the futures foundation
engaging all Australians in creating a better future...

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FUTURE NEWS

TO CONNECT, TO INFORM AND TO INSPIRE

IN THIS EDITION

Special Notice
2015 Futures Forums

The first forum for 2015 will be on 26 February in Melbourne. Swinburne lecturer Joe Voros will talk about the Big History project, and how the future is being incorporated into this exciting venture.

For those who don't know about the Big History project please visit the website www.bighistoryproject.com where you will see it introduced this way:

Big History examines our past, explains our present, and imagines our future. It's a story about us. An idea that arose from a desire to go beyond specialized and self-contained fields of study to grasp history as a whole. This growing, multi-disciplinary approach is focused on high school students, yet designed for anyone seeking answers to the big questions about the history of our Universe.

The Big History Project is a joint effort between teachers, scholars, scientists, and their supporters to bring a multi-disciplinary approach to knowledge to lifelong learners around the world.

The rest of the forum program for 2015 will be announced early in the new year.

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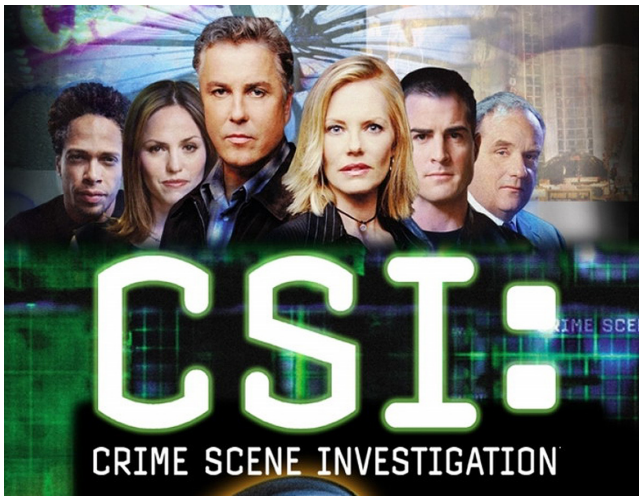
The C.S.I. Approach to the Future

How the way we learn about the past can affect the way we create the future



As part of an emerging profession, futurists are frequently asked to explain, often with some scepticism, what they do. Personally, I have lost track of the number of times people have asked to see my crystal ball or Tardis (Dr Who's time machine) when I have shown them my business card.

Many people seem to be unable to get their heads around the idea that it is possible to learn something useful about events or situations which have not yet happened.

Yet, when archaeologists report on what they have learned, no one doubts their professionalism, despite the fact that they were not at the time and place in which they are interested.

This is why when I am asked to explain what a futurist does I use the analogy of an archaeologist, or for younger audiences a crime scene investigator.

Most practising futurists are at least as interested in the past as they are in the future, but my use of this analogy goes way beyond simply acknowledging that how we arrived at the present has a powerful impact on what will happen in the future.

Both crime scene investigators and futurists are interested in learning more about a time and place at which they were not, and both use an increasingly sophisticated set of tools and techniques to help them increase their knowledge. Before they begin to use any of these tools, however, they follow a series of protocols which are designed to ensure that they do their job rigorously and that their work can be validated and replicated by others.

This article looks at some of the rules which crime scene investigators (CSI) are trained to follow, and suggests that these rules have direct parallels in helping shape good futures practice.

The first thing a CSI does is define the physical space in which they are interested, and then cordons this area off.

This is far from a trivial exercise. The CSI knows that whatever boundary they create it cannot capture everything or everybody in which they are interested.

They know they will invest considerable time and energy in examining the interior of the space they quarantine, and realise that drawing too wide a boundary may only marginally improve their knowledge.

Similarly, drawing too narrow a boundary will increase the likelihood that important information will be overlooked.

Futurists, too, have to delineate boundaries around the theme in which they and their clients are interested. As good systems thinkers, futurists are acutely aware of the extent to which everything is interconnected, and are always concerned that important information may lie outside the immediate area of their focus.

They also know (and if they don't their clients always remind them) that they don't have an infinite amount of time within which to explore the future. Futures work is designed to enhance the quality of decisions made in the present, and clients most often want decisions made quickly.

The CSI has an advantage over the futurist. The boundary they create is marked with very visible tape, which everybody understands and most people respect.

