growth tapering off as it approaches 100% adoption.

And here's how that looks for the adoption of the 20th Century's most important audiovisual technologies – Radio, TV, VCRs and CD's in the US. They all follow a similar pattern. And the uptake of the internet and broadband have similar shaped curves.

But does that tell us technology is changing faster than ever? It certainly shows that people in the year 2000 had access to more technologies than in the 1930s (I think we all knew that) but to say technology is changing faster either there have to be more new technologies of equal importance in each period or the curves have to get steeper.

Here's a graphic looking at the adoption of a whole range of technologies from the car to the internet. The telephone took 50 years to reach 50% of homes, and another 50 to become ubiquitous; the mobile phone only 15 to go from a barely transportable brick to half the population having one. And the curves to the right do look a bit steeper – so you could take this as being evidence for things speeding up. That's certainly what the New York Times thought as you can see from the headline.

But even if we consume more things, or buy them faster does that mean the rate of technological change is faster in any fundamental way? And what does faster mean? Are the changes we're experiencing now more profound than those that have gone before?

Let's take a step back. The internet is 40 years and a few days old. If we believe that technological change now is faster than ever, then change in that 40 years must have been noticeably greater than in any other 40 years in history.

If we look back is that really true?

First let's go back to the mid 19th century. The Victorians certainly believed they lived in a time of revolutionary technology and could imagine a future of ever more radical advances.

As you can see from this satirical engraving the Victorians imagined their revolutionary technology - steam - would deliver fantastical modes of transport, delivering you by vacuum tube to Bengal just as clerks were starting to send papers around an office. People then, as now believed they were living in a time of unprecedented change because they could see the evidence in the transformation of their own lives.

That print was produced in 1829. The next 40 years did indeed see an unprecedented 'March of The Intellect': The railways.

In 1830 the Liverpool to Manchester railway line had just opened, the first steam railway to take passengers. But as this animation from the science museum shows; within just 25 years the entire UK was covered by a network of railways. Can we imagine how revolutionary that transformation must have felt? From horse and cart to trains from London to Edinburgh in only a few hours; within 30 years railway technology spread not only across the UK but across the USA, Europe and the world. By the 1860s London was turning itself into the first modern megacity with railways as its arteries as these photographs show. Remarkable feats of engineering and construction from Scotland to Sri Lanka.

A network running across the globe, all built by hand in only 40 years. It rather puts BTs problems laying fibre optic cable for high speed broadband in perspective!

And within this same 40 year period another globally transforming technology made its debut. This is a copy of the first message transmitted across the Atlantic by cable in 1858. That connection only lasted for a few months but in 1866 the SS Great Eastern set sail from Velentia Island in Ireland with massive machinery and vast cable drums on her decks. 14 days later on arrival in Trinity Bay Newfoundland the cable was spliced to a shore station and the two sides of the Atlantic were never out of touch again. The telegraph network had already spread across the land; successful laying a maritime cable connecting Great Britain with North America meant it was feasible to circle the globe. The age of exploration was over; the age of communication had arrived. Government, businesses and populations knew what was happening on the other side of the world within hours of the event.

For all the technological prowess of satellite communications, 24 hour news and the web I find it almost impossible to understand the magnitude of the change that the transatlantic cable represents.

So it looks like the period from 1830 to 1870 can give the 40 years of the internet age stiff competition in the innovation stakes. But there's another period that also kicks sand in the face of the digital revolution. And this one isn't even 40 years long but half that. Just 20 years spanning either side of the Second World War.

In 1933 none of the following technologies existed but all were not only established but widely used by the time our current Queen was crowned in June 1953.

Radar – first tested by Robert Watson Watt in 1935, by the outbreak of war these Chain home radar antennas were vital to winning the battle of Britain. Within 2 years radar was

being carried on ships and within another 2 years, due to the discovery of this little device, the cavity magnetron, centimetric radar sets were so small they could be carried in aircraft. (Remind me how long it took to get the west coast mainline upgraded?)

