Beyond Technology: The Future and Changing Nature of Human (Work)

Technological revolution brings great and complex changes that alter almost every aspect of human lives – work, leisure time, relationships, understanding of the self, nature and the universe. Breakthroughs in the fields like biotechnology, AI, robotics, nanotechnology, Big Data, IoT, and others impact human economy and society bringing structural changes manifested in the form of various and hybrid economic and business models, versatile employment and labour market rules, as well as transformable relationships and emotional and cognitive states that will further influence human attention, reasoning and decision making.

This changing nature built into all things together with technological evolution and industrial revolution of modern day society makes the future even more vague, uncertain and thus more open to questions – What will the future of work look like? How will automation and robotisation influence the labour market? What will it mean to be human? How will algorithm-driven artificial systems shape human emotions and cognition? How will society answer all the challenges? etc.

Though technological, economic and social changes are becoming more sophisticated and interdependent, as well as faster and more extreme, it is the duty of every individual, institution/corporation and society to secure the smooth transition to yet another era in human history where fluctuations of human work and identity can happen with more awareness, more calm and more balance.

And maybe it is our duty to look for the answers to the former questions in a more silent, humble, conscious, empathic and considerate place – that beyond technology.

Introduction – The intricate dance

"*The first principle is that you must not fool yourself – and you are the easiest person to fool.*"
(Richard Feynman)

Every new technology redefines society as a whole. New social paradigm emerges, our perception of good and bad, and important and unimportant shifts, and concepts like knowledge and truth change. It's not just about enjoying the fruits of society's technological evolution but how those fruits change economic and social system, life conditions, and work circumstances.

"New technologies ... are changing who we are both as individuals and as a society."
(Stiglitz, 2019: 122)

The increasing automation and reliance on technology set the foundation for 'contemporary' posthumanism[1] where trends like reductionism, relativism, uncertainty and unpredictability fundamentally changed the nature of reality and, once again in history, changed the relationship between God(s), nature and human. We live in a society where nothing is certain. Of course, nothing was ever certain through the history of human kind. But the difference this time is that we are left with much less hope and resolution (Pepperell, 2003). Nor God, nor science, nor all powerful human with all his gadgets and apps can give us finite answers for the change that is too fast and too great.

Though human society went through different revolutions in its past – cognitive, agricultural, scientific, industrial – this time is different. Confluence of ICT and biotechnology will not only change our politics, economy and culture, but it will lead to different distribution of authority, i.e. to possible shift in decision-making process that will move authority from humans to networked non-human algorithms and, eventually, transform human psychology (Harari, 2014; Harari, 2016). Algorithms, self-learning machines, AI, social robots, and other sophisticated technologies is what makes modern day society distinctive and unique in regards to its history. This new paradigm shift and diffusion of almost all borders and definitions, where everything is probable and relative, disrupted our reality, but more importantly, it disrupted how we perceive ourselves.

"We are now facing not just a technological crisis but a philosophical crisis."
(Thompson, 2018)

But this philosophical crisis is quite tangible. As a rational, social, symbolic and acting animal, man was always using technology, technical means and tools to interact with and to transform the environment and to control the nature that surrounds him. Through history, his occupational identity emerged as one of many that determined his role in the world. And as the time went on, work became his much defining 'feature'. What is different today is that modern science and technology enabled the man to interact, transform and control his own nature thus breaking down his physical, mental and spiritual self, and, as Huws (2014) claims, breaking down his occupational identity which stand as one of the most important delineators of his social identity.

Human interaction with technology, tools, and machines is nothing new. Technology and society have been involved in an intricate dance since the dawn of time. Every step before moved our society in a certain direction. And even though we've been

[1] As opposed to the more futuristic view on posthumanism that can be found in the writings and works of Moravec, Minsky, Tipler and other posthumanists.

observing and learning from this historical dance for many centuries, we must be careful not to fool ourselves with where it might take us this time.