Even if futurists are meticulous and explicit about defining the boundaries of a particular assignment, the nature of their work and the people they work with mean these boundaries regularly get challenged or even ignored.

Nonetheless, most futurists find it very helpful in their consulting work to take time early in the process to discuss, and hopefully agree on, the boundaries within which any particular assignment will take place.

Of course, a good CSI knows that a new discovery might at any time cause an expansion of their taped-off area. Similarly, futures work is made easier if the futurist and the client can explicitly acknowledge that some proposed new action is taking the assignment beyond the previously agreed boundaries.

There is more to the tape around a crime scene, however, than just simply defining where the CSI will focus their attention. The tape reminds others that the space inside is a special place and needs to be treated carefully.

This is another way in which the CSI has an advantage over the futurist. CSIs can pretty well ensure that no-one will enter their area of interest unless they have been invited, and even then they will follow the directions of the CSI in the way in which they conduct themselves. In effect, the CSI attempts to freeze the crime scene until they complete their investigation.

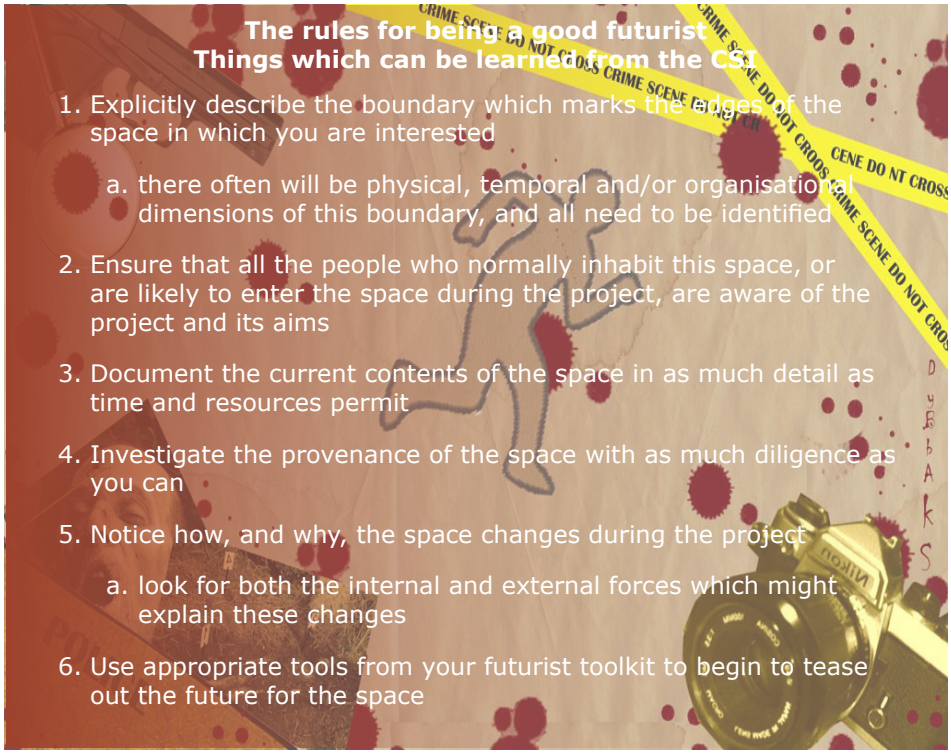
Futurist's areas of interest can rarely be as conveniently frozen while the analysis takes place. Nonetheless, if people who do continue to move around inside the demarked area are aware that, for the moment, this is a special space they are more likely to think more carefully about the actions they take.

For futurists, marking out the territory of interest in a particular investigation includes identifying the people who habitually occupy that territory. Letting all these people know that an investigation is taking place can often reduce the accidental damage done by those who aren't aware of the significance of the space.

Of course, not everyone's motives are pure and wholesome, and both CSIs and futurists need to be aware that some people will deliberately try to mislead or taint the crime scene or the future space.

Having drawn a boundary around their area of interest, CSIs then get down to work. They know that their primary role is to carefully document everything they notice, and to notice as much as possible. In addition to their five human senses, they bring their experience and a variety of technological tools to help them in this work.

They are acutely aware that their mere presence on the scene changes things, and that their human prejudices and



biases colour what they notice and how they report on what they notice.

They are aware that some of their work is unpleasant, and that it is a natural human reaction to try and cover up some of this unpleasantness.