Jet engines This Gloster whittle aircraft flew in 1941; the first British plane to use Frank Whittles revolutionary jet engine. German jets saw combat before the end of the war and by 1952 the de Havilland Comet the world's first jet airliner had brought jet travel to civilian life.

Computers – In the mid 30s the idea of a universal calculating machine was only a theoretical one proposed by the likes of Alan Turing and Max Von Neuman. Under the codebreaking imperatives of wartime by 1944 Colossus, the world's first programmable electronic computer, was operational at Bletchley Park breaking high level codes in the run up to D-Day. Development was so rapid after the war that by 1951 the world's first Business Computer the Leo was sold by its producers Lyons to Stewart and Lloyds steelmakers in Corby.

At the start of this period **no antibiotics** existed at all. Penicillin had been 'discovered' but lacking a way of extracting the active ingredient its antibacterial powers remained a little known curiosity never tested on a single patient. Florey, Chain and Heatley's revolutionary chemistry from 1938 to 1944 not only extracted penicillin but devised a way of producing it on an industrial scale. The antibiotic age dawned.

We could go on - **Atomic technology** had gone from theory in the 30s to weapon of mass destruction in the 40s to the verge of civilian use in the 50s and **Television**, which had been completely shut down during the war, in 1953 reached the mass market for the first time as millions gathered around their friends or families' box to watch the Coronation.

Radar, Computers, Jet Engines, Antibiotics, Atomic Energy and TV. And you could argue the discovery of DNA too. It's not a bad list for a truly revolutionary 20 years.

And against that in the 40 years since the internet was created we can say packet switching, the personal computer, the mobile phone, a bunch of further advances in molecular biology from the Human Genome project to DNA fingerprinting - and the World Wide Web. Twice as long a period and the best we can come up with is Facebook.

So why is it we still believe in the idea that the world we're living in is speeding up all the time?

I think that comes down to Myth number 3:

You see it's all this guy's fault. **Gordon Moore**, leading light of Fairchild Semiconductor and one of the founders of Intel, the world's leading producer of computer chips. Or at least it would be his fault - if he had actually said what people say he said. And if he'd actually called it a law. Which he didn't.

MYTH 3: MOORE'S LAW

"The power of a chip doubles every 24 months"

CNN Business 2.0

Now this is a common way of expressing Moore's Law. It's not what Gordon Moore actually said but hey – print the myth. To most people Moore's law says our computer chips will get twice as powerful every two years. So after 10 years they'll be 32 x as powerful as when you started. This is exponential growth.

If something increases steadily over time we get a linear increase – that's the red line on this graph. But if something doubles regularly on a fixed timescale we get a graph like the blue line – an exponential curve. If it triples you get a steeper curve like the green one.

Now once you start to see exponential curves in books (especially if they have no numbers on the axes) I think you should turn your (myth)/bullshit detector up to 11. Someone is trying to show you something getting faster. Like a world that seems to be speeding up all the time.

Now what Gordon Moore actually said was something far more specific than that. In 1965 he made the prediction that the number of transistors that could be fitted onto a microprocessor chip of fixed size would double every 24 months for the foreseeable future. It's held pretty true for 40 years. Here's a chip signed in miniature by Moore and donated to the Science Museum to celebrate.

But Moore was making a very specific prediction based on chip fabrication technology. He wasn't talking about power, bandwidth or any other technology. He wasn't trying to create a LAW, though he says he's happy to take the credit. He was only talking about microchips. And importantly he didn't (and doesn't) think this will go on forever. There are limits imposed by physics and we're getting pretty close to the point where if we call it a law it won't hold true.

There are lots of natural phenomenon that also behave in a similar manner – bacterial cell division for instance; starting with a single cell you'll have 2 cells after an 10 minutes, 4 after 20 and 64 after an hour. But it won't go on forever; after some point the colony will exceed its food supply or be limited by other environmental factors.

But this idea that there was a law that says the microchips, the central technology of the digital age, will keep doubling their power every two years has had a huge grip on people's imagination. Everybody remembers that ever steepening curve. Steeper and steeper, faster and faster, it seems to be the law that our world runs by.