Re-discovering work

"*The job is what you do when you are told what to do. The job is showing up at the factory, following instructions, meeting spec, and being managed.*
Someone can always do your job a little better or faster or cheaper than you can.
The job might be difficult, it might require skill, but it's a job.
Your art is what you do when no one can tell you exactly how to do it. Your art is the act of taking personal responsibility, challenging the status quo, and changing people.
I call the process of doing your art 'the work.' It's possible to have a job and do the work, too. In fact, that's how you become a linchpin.
The job is not the work."

(Seth Godin, 2011:80)

Never before in history has there been an economic revolution of such velocity, scope and impact. The exponential and disruptive nature of the Fourth industrial revolution is transforming "almost every industry in every country" using new and emerging technologies like AI, robots, algorithms, Big Data, IoT, 3D printing, nanotechnology, biotechnology, blockchain, computing power and alternative forms of energy technology (Berger, 2014; Harari, 2018; OECD, 2017; O'Reilly, Ranft, Neufeind, 2018; Rundle, 2014; Schwab, 2016; Stiglitz, 2019; West, 2018; World Economic Forum, 2016). All of these technology leaps produce different triggers that shift our economy, and with it our work and education. The breadth and depth of this shift leads to building a completely new ecosystems of industries, businesses, politicians and policy makers, public and private sector, and end users, while blurring the lines between physical, digital and biological (Berger, 2014; O'Reilly, Ranft, Neufeind, 2018). The key is to recognize new economic reality so we can adapt our practices and enhance the best of the new global digital economy to ensure more equitable growth and progress that complies with our well-being and values.

Changing economies, new business models and the rise of new capitalism

Technological changes are affecting a large part of the economy and they're becoming a driving force of economic growth. They are reshaping markets pushing us towards decentralized and non-market economy and shifting the entire economy from selling products to selling, i.e. providing services. There are also many trends that influence the rise of new economy, such as the growing number of innovation driven startups whose open, egalitarian, volatile and nomadic culture is changing today's economy (Skala, 2019). There is also the use of 3D printing, blockchain technology and cryptocurrencies, IoT technologies and, as Rifkin (2009) emphasizes, developments in communication, mobility and energy that are causing a paradigm shift towards cooperation and participation. Especially interesting today are the decentralized technologies, like cryptocurrency Bitcoin and blockchain based platforms. This is one of the reasons why economists warn us of the necessity of re-configuring social and economic models and skill sets and adapting them for the post-work economies of tomorrow (Harari, 2018). To successfully adapt to the change we have to move from building our economic and social politics on philosophical ideas from the 18th century, and adapt our mind-sets and practices to the scientific and technological progress of the 21st century (Mackey, Sisodia, 2013; Thompson, 2018).

New industrial business models will lead to the fragmentation of the value chain, personalized local production and mass customization (Berger, 2014). This, in return, will cause the decoupling of economic progress from limited resources and its shifting to more local production and consumption and thus more sustainable development and growth.

Introduction of AI, algorithms and robots will not only change the nature of work, but it will lead to the changes in our value system, i.e it will create new values that come from new economic activity and new forms of political organization (Mesthene, 2014). It will also impact the rise of different types of economies, like gig economy, platform economy, 'clickwork' economy, sharing economy, and other similar economic forms (Neufeind, O'Reilly, Ranft, 2018). All of these economic forms share certain characteristics but they are also quite distinctive. For instance, there are different hybrid forms of economic activity that combine the elements of both capitalist and gift economy (Elder□Vass, 2016). Sharing economy is another interesting economic form for it provides a context for the shift from classical model of ownership and property to a licence-driven regime and "pay-as-you-go" model, like Uber and AirBnB (Perzanowski, Schultz, 2016). Sharing economy also means breaking down the distinction between producers and consumers, i.e. engaging consumer to create value for other consumers. It also means commodifying almost every aspect of our lives (Rundle, 2014; Huws, 2014).