Futurists, too, are most often outsiders brought into help others make sense of a particular situation. Futurists are human beings too, and bring biases and prejudices to everything they do. Just as the fingerprints of all CSIs and police officers are recorded so they can be eliminated from the investigation, so futurists need to be careful to eliminate as much of their influence on the scene as they can.

Futurists also know, or should know, that whatever specialist expertise they claim to bring, many others on the scene will nonetheless seek to bring their perspectives to the situation.

In particular, futurists are aware of the natural human tendency to avoid unpleasantness, and the best futurists are skilled at presenting the results of their work in such a way that all relevant aspects are given their appropriate weight.

Placing a tape around a crime scene gives the impression that the moment of the crime has been frozen for analysis by the CSI. The skilled investigator, whether CSI or futurist, knows that everything changes, even during an investigation, so the more they know about how things change the more useful they will be.

In this regard, the training futurists receive might give them an advantage over the CSI. Learning to appreciate all the dimensions within which change takes place is an integral part of futurist training, and good futurists are aware that only dead things change in regularly predictable ways.

The CSI is almost always examining a purely physical space – a geographic space. The futurist, on the other hand, is exploring a landscape shaped and populated by human beings for whom change is an unpredictable inevitability.

The specialist expertise of the CSI is most often accepted by all those involved. They can often rely on the legal system both to support their efforts, and to compel the participation of all those in whom they are interested.

Alas, futurists have no such legal mandate. Where the CSI can usually assume that those who commission their work are genuinely interested in their professional analysis, futurists often confront unwilling participants or even clients unwilling to listen to what has been learned.

CSIs are provided with an ever expanding toolkit, much of which is the result of developments in science and technology. In particular, they have access to many tools which enhance or extend human senses and give precise quantitative data.

Futurists, too, have access to an expanding toolkit. Much of this is also designed to supplement individual human senses, often by aggregating information across larger populations. Some of the futurist toolkit is designed to tap into under-utilised areas of human sensation, such as myth, metaphor and worldview. Often the futurist seeks to sharpen human senses by focusing them in a variety of ways. Modern technology also adds to the futurist toolkit by allowing the collection, analysis and interpretation of quantities of data which would otherwise stretch human capability.

Whatever tools are used, both the CSI and the futurist need to be aware of the limitations of human ability to understand and interpret the information before them, not to mention the need to be aware that some people have malicious intent and can either inadvertently or consciously taint the data.

CSIs and futurists are both part of our modern world because human beings are relentlessly interested in the world around them. Since none of us can be everywhere at all times, we are collectively prepared to invest in developing the skills of a sub-set of humans who can help us make sense of a world we did not, or could not, experience.

Television CSIs give the impression that the past is some sort of frozen space which can be completely understood if sufficient resources are brought to bear. Real CSIs know that our understanding of the past – even of very recent events – is always imperfect. They also work diligently to reduce this imperfection as much as they can.

All futurists know that the future is inherently uncertain, but they also know that taking a systemic and systematic approach to understanding the future helps reduce this uncertainty.

There is a final, crucial, difference between a CSI and a futurist. CSIs primarily exist to help others understand what has happened. Futurists are not only interested in what will happen, they are even more interested in what we would like to happen. Futures work is as much about creating the future as it is about understanding the future.

In “The Clock of the Long Now” futurist Stewart Brand wrote: “Our experience of time is asymmetric. We can see the past, but not influence it. We can influence the future, but not see it.” He may have been wrong on both counts. Many people behave as though they could influence the past, and we all strive to see the future.

What both CSIs and futurists remind us is that doing all these things will be improved if it is done systematically and rigorously.

FUTURISTS IN ACTION

Employment Opportunities for People with Disabilities

Recently the futures foundation was asked to provide a number of futurists to work with other attendees at a one day workshop looking at future employment opportunities for people with disabilities.

Those organisations working with, or advocating on behalf of, people with disabilities face a number of challenges:

- as the range of jobs requiring generic skills shrinks, opportunities for people with a disability also shrink
- in a tight labour market, the large numbers of applicants even for skilled positions means people with a disability can too easily be overlooked
- most of the money provided to support people with disabilities comes from governments at a time when their budgets are under challenge
- people with disabilities are not the only disadvantaged group seeking greater attention – older workers, new migrants, same sex attracted and indigenous Australians are all finding it difficult to gain the employment outcomes they seek.

