Keeping education relevant in times of change

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"Powerful technologies have always fascinated and frightened humanity, and humanity has gambled on them time and time again. (Metz, 2021, p.10)

The recursive interactions between the inherent qualities of technology and human intellect enabled us to overcome our limitations and extend the capabilities of the same technologies beyond what they may have been originally designed to do. From a deterministic point of view it can be assumed that technology will always tail and sustain human progress but as a new class of intelligent machines permeates and gains a strong foothold within our economic scenarios, then that is about to change. The consolidation of a new generation of autonomous intelligent machines, that are capable of working independently of human supervision are provoking a new culturally and technologically driven reality. Such autonomous machines, may for now be limited in their functions. However, as they become progressively more sophisticated, we can potentially be facing thinking machines which as they seamlessly merge within what humans do, then several human administered jobs will be transferred to the machines, inducing redundancy from work.

We may inevitably be relinquishing what we do in favour of Artificial Intelligence (AI) enabled machines. On the other hand, transferring mundane activities away from human responsibility can have different implications, even positive ones. Thus, rather than opposing the inevitable, we have to see how best to cater for change. Incidentally the same perceived uncertainty that the onset of AI is provoking can be taken as a blessing in disguise. That is, while we are still in a position to effectively cater for our own needs, then if properly channelled and harnessed, AI can open new windows of previously unrecognised opportunities that can be of benefit for all. I will therefore briefly express how within such an atmosphere of ambiguous forward directions, education like in previous Industrial Revolutions should again be instrumental to sustain transformation.

Over the years, socioeconomic needs have fundamentally instigated education to reflect and support economic requirements. During the first industrial revolution (IR 1.0) education catered for the chosen few and the refined gentleman. The second Industrial Revolution (IR 2.0) provoked mass migration of workers from the fields to the factory floor. Subsequently driven by electricity and internal combustion engines, IR 2.0 instigated the transformation and expansion of universities with the setting of faculties

such as engineering, mathematics and science that effecively catered for the growing requirements in science, research and development in industry and manufacturing. Ironically, IR 3.0 effectively lowered the same factory population but gave rise to service-based work niches such as office work, drivers, cashiers and shop attendants. As the IR 3.0, leaned towards a service-based economy and a shift towards digitalisation it unequivocally facilitated and fostered ICT skills. The 4th Industrial revolution (IR 4.0) may be likened to the 3rd but, dealing with intelligent machines that can imitate human intellect makes IR 4.0 distinctly different with a clear call to upgrade our educational model. It therefore does not come as a surprise if within all this uncertainty on how best education can proceed Caena and Redecker (2019) describe our times as Volatile, Uncertain, Complex and Ambigous (VUCA). Thus, with the onset of driverless cars and automated services what will the opportunities of work look like? How can we educate with the digital technology of today if that of tomorrow is intrinsically autonomous and therefore different?

Firstly I believe that it does not make sense to create machines and then teach students to try to do better than them because they will surely fail. As the future of work will bring us closer to the reality of facing generative intelligent systems, current workers, and students as future workers, have to be taught to complement not try to outsmart AI. This inherently brings forth the reasons why we are required to enhance the qualities that make us human and that irrevocably need to go beyond what sets us apart from machines and even include what makes us individually stand out even with respect to each other. Secondly if we are to individually and collectively embrace change in a gainful manner then the current, one-size-fits-all model of education; if not a transformation; requires modification. Admittedly, the one-size-fits-all and content-oriented format of education has enabled us to achieve what we have today. Then again as we thread into the unknown of a new AI imbued technological era, educational models have to shift their model from 'just in time' and 'just in case' formats to more individualised and personalised 'just for you' experiences. In this case, emulating learning patterns that students actively engage with on social media may be one of the plausible solutions. Within their own private online learning bubbles students are their own producers, directors and critics of content. Incidentally this goes deeper than just enhancing creativity because students are being allowed to voice and express their ideas and opinions. As they create and portray their own content they will understand better what it entails to be critical, original and even responsible of decisions taken. The way content is being accessed, procured and produced by students is changing. The onset and popularisation of the world wide web is now recent history, yet it revolutionised the way people network and access, promote and share content. Thus, if (as ICT related policies are portraying worldwide) education is to remain meaningful and an important ingredient and pillar within socio-economic development, then it must actively reflect the reality experienced outside.The 4th Industrial Revolution is still happening without the involvement of education. On the other hand the active involvement of teachers as facilitators for a personalised learning experience that actively involves the students to express their decisions, poses the same teachers as relevant agents of change. Ultimately if we expect humanity to profit from technological development like it did before, then modern learning insights cannot take place without modernising the delivery that should complement outside change.

References

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