For Harari (2016) one specially interesting occurrence in the modern free market is datatism, or the will of the algorithms. He believes datatism is slowly becoming the new economic religion that determines the right and wrong. Algorithms make great difference between the impact previous technology had and the impact modern day technology has. We use algorithms to get something out of us while exploiting human nature, psyche and thought. Previous technologies were used to get something out of the world, to get things done. Also technology that can sense and learn is capable of much greater sophistication than the one that finds it hard to adjust as it performs a fixed set of tasks. Indeed, it is the capacity for self-learning that distinguishes today's technology from those of previous generations. One result of strong belief in datatism is the birth of reputation economy that is slowly but surely commercializing and commodifying our reputation. Thanks to the rise of digital media and new forms and models of collaborative work and organisation, as well as Big Data and Big Analysis, human reputation has become a social capital of value that is being mined, refined, traded, soled, stored and used for profit (Fertik, Thompson, 2015; Gandini, 2016).

Another type of economy based on new digital media, social innovation and social networking approaches to business is influence economy. It goes beyond algorithmic interpretation of our reputation, and uses different collaborative tools, like

social analytics and predictive analytics, to capitalize the power of social interactions and business networks (Gordon, Weir, Girard, 2014).

One of the best examples of structural change due to technology is the already mentioned sharing economy. For Rifkin this new economy represent the beginning of hybrid economy – the merging of capitalism and sharing economy, like in the case of Uber where capitalism tries to absorb sharing economy. Distributed and collaborative culture of sharing economy will certainly challenge centralized and authoritarian culture of (traditional) capitalism which will result in the fragmentation of the value chain (Rifkin, 2009, WEF, 2016).

Capitalism itself is experiencing restructuring. Even though few corporations are dominating entire sectors of economy leading to inequality and slow growth (Stiglitz, 2019), new forms of capitalism are emerging: progressive capitalism (Stiglitz, 2019) that channels the power of the market to serve society; conscious capitalism based on decentralization, collaboration and empowerment and focused on evolving the business paradigm and creating good short term and long term values beyond generating profit and creating shareholders values (Mackey, Sisodia, 2013); and distributed capitalism (Fuchs, 2018; Rifkin, 2009) that is embracing global collaboration and making a shift towards cooperation and participation. Maybe this new face of capitalism is moving it away from depersonalized economy concentrated exclusively on money and financial gain, and reviving the values that once inspired the hard work of Romanesque and Gothic masters.

"In those days the purpose was not work itself or different gain from it, but the vision and meaning incorporated into that work"
(Mumford, 1970:)

Meaning is exactly what can foster businesses success for it represents a distinctive trait that makes certain business unique and 'valuable'. Businesses should ask themselves why do they exist and why they do what they do. They should clarify the "why" – what is their purpose, cause and belief, what is the vision and meaning. The question of "why" will open other questions that will help businesses become more conscious – *How to create more value? How to be fair and more accountable? How to grow while creating trust and loyalty?* (Mackey, Sisodia, 2013, Sinek, 2009).

Evolution of work and new social contracts

There are two predominant perspectives on AI and automation that range from utopian, where machines create technological miracles and marvels, to dystopian, where labour is replaced by software and malevolent robots. In the former technology creates far more opportunities than it destroys. We have to be aware that this biased approach can fail to recognize other important questions, such as the necessity to redefine social contracts, to create the right policies, or to create successful 'dialogue' between the labour market and education system.

Traditional narratives of the changing nature of work are usually focused on the same rhetorical strategies of cause (i.e. impact of technology), effect (i.e. job losses) and cure (i.e. what governments could do mitigate all the problems). The narrative hasn't changed in the contemporary economy but there is certain transformation taking place – initial hopelessness and fear are giving place to strategic preparation and adaptation for the change. Lately, we've been faced with many frightening reports on jobs, when it is actually restructuring of working class and reconfiguring of human work that is taking place. Most of the reports are concurrent on three issues: a) technology has significant impact on the nature of work and shaping new jobs; b) there is evident rise of digital labour and need for new skills; and c) merging of human work and machine work is at our door.

As hybrid economy combines capitalism with sharing economy, hybrid work combines humans with machine work. AI is already either replacing us or augmenting us. Collaboration between humans and machines will, in some cases, lead to job losses and de-industrialization. But as the reconfiguration of world economic infrastructures will bring job displacement, it will also bring job creation and create the need for the new high-tech workforce (World Economic Forum, 2016; Rifkin, 2009). Harari (2014, 2018) believes machine learning will be a game changer, but he admits that machines and automation won't replace us when it comes to less routine jobs that demand critical thinking, problem solving, dealing with unforeseen scenarios, and other high and soft skills.