Actually when mathematically minded folk produce evidence of to fit Moore's law they produce a graph like this. You'll notice it's a straight line not a curve because the Y axis is a logarithmic scale with each increased unit representing a square of the previous. It's a more mathematically literate way of presenting this kind of progression.

But in the end – a straight line is just nowhere near as exciting as an exponential curve! The idea that we're just carrying along in a straight line seems so … sensible. It just can't capture

the buzz of a curve that says things are getting faster and faster. It wouldn't support people like technologist Ray Kurzweil extending Moore's (non) Law into an all embracing "law of accelerating returns" that applies to the whole of Human History and all technologies (SLIDE)

So The Myth of Moore's law isn't that Gordon Moore actually said anything wrong. It was a remarkably accurate and specific prediction about a particular technology. It's the way it's been translated, generalised and let's face it mythologised into some mystical power that says technology keeps doubling every couple of years.

These three myths are what you might call the foundation myths of the digital age: The idea that the architecture of the internet is uniquely robust and adaptive because it was designed to survive 'The Big One', the idea that we live at a time of uniquely rapid change and the idea that there is a Law that says the power of our technology will double every couple of years. You might call it the catechism of internet 1.0.

Now web 2.0 has added its own myths. And as you might expect, they're not immune from the tendency to draw simple curves and assert big ideas long before the evidence comes in.

MYTH 4: THE LONG TAIL: How endless choice is creating unlimited demand

How many people here have read the Long Tail? Has anybody actually finished it? Has anybody realised that with any of these books if can't find the original article in Wired you only have to read the first chapter. So I set myself the task of reading these books, it's a slog isn't it?

Chris Anderson's the Long Tail[1] is perhaps the archetypical example of web 2.0 mythology. Since Anderson asserted the existence of a Long Tail in content created by digital distribution, students are taught this is how the internet works, businesses are created and funds raised to exploit the phenomenon, policy makers and regulators like Ofcom start treating it as a fact and careers are made by repeating the assertion. It finds its way into lecture courses, business school seminars and even government policy papers. Hundreds of thousands of people have read the book, its author is According to Time Magazine one of the world's 100 most influential people, and we're all implicated in making him so.

(CHRIS ANDERSON Slide)

The idea is quite simple – that old mass media relied on narrow, costly, physical distribution chains so put all its investment into creating a few blockbusters – whether they be films or books or records. Consequently all our consumption was concentrated in the few popular and heavily promoted titles in the cinema, the book or record charts. The dead of the distribution curve.

[1] The Long Tail; how endless choice is creating unlimited demand; Chris Anderson, Random House 2007

But digital distribution is virtually free and online stores like Amazon, Netflix and iTunes have unlimited shelf space so they should be able to make money from the Tail of the curve – stocking tens of thousands of less popular items and making small sales of each very efficiently.

And when Anderson wrote the book he claimed this was what was happening – and that sales in the Long Tail were taking sales away from the blockbusters; the big studios, big labels and big publishers were losing control of the market. Right On!

BUT…

Far fewer people have read the recent academic analysis that shows that in just those markets where the Long Tail was so sure of its predictions – online book and CD sales and music downloads - the Long Tail does not exist.

There I've said it.

Well not me actually I'm just paraphrasing several thorough studies by economists based on real data. There's even the suggestion that online sales and inventories may behave in line with any other industries as predicted by Yale Professor Robert Goodell Brown way back in the 1950s[2]. Not a brave new world at all.

At the same time I'm sure we've all noticed seeing how the old media dinosaurs that Anderson saw as losing control are trying sophisticated new marketing strategies to re-colonise our minds. The biggest selling album in the UK in 2007 was Spirit by Leona Lewis who became the first British solo artist to top the Billboard charts with a debut album ever. She was also a product of the X-Factor's an awesome combination of a Megahit TV talent show and music industry marketing campaign. Simon Cowell certainly doesn't seem to believe the Long Tail has abolished the hit culture. And neither do Dan Brown and his publishers. Maybe it might be worth also checking whether the declines Anderson spotted in top selling albums have more to do with illegal file sharing than to any kind of Long Tail effect.