The aim of the workshop was to begin the process of developing a new employment support model for people with a disability. Those invited include politicians, bureaucrats, researchers, practitioners, parents and carers of people with disabilities, as well as some individuals with various disabilities.

The facilitators began by making it clear that they didn't believe there was magically perfect solution 'out there' just waiting to be discovered. In fact they encouraged participants to resist the temptation to discuss 'solutions' but rather to share their experiences, talk about their frustrations and explore what seemed to them to be working.

Consistent with the approach typically taken by futurists, the first keynote speaker looked at the history of formal employment programs for people with a disability and outlined the current landscape, including the impending arrival of the National Disability Insurance Scheme.

Each table of participants then discussed their particular historical experiences, what seemed to them to have worked well and what had not worked so well.

The CEO of a peak body of disability organisations then outlined what she was as being on the current agenda for governments, bureaucrats and grass roots agencies. Participants were then asked whether they had any other issues or themes which should be added to this agenda.

Most of the rest of the day was then spent in small groups teasing out which of these issues or themes seemed the most important and discussing what factors might be taken into account in dealing with them.

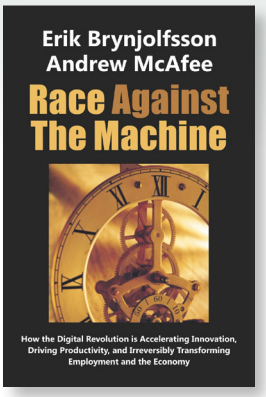
The final session was a plenary with tables, and individuals, encouraged to share the things which had most surprised or challenged them during the day. Finally the facilitators summarised what seemed to them to be the key themes which had arisen during the workshop.

The host agency committed to providing a summary of the day to all participants, and to that end they invited the futurists from each table to stay behind for a debriefing session. They also committed to providing a draft of the new employment model which they were going to develop internally over the ensuing six months.

Since a number of workshop participants would ultimately have a role in deciding the merits of any proposed new model, a key design feature of the workshop was to not ask individual participants to comment themselves on any particular outcomes. The material distributed to participants was a generalised summary of the day (and a number of participants in their evaluations indicated that the experience had significantly broadened and deepened their understanding of the complexities faced by those in this system) and the host organisation took total responsibility for the model which was developed after the workshop (though they did distribute a draft copy to all participants inviting their comments and suggestions).

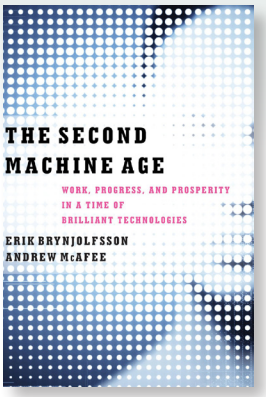
Futurist input to the session took a number of forms. We significantly influenced the design of the workshop and its objectives. We briefed the keynote speakers to ensure they understood the purpose of their presentations. The futurists on each table brought their strategic foresight perspective to the various small group sessions, and acted as scribes and record keepers to ensure that all the key issues raised were recorded.

Many individual participants commented in their evaluations on the value the futurists brought to the small group discussions, and the host agency was very happy that the process both engaged their constituency and helped them think through the issues which were relevant in developing their new model.



Book Review

by Charles Brass – Chair, futures foundation



In 2011 two MIT researchers self-published an 80 page book entitled: "Race against the machine – how the Digital Revolution is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy".

They wrote the book to: "pay more attention to technology's impact on skills, wages and employment" (p7) and provided statistics and anecdotes to support their thesis that: "while digital progress grows the overall economic pie, it can do so while leaving some people, or even a lot of them, worse off" (p9).

The reaction to this book encouraged the authors to expand on their ideas and early in 2014 they published: "The Second Machine Age – Work, Progress and Prosperity in a time of brilliant technologies" (WW Norton and Co, 2014).

In addition to expanding on their diagnosis of the current world of work, Erik Brynjolfsson and Andrew McAfee devote 8 chapters to thinking through possible solutions.

Their premise, that modern technology is disrupting the foundations of our economic system, Is not new. Authors have been postulating similar themes since Andrew Ure wrote "A Philosophy of Manufactures" in 1835 and Ned Ludd and his colleagues began destroying mechanical looms a few years earlier.

