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Will humans win the Intelligence Race?

By Michael Lee

How will 21st Century humans cope with the continued acceleration of the role of Artificial Intelligence (AI) in the economy? Just as humans once outstripped animals in the race to dominate Earth, due to our superior brainpower and use of tools, the danger now exists that *homo sapiens* will fall behind supersmart machines and AI systems in terms of overall efficiency.

On top of that, the coming rise of cyborgs, technology-enhanced and AI-enabled humans, could lead to an intelligence divide between them and us even more serious than the digital divide currently prevailing in the field of economic competitiveness.

While the mass media gradually dumb down human culture to about the level of sentience regularly exhibited on the Jerry Springer Show, and while human thought is increasingly fragmented and trivialized by social media like Twitter, celebrity gossip and media-propagated groupthink, and while the once great democratic institution of investigative reporting is reduced to Murdoch-style commercialized and “embedded” journalism, AI is slowly and silently developing much greater capacities which enable its systems and networks to increasingly control all the main levers of society, from stock market trading to traffic control, from production systems to communication networks. Automation is progressing at the speed of sound, from ATMs to drones, from the Google search engine to the Google self-driving car powered by its Google Chauffeur software. In space exploration, automation dominated from the beginning, with Yuri Gagarin becoming the world’s first spaceman thanks to an automated rocket system called *Vostok 1* which carried him into orbit.

If our cultural knights in shining armor are now the David Beckhams of this world, our species may drown in its own deluded vanity and superficiality, while machines and systems increasingly run the “real” world. The truth is, human intelligence is *not* advancing in today’s bankrupt post-modern culture, while artificial intelligence *is*. We need to recognize that there are diverging trajectories of development here. One day, friends, well before mid-century, we might wake up in a society controlled almost exclusively by computer programs, automated systems, IT elites and cyborgs, with humanity, at large, reduced to a pale shadow of itself as a declining subspecies.

The only hope humans of the future have of winning the Intelligence Race is to accelerate their creativity and innovation, to get better at being human.

Machines and AI systems are already enjoying a spectacular ascent to prominence in today's economy, taking jobs once carried out by humans. We are entering a phase in which robots and AI systems will take over more sophisticated jobs than their traditional assembly-line and lower-level positions, such as waiters and bartenders – receptionists, clerks, teachers, lawyers, psychologists, medical assistants, legal assistants, pilots, and even so-called expert systems which can help doctors diagnose diseases like diabetes.

In finance, a variety of jobs from loan officers to stockbrokers and traders could be computerized in the coming new world of cyborg finance. Finance, it seems, is increasingly reliant on AI and incredibly powerful and fast computers, based on sophisticated algorithms which can analyze and execute trading opportunities based on complex mathematical models.

Clearly, what computer programs and systems can do is moving inexorably up the chain of sophistication and complexity. Eventually, one imagines, what can be automated, probably will be – due to the relentless competitive pressures for efficiency and efficacy which prevail in society. Research done by Oxford University predicts that 47% of the human workforce could face replacement by computers.

Let's briefly revisit what we mean by the terms Artificial Intelligence, the digital divide and, now, the Intelligence Divide.

Apparently, Artificial Intelligence, a branch of computer science which investigates what human capacities can be replicated and performed by computer systems, was a phrase coined in 1956 by John McCarthy at MIT. This field includes such aspects as programming computers to play games against human opponents, robotics, developing “expert systems” and programming computers for real-time decision-making and diagnosis, understanding and translating human languages (the ability for artificial “talk” or speech), and the area of simulating neural processes in animals and humans to map and imitate how the brain works. This is one of my favourite definitions of AI: “The study of the modelling of human mental functions by computer programs.” (Collins English Dictionary, 4th Edition: 1998)

The digital divide refers to the gap between those who have access to Information and Communications Technologies (ICTs), especially the Internet, and those who don't. In effect, the digital “have-nots” are those billions living in poor and deprived social conditions who don't have the education and skills to know what to do with digital technology and Internet even if they did have access to them.

*The Global Information Technology Report 2012: Living in a Hyperconnected World*¹, published by the World Economic Forum, found that the BRICS countries, led by China, still lag significantly behind the ICT-driven economic competitiveness.

¹ <http://www.weforum.org/news/global-information-technology-report-highlights-emergence-new-digital-divide>

In 2014, The Organisation for Economic Co-operation and Development (OECD), looked into the role of education in cementing the global digital divide. The organisation concluded that in many countries, large parts of the adult population have non-existent or insufficient ICT problem-solving skills. For example, they reported, “Between 30% and 50% of the adult population in Ireland, Poland and the Slovak Republic fall into this category.”² Yet, as advancing societies become more knowledge-intensive, a growing number of jobs require at least basic ICT skills.

But the digital divide in the world, based on both access to ICT and the education skills to know how to use it, is only the precursor of an Intelligence Divide (ID) which, ultimately, could become an even deeper social fracture than racism has been in the world. The Intelligence Divide would be the growing gap between what human intelligence can do without computer power compared to what AI systems, computer programs and AI-enabled humans, including cyborgs, can achieve across a range of intelligent activities including thinking, calculating, decision-making, perceiving, communicating and organising. The divide would be measured in terms of ratios of efficiency and effectiveness for the same activity performed respectively by humans and AI systems and cyborgs in any given social context.

Whether or not a deep Intelligence Divide develops, an Intelligence Race is already underway on the economic front between humans and AI. This race is not about whether a computer can beat a human chess champion (remember when Deep Blue beat Gary Kasparov back in 1997?) but about which jobs can be done better, and more efficiently, by machines than by humans. More and more processes can be automated and this will likely mean fewer jobs for humans in the long-run. The Intelligence Race is sure to become a defining trend of this century.

What concerns me is that our post-modernist world, dominated by the trivialisation of the mass media, the corruption of democracy and the globalisation of self-serving commercialization, is catapulting humanity into intellectual decline at a time when AI is on the rise. This is one of the main reasons why I’ve become a neo-progressionist. Why let Artificial Intelligence progress at our expense instead of boosting *all* forms of progress in a wiser, more holistic, approach?

The 6,000 year journey of civilization is still in its infancy when measured in time-scales of the cosmos and the Biosphere itself and this probably means humanity has nowhere near reached its full potential. Of course, I would much prefer to see human intelligence increasing, not declining, before it’s too late to stop the Intelligence Divide from taking root in the evolution of our history.

See Michael Lee’s video on YouTube “Finding Future X” at <https://www.youtube.com/watch?v=XQItLRhZkMY>

Originally posted as a blog “The Intelligence Race” on Infinite Ideas website

<http://www.infideas.com/intelligence-race/>

² “Trends shaping Education 2014 Spotlight 5” by the OECD www.oecd.org/edu/cei/trendsshapingeducation2013.htm