So where does Chris Anderson go from here. Does he recant and withdraw the Long tail from Amazon – and more importantly from your college reading lists?

Nope. Of course not – he's the editor of Wired. He just moves right on to cheerlead for another web 2.0 myth with his extraordinary book 'Free: the future of radical pricing' .

In the digital age where someone can claim that "giving stuff away is a good way of promoting stuff that people pay for' how do you spot the emperor's new clothes?

[2] Statistical Forecasting for Inventory Control; Robert Goodell Brown 1959
http://openlibrary.org/b/OL6272534M/Statistical_forecasting_for_inventory_control.

MYTH 5: Information (and content and data and … er …stuff) wants to be FREE.

Information wants to be free. Now this is a complicated one. Complicated because there are two different ideas of what Free means and they've become mashed together.

One is the idea of free – as in FREEdom. The other is free as in not paid for.

The first idea – that information wants to be free is routed in the geek philosophy that emerged from the sixties counterculture via the free software movement and open source communities and you'll find now in the 'free our data' campaign that's doing so much to open up government information for innovation.

The other idea of FREE is that content doesn't want to be paid for – or rather that consumers will have content for free, especially if there's no easy way to pay for it. The idea that no-one should pay for content is often presented as a property of the internet rather than a choice by consumers and seems to me to elevate the observed facts of elevate illegal file sharing to the status of a philosophy. A sort of manifesto for the Pirate Bay Party.

Let's go back to the first idea (the interesting one) – that information wants to be free. Going back to the origins of the idea, as so often, we find something much more complex and interesting.

It all started in 1984 at the first Hackers' Conference when Stewart Brand said

"On the one hand information wants to be expensive, because it's so valuable. The right information in the right place just changes your life. On the other hand, information wants to be free, because the cost of getting it out is getting lower and lower all the time. So you have these two fighting against each other"

Now Brand is a genius, one of the key eclectic thinkers of the digital age and always worth listening to. And I think you'll all agree he's saying something much more interesting here than the myth.

He's pointing out the tension between the ease of distributing information across a network and the expense of creating valuable information in the first place. In a way he was predicting the tension between Intellectual property rights and free access to content that has made the internet such a challenge for the creative industries. How much better would we have been if people would have tackled the serious dualism that Brand pointed out rather than just adopting one side of the argument as a cheap slogan.

The simplified version we've been peddled 'that information wants to be free' reminds me of philosopher Mary Midgley's critique of another catchy and powerful slogan. Commenting on Richard Dawkins book The Selfish Gene she said that genes can "no more be selfish than they can play the trombone". Even let loose on the wonderful open system that is the internet, information doesn't want to be free any more than it wants to play Grand Theft Auto.

But it has given support to the idea that there's some fundamental property of the internet that means people won't (or shouldn't have to) pay for anything. This is part ideology, part observation. If only the music industry had embraced the technology and come up with legal,

useable, cheap and comprehensive services where people paid for MP3 files, illegal file sharing wouldn't have taken off in the way it has and become embedded in users' behaviours. I pray that the film and TV industries don't do the same.

It's not that content wants to be free but that if there's no way to access it other than illegal, free services then that's what users will do. It doesn't mean people aren't willing to pay – look at iTunes. The trouble with iTunes is that the music industry didn't come up with it and between Napster and iTunes becoming a mass market product, the music industry lost nearly half of its business before the penny dropped. It's not going to be easy putting this genie back in the bottle but, as Brand pointed out some content is expensive. If we want that kind of stuff we have to find a way of paying for it.

Two more myths to go and we're done.

MYTH 6: The wisdom of Crowds:

This myth is fairly new, involves a lot of overlapping ideas and has all the logical consistency of jelly. I'm rather hoping that you're all grappling with this one and that together we can find a way to identify the good bits and the bad.