Like many other modern authors, Brynolfsson and McAfee argue that this time is different simply because of the ability of modern, human created, artificial technology to replace human endeavour so broadly and cheaply. For over 100 pages they explore the implications of modern technological advances in great detail and conclude that: "The second machine age will be characterized by countless instances of machine intelligence and billions of interconnected brains working together to better understand and improve our world. It will make mockery our of all that came before" (p96).

In the second half of the book they do what has been missing from so many earlier efforts – take an equally serious and rigorous look at the consequences of these changes and postulate possible solutions.

First, they look in detail at the proposition that growth in productivity and GDP are what define a healthy economy. They conclude that: "Rapid advances in our digital tools are creating unprecedented wealth, but there is no economic law that says all workers, or even a majority of workers, will benefit from these advances. For almost two hundred years, wages did increase alongside productivity. This created a sense of inevitability that technology helped (almost) everyone. but more recently, median wages have stopped tracking productivity, underscoring the fact that such a decoupling is not only a theoretical possibility but also an empirical fact in our current economy"(p128).

They focus particularly on the increasing share of income which is going to the owners of capital, compared with the share going as wages to labourers. This is important because a growing economy requires more people to have money to spend, not less.

It is clear, they conclude, that some people will be big winders from this shift, and they encourage workers to develop the sorts of skills which complement machine abilities, since it is going to be combinations of man and machine which are going to characterise future workplaces[1]. To facilitate this they support increasing investment in MOOCs (Massive Open Source On-Line Courses) and paying good teachers much higher salaries and extending school hours. They are unashamed advocates of life-long learning.

Then Brynolfsson and McAfee turn to a broad suite of policy changes they would recommend.

The first is encouraging start up entrepreneurs. Since small businesses tend to grow employment more rapidly than large ones, the more small and growing enterprises the better. In the same vein they advocate more support for scientists and researchers and promote more prizes such as the million dollar prize which stimulated Google to develop the driverless car.

They pay close attention to taxation, since taxes are one way in which governments redistribute income. One suggestion is applying payroll tax to any technology which directly replaces human labour. Another is to reduce the tax deductibility of large CEO salaries, and providing income tax credits to low income earners. They are particularly supportive of Pigovian taxes (named after British economist Arthur Pigou) which tax negative consequences such as pollution.

They encourage a fresh look at proposals to provide all citizens with a basic guaranteed income, and note that some national future funds (such as the one in Alaska) currently pay an annual dividend to all citizens.

They applaud an increase in employee owned enterprises and comment that research suggests these are slower to replace humans with machines.

Ultimately the authors conclude that there are a number of liveable alternative solutions to what they believe is a real problem. They despair, however, that not enough of those with their hands on the levers of power are prepared to face the fact that artificial intelligence will replace human labour. Howe we deal with that eventuality is up to us. As the books says in its concluding words: "Technology is not destiny. We shape our destiny"(p257).

1. They give the example of the most recent world chess championship which was won by two amateur chess players who worked with three computers to beat all single grandmasters and computers

SIGNALS IN THE NOISE

30 Trends and Developments Driving Economics and Society in the Next Decade

By Rohit Talwar – Fast Future, London

This article explores a range of economic and socio-demographic trends and developments that could have a direct bearing on our strategies and operational activities over the next 5-10 years.

ECONOMICS

1. Systemic fragility – Today's operating environment is being shaped by an increasing sense of fragility and interconnectedness between key global systems that govern every aspect of finance, commerce and governance. These concerns are compounded by growing economic volatility, wealth divides, and declining government expenditures, as well as demands for true sustainability in national choices around infrastructure investment, resource allocation and the industrial mix.

2. Public debt – Public debt is the total amount of money owed by the government to creditors. The global financial crisis and the Eurozone sovereign debt crisis have left advanced economies with high levels of indebtedness. Global Finance suggests that the total debt for OECD has risen from 74.2% of total OECD GDP in 2007 and to 112.5% in 2014 (estimated figure). [i]

3. Global Derivatives Market - The last global financial crisis was triggered in part by the level of default on sub-prime mortgages. These are a form of financial derivative instrument - most of which are not traded on any exchange and so total exposure is hard to determine. Estimates for the current scale of derivatives contracts in circulation range from US$700 trillion to US$1.2 trillion - against a total global GDP of approximately US$72 trillion in nominal terms.

