**An Education System for the 21st Century**

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Humanity stands at the precipice of great changes; we are living in an era of unprecedented scientific transformation and the 4th Industrial Revolution is just around the corner. New technologies like Artificial Intelligence and Quantum Computing have already commenced their disruptive cycles. Moving forward, the Internet of Things, Cloud Computing, 3D Printing, Block Chain, Virtual Reality and Robotics will play a greater role in the economy. FinTech will transform our financial sector and Space will be the next frontier we conquer. The Biotech Revolution will transform our healthcare system, increasing life expectancy and perhaps extending retirement ages. These coming revolutions will be continuous, not a one-time effect – a cascade of incessant disruptions.

The unfortunate reality is that we do not know what the job market will look like in 2050. We’re aware that occupations like chauffeurs or pilots will disappear as self-driving cars and aircraft appear, AI-run diagnostics will diagnose diseases and drones will deliver products to our doorstep. Perhaps even fighter pilots and tank crew might be replaced by robotic unmanned aerial and ground vehicles. However, in contrast to the last Industrial Revolutions that resulted in a plethora of opportunities due to new technologies, the AI revolution will hit white-collar middle-class jobs hardest. As AI tech matures, many financial sector jobs will probably be replaced by software and algorithms. An innovator who develops an AI that provides free legal advice will revolutionise the legal sector. As Yuval Hariri points out, we might end up in a situation where there is not enough work for everyone – where talented workers compete for a small number of jobs and society may end up harbouring a useless class not needed for essential economic output. This will have grave economic, political and societal consequences.

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Mankind would also face philosophical questions we have not tackled before. What would it mean to be human in a world where AI software could generate better paintings than Picasso, compose a better novel than Dickens or even provide better legal advice than a solicitor? With AI and Algorithms playing a greater role in our lives, humankind will have to confront the fundamental question of choice and free will. By mulling over our digital history, scrutinizing body language and analysing pupil dilation, AI-run software will be able to ‘understand’ us better than we understand ourselves. To paraphrase Hariri, humans will become “hack-able.” Obviously, all the data we generate will be a treasure cove for corporations and digital marketing firms. The person who collects and controls data will rule, just as the lords who controlled land reigned centuries ago.

The workforce of the future would have to be more efficient, disciplined and intellectually gifted. The goal of education in the 21st century will be to develop emotional intelligence, compassion, artistic sensitivity and mental resilience to deal with a hectic world. To stay relevant, workers will have to reskill themselves every few years – to keep learning throughout life, to repeatedly reinvent themselves with new disruptions and bounce back from failure, or fade into obscurity. The main challenge here may be psychological, if not monetary or financial. Reskilling a worker after a certain age becomes mentally gruelling and emotionally draining. However, humans are adaptable and it is imperative that we teach students how to deal with failure to prepare them for a changing era. Our current schooling model was developed during the First Industrial Revolution and was geared towards producing workers for factories. This education system may evolve over time, but the pace of change is faster. Our primary economic role in the future may not be as workers but perhaps as innovators, and our role in society may shift from citizens in control to citizens struggling to keep abreast with the winds of technological change. Governments will have to invest considerable resources to build a lifelong system of learning, with technical institutes re-educating employees after a new technology disrupts the job market.

If developing countries like Egypt, South Africa, Nigeria, Iraq, Pakistan, Vietnam and Indonesia wish to prepare for the future, now is the time for action. Inevitably, this would require a radical shift in their education systems – less focus on memorization of facts and rote learning to a greater emphasis on a spirit of logical deduction, developing critical thinking, breadth of academic interests and problem-solving skills, and inculcating entrepreneurial mindset. In “Range: Why Generalists Triumph in a Specialized World,” David Epstein writes that in our increasingly complex and abstract world, breadth of knowledge instead of a narrow specialization is a better predictor of scientific success and innovation. Students will have to focus on Programming and Coding and Data Analytics as well as Behavioural Psychology and Philosophy.

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