The central element of the myth seems to be that on the internet groups of people behave in a different and somehow superior way to groups in society as a whole.

Clay Shirky seems to be one of the thought leaders in this area. But am I alone in finding it hard to work out what he's actually saying? He has that brilliant writing style common to many of the digital polemicists, you know he starts with an well-told anecdote strongly located in time and place, steadily amplifying his arguments out from this microcosm to huge sweeping statements that embrace the world.

Shirky's central thesis seems to be that our current communications technologies – particularly the internet and mobile phones – make it much easier to form groups to take collective action than anything we had before. In some mystical way online communities remove the costs to the group of organisation and allow us to join collectively without the need for management (boo), hierarchies (double boo) or big corporations and institutions (boo to the max).

My problem with this is that I've worked on enough online projects to be sceptical about whether gathering friends on Facebook or my space really equates with a community. Online communities are only strong in action when they have a common goal. Adding friends on a social network may be 'ridiculously easy' as Shirky suggests but it also doesn't achieve much. Forging a group to unite around a common goal and do something is not ridiculously easy, on or off-line. Similarly just because people can create and share groups of photos on the genius that is Flickr I think Shirky is wrong to equate them with 'collections' built up over decades of craft and knowledge by a cultural institution like a museum.

Another variant of the wisdom of crowds idea is Crowdsourcing , which says that the collective knowledge of a group is greater than that of any individual. Now opening up

competitions for ideas to online submissions seems a practical and potentially successful strategy. The Governments' Power of Information Task Force's 'Show Us A Better Way'[i] website which encouraged the public to submit ideas for new services using public information and offered funding to build them. But there seems the real risk of exaggerated claims and hyperbole. Is Crowdsourcing really collective action or a giant suggestions box on the internet? Does it matter that its advocates suggest that people taking part shouldn't be paid? And since crowdsourcing doesn't seem to involve any interactions between the people who make up the crowd, are they really 'crowds' at all rather than just a large pool of individuals?

New online communities are certainly fascinating, powerful and a fantastic way of wasting time and the idea that crowds are now considered good and wise is certainly a welcome change from presuming that they are prone to dark collective psychological forces as expressed by everyone from Nazi rallies to Millwall supporters. But it rather loses its impact if Shirky and Crowdsourcing's author Jeff Howe are really talking about a bunch of individuals who at best update each other's Facebook status.

Advocates of the wisdom of crowds always cite one example to support their argument – Wikipedia. Wikipedia certainly deserves attention; its a phenomenon. But I think the naive view that Wikipedia is a frictionless online collaboration between its millions of users does the achievements of the Wikipedia community less than justice.

Wikipedia's users number in the high 10's of millions but there are probably only 1500-2000 people who actually contribute to the English site. Over the years the community has experimented with a variety of control structures and hierarchies to ensure that the content meets the aspirations of an encyclopaedia – an objective account of human knowledge. And perhaps because of this Wikipedia's founder Jimmy Wales has rejected the idea that Wikipedia is a crowdsourced project.

So we come to our final myth. And it turns out to be a company mission statement. It's interesting because the company is Google. And in my opinion it's the most dangerous myth driving the digital economy today

MYTH 7: Don't be Evil

Don't be evil is of course the mission statement of Google, the most important company in the digital landscape. Is it a myth? Well what would evil look like?

According to the internet ratings agency Commscore, in April 2009 Google took 64.2% of the search queries in the USA, the largest market in the world, increasing its lead over its nearest competitors Yahoo with 20.4% and Microsoft with 8.2%.

And if Google looks dominant in the US market take a look at Europe.

Hit wise rates Google's market share of UK searches as 90.4% with 91% in France and 93% in Germany. In the last 3 months Google made £463m in revenues in the UK. That's more than the TV advertising market. TV advertising of course delivers additional benefits by

supporting UK digital content and paying UK corporation tax. Does Google do either? That big sucking sound you can hear is Google hovering up our English pounds and sending them to the USA. Not evil of course; just business.