4. Global flows – The global flows of goods, services, finance, and people are rising rapidly - representing over 35% of global GDP and creating new degrees of connectedness among economies. The degree of interconnection for a city or nation is seen as an important indicator of current and potential prosperity - with Germany considered the most interconnected country in the world.

5. Economic growth – Despite the global financial crisis, economic growth / global GDP is projected to grow in the coming decades. According to OECD forecasts, global GDP will almost triple between 2010 - 2050. China and India are expected to account for 46 % of global economic output by 2050.[ii]

6. Economic power shifts/The Next 11 (N-11) – Emerging economies are experiencing economic growth, lifting millions out of poverty while also exerting more influence in the global economy. The rebalancing of global power might lead to the rise of new international system, increasingly shaped by the grouping of Brazil, Russia, India and China (the BRICs) and a number of nations that follow in their wake. The so called 'next 11' emerging markets are expected to be among the largest future economic engines of growth – signalling a potential shift in economic power by 2020 from BRIC countries. The N-11 comprises Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, South Korea, Turkey and Vietnam.

7. New trading zones – Governments around the world are entering into new trade agreements which should spur the development of new trading hubs, creating new growth markets and increasing trade volumes by 2020.

8. Global inequality – The scale of global inequality has increased dramatically over the past 20 years. An Oxfam report states that globally, the income of the top 1% increased 60% in twenty years with the growth in income for the 0.01% being even greater.[iii] A growing body of research indicates that higher income inequality within countries correlates with higher unemployment, higher crime rates, lower average health, limited access to public services and lower social mobility.

9. Urbanization – An ever increasing number of people are expected to live in urban areas in the next decade. The United Nations reports that the global urban population has overtaken the rural one and could reach 55-60% by 2030.

Urbanization poses significant challenges around the creation of economic opportunity, the effective management and provision of infrastructure, services, sanitation, clean water, food healthcare and safe environments.

10. Mega cities – Mega cities have populations of at least five million. In 1950, New York and Tokyo were the world's only megacities. Now estimates suggest there are 23, the UN predicts this number could rise to 37 by 2025. The developing is expected to be home to 29 mega cities by 2025.

11. Smart /intelligent cities – The aim of smart city projects around the world is to connect objects into an internet of everything - including electricity grids, roads, sewer systems, buildings and cars - enabling object-to-object and people-to-object interaction. Buildings will turn the light on when you are approaching and roads will interact with your smart car. The belief is that this will open up vast new possibilities for economic growth and development. Boston, Copenhagen, Dublin, Barcelona, Masdar Abu Dhabi, Rio and Singapore are the locations pioneering smart city initiatives.

SOCIO-DEMOGRAPHIC

12. Population growth – The global population is expected to continue growing at least until 2050, when it is expected to reach 9.3 billion.[iv] Population growth will bring about both advantages (younger workforce, greater consumer market) and disadvantages (competition for resources).

13. **Female shift** – Traditional gender role models are gradually being overcome at different rates around the world. Girls now outperform boys at every level of the education system in every OECD country. More people are employed in the US by women owned businesses than in Fortune 500 companies. As women gain more power and influence on the economy, society and politics, habits in professional and private lives are undergoing profound changes. The female shift will require changes at different levels, including work-life balance, family roles and structures as well as organisational leadership.

14. Emerging middle class –The size of the "global middle class" is projected to increase from 1.8 billion in 2009 to 3.2 billion by 2020 and 4.9 billion by 2030 with the bulk of the growth coming from Asia. The emerging middle class in developing economies is expected to act as a major engine of growth.

15. Ageing/Super-centenarian Societies – The world's population is ageing. Over the period from 2010-2050, the proportion of over-60's in the developed economies is projected to rise from 22% to 33%, with a more dramatic rise In developing world from 9% to 20%. In most developed economies, the over80's represent the fastest growing age group. By 2050 the expectation is that healthcare advances and lifestyle changes will enable people to live longer and healthier lives. Average life expectancy at birth is expected to reach 90 years, and most of the population will live longer than one century. Political choices will increasingly be shaped by the over-60's who already make up the majority of the voting population in many nations.

16. Eldercare – Demographic trends toward having fewer children later in life suggest that eldercare might become a huge burden for the average worker in the future. Workers might increasingly need to deal with aging parents which in turn could put a drag on geographic mobility.

17. New notions of retirement – Retirement as we know it might not exist in the future. Instead, people might step in and out of work for regular periods in the final 20-30 years of working life and take more long breaks early in their careers.

18. Demographic diversity – Baby Boomers, gen X (1966-1976), gen Y (1977-1994) and gen Z (1995-present) will increasingly have to work together in the future. Potential conflicts might arise in the workplace as these generations have diverse values, communication styles, working method and lifestyle preferences. Many companies are already experiencing an evolving clash of the 'print' (generation X, Baby Boomers) and subsequent 'born digital' generations.

19. Multiple careers – As people are likely to live longer in the future, they are also likely to have multiple careers - enabled by opportunities for continuous re-education. A university graduate in 2014 might reasonable expect to pursue 5-10 careers or more in a working life that could extend to the year 2090 and beyond - if the notion of work as we know still existed at that time.

SIGNALS IN THE NOISE

30 Trends and Developments Driving Economics and Society in the Next Decade

20. New Skillsets - The Institute for the Future identifies 10 critical skillsets for individuals to thrive and survive in the 21st century. These can be categorised into four groups. Soft skills: Cross Cultural Competency and Social Intelligence. Thinking and mental management capabilities: Sense Making, Cognitive Load Management and Novel and Adaptive Thinking. Professional skills: Trans Disciplinarity and Design Mindset. Technical competencies: New Media Literacy, Computational Thinking and Virtual Collaboration.

21. Greater cultural diversity in the workplace – The UN forecasts that Europe may need 1.6 million immigrants per year up until 2050 just to maintain 2011 population levels. A significant proportion of these are likely to be drawn from emerging economies, leading to a need for accommodation of greater cultural diversity in European societies.

22. Health divide – In many developed and developing economies alike, the gap is increasing between those with good and poor health. Health inequalities may threaten the prospects for social development, growth and stability.

23. Imbalances between high skill and low skill labour – McKinsey (2012) predicts that by 2020 there could be a shortfall against global workforce requirements of 30-40 million workers with tertiary education and 90-95 million low-skilled workers. A critical challenge here is the reskilling of the existing workforce to take on new roles in the jobs, professions, industries of tomorrow.

24. Reverse brain-drain – As economic and social conditions improve around the world, increasing numbers of highly educated and skilled workers are predicted to return to their homelands by 2020. The vast majority of these are expected to be from developing countries such as India, China, and Brazil.

25. Individualization – Global advances in education, health and technology access are increasingly empowering individuals to shape their lifestyles and careers and to influence governments and policy decision-making. This shift from a more collective approach to individualization and segments of one is challenging governments and businesses alike to rethink their delivery proposition.

26. Proliferating digital and online tools for learning – Recent years have seen the development and evolution of a variety of digital and internet-based tools with significant potential to transform the practice of education and the position of learning in daily life. Based on the general technologies of computing, the internet, and cellular communications and strongly shaped by recent advances in social media applications and mobile devices, these emerging tools allow learning to be decoupled from the traditional classroom and to make learning personalized, interactive, and social. These are driving change in the classroom and lecture theatre and democratizing access.

27. Massive open online courses –Massively open online courses (MOOCs) are now being offered for free by thousands of educational bodies ranging from established institutions such as MIT and Harvard to relative newcomers such as the Khan Academy and Apple ITunes. The internet has now eliminated barriers to access - with the offerings proving particularly popular to developing economy students who would not otherwise be able to fund higher education.

28. Multiple identities – The co-existence of digital and physical worlds has given rise to the notion of individuals having multiple – potentially more complex - and multi-faceted identities. Virtual worlds have demonstrated people's desire to establish online personas that are even completely different from their physical identity.

29. Data junkies – The term refers to people who are preoccupied with the collection and analysis of their personal data derived from a variety of devices and sources such as health monitoring aids, mobile phones and specialist devices. Big Think (2012) suggests these individuals are collecting and recording data from the web - tracking, broadcasting and comparing it with others using mobile devices.

30. Geo-socialization – Geo-socialization is the next generation of socializing - based on geographic services and capabilities, such as geocoding and geotagging. It matches people's profiles, interests and other user data with location-based services, so that people can connect and coordinate with surrounding people or events. Geo-socialization opens up new opportunities to reach and interact with each other and with consumers.

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