Over the last 100 years society has viewed companies as having the potential for evil through operating monopolies or exerting market dominance. In the early 1900s Standard Oil was the biggest oil company in the world with 65% of the US home market and more abroad. The US justice department ordered it broken up into different companies who would compete against each other. The world didn't come to a grinding halt; oil continued to be pumped; no-one ran out of petrol.

Some people are now looking at Google and thinking the same things. A Google with 90% of search, leveraging related online and mobile display ad deals and running several large businesses like YouTube at a loss starts to look like a classic monopoly position. Competition lawyers in US and Europe are starting to think that if it walks like a duck and quacks like a duck we might have to treat Google as a duck and take some action. President Obama's new antitrust czar at the Department of Justice, Christine Varney, has already said that when it comes to monopolies "Microsoft is so last century. They are not the problem. There is a problem potentially with Google." European Competition commissioner Neelie Kroes has apparently been heard sounding out people on similar lines.

Projects like the Google Books initiative haven't helped. It appears altruistic to make thousands of out of print books available online, but Google argued they should have exclusive rights to some of the works irrespective of the wishes of the authors.

'Don't be evil' is one of the great straplines in business. But as a guide for action it's a myth. It's certainly not a defence for the actions of one of the world's most significant companies

CONCLUSION

I called this lecture seven myths to provoke you.

I recognise that there's some truth in each of these myths. But I hope I've encouraged you to take another look at this received wisdom.

The next time someone talks about The Long Tail, Crowdsourcing, Moore's Law or What Would Google Do? I hope you'll raise a quizzical eyebrow.

Particularly I hope that I've encouraged you to think about this stuff historically; in the context not only of history but of culture, and British history and culture particularly. Taken together these seven myths construct a certain kind of west-coast of the USA libertarian world view that can verge on cultural imperialism. And there are those amongst the UK digerati who seem happy to be cheerleaders and fellow travellers.

To my mind the biggest mistake we could make is not to recognise the significance of the shift to digital and online media. But the second biggest mistake if to believe those who would tell us it is a revolution that rewrites every rule and changes everything.

That's the kind of thinking that lead politicians, economists and financiers to believe in the boom years they had created a 'new economics' which had abolished the business cycle and rewritten the rules of banking. They saw never ending growth where they should have spotted an unsustainable asset bubble. And just like in every other financial bubble it's only when people wake up with a hangover they find the rules of the old world hadn't changed after all.

From far enough back the .com boom of 1998-2001 looks very like the railway boom of the 1840s. Not just because they were both based on 'irrational exuberance' to use Alan Greenspan's famous phrase. Not even because they both ended in spectacular busts, but because of what happened next. Many of the companies in each boom failed; huge investment capital was lost. But the infrastructure remained. People built real business on the rails that remained just as they are doing on the pipes and the standards that were left behind in 2001.

The people who talked nonsense in the .com boom went bust or retreated back to the banks and management consultancies they came from. But the networks remained and it is this transforming technology that is changing our society.

I suppose my conclusion is not that these myths don't have some interesting (and indeed enduring) ideas at their heart but that they are something that every generation has felt.

"We live in the now. The now is exciting and special because we're living in it. We need a set of beliefs that tell us why it's special and why it's more important than times past"

It's a necessarily narcissistic vision - that our times are special, radical, life changing and more important than previous 'nows'. But let's remind ourselves that others felt the same way. And with a bit of humility recognise that they also might have had at least as much, possibly more cause.

In 1858 to get a message to a colleague in New York would have taken two weeks and another two to get a reply. A year later the transatlantic cable would have reduced that to a couple of hours.

Changes of that magnitude of the railways, and the technological revolution of the Second World War kind of put the power of Twitter in perspective.

You live in interesting times and will do things with digital content and technology that would have astounded your grandparent's generation. But that's all they are – fantastically interesting times. Make the best use you can of them – and if you have to peddle a few myths of your own, go ahead. You'll be in good company

[i] www.showusabetterway.co.uk/