Four key technologies/processes already impacting work are automation and AI, gig economy, reinvention of learning, and shifts in policy (Cribb, Glover, 2018). Stiglitz (2019) believes that advances in AI will replace many jobs, especially routine manual tasks, leading to unemployment and driving down wages of low-skilled workers. And many other reports support that idea (Mesthene, 2014; OECD, 2017).

"A computer doesn't need to replicate the entire spectrum of your intellectual capability in order to displace you from your job; it only needs to do the specific things you are paid to do."
(Ford, 2015: 194).

But this doesn't mean that the future is jobless. It is just hard to predict the future of work. The situation with the advancement of AI and labor-replacing machines needs to be managed properly and successfully in order to bring the prosperity these technologies promise. And we shouldn't forget that there are also technologies that will amplify human work. Stiglitz (2019), for instance, also mentions technologies like IA (intelligence-assisting innovations) that will increase the performance of human labour in many ways. Likewise, there will be high-tech jobs with technology as a tool created and controlled by humans. However, the change in job profiles and new emerging job categories are going to be complex and multifaceted and they are going to continue to incite conflicting views about how technology generates or displaces jobs and how should society respond to it.

"It is not that new jobs won't be created, but it is likely that older positions will be eliminated faster than new ones are created."
(West, 2018: 83).

Another work issue is the rise of contractual employment, migrations of people to jobs and of jobs to people, and the rise of precarity (Huws, 2014; Kergel, Heidkamp, 2017; O'Reilly, Ranft, Neufeind, 2018; Troncoso, 2018; West, 2018). Changes in who does what work, when, where and how emerged from new social practices and new social spaces, and led to more flexible and hybrid types of work and to more unstable employment relationships. Labour gets fragmentized, workers are getting less full-time employment and thus social safety, and workplace is getting "fissured" - there is more outsourcing, hiring third-party agents, i.e. hiring temporary and external workers.

It is now certain that modern day technologies and industrial revolution have transformed social order. Even though they amplify human effectiveness they also threaten human capabilities while making things worse with increasing inequality and unemployment (Harari, 2014,; Stiglitz, 2019). For the first time in history people may be rendered useless and unnecessary, and those who are already socio-economically challenged may become excluded. And since many social benefits are delivered through jobs, a question arises how are people without full-time employment going to manage? This is the reason for greater social and political response that goes beyond liberalisation, deregulation and privatization. Most effective solution for massive unemployment would be to introduce new political agenda, new employment standards, new tax system, new social contracts and new forms of social protection. Policy makers should answer the question about the future of jobs by

> "capturing and combining the innovative dynamism of these changes with enhanced social justice"
> (O'Reilly, Ranft, Neufeind, 2018: 20).

One suggestion is to broaden the conception of work to include such pursuits as part-time labour, volunteering, parenting, and mentoring, especially for workers with few skills who are unable to find a job. Another suggestion involves introducing new forms of social protection, like basic income guarantee, i.e. universal basic income. The idea is to protect workers who would be displaced due to digitization, automation and the rise of AI and to secure smooth transition to digital economy and automated society (Campa, 2018; Ford, 2015; Kergel, Heidkamp, 2017; Neufeind, Ranft, O'Reilly, 2018, West, 2018). But for this solution to be effective we need to get incentives right. Otherwise we could face risks and downsides, as well as problems such as defining the terms "universal" (it would usually mean "national") and "basic" (it is hard to determine what basic means since we all have different basic needs) (Harari, 2018; Ford, 2015). Besides governmental financing on a national level, Troncoso (2018) suggest that universal basic income could come from taxing companies and corporations that thrive based on users' data and their digital labour. Though solutions like universal basic income seem as an appropriate answer to the coming massive unemployment and wealth inequality, they open the door to other questions – *Would universal basic income become a new way for buying social peace?* or *What about universal basic income and global migrations?*[2]

It is inevitable that technology will transform our work and health of the economy. The key is how will we approach this situation. When we face obstacles and negative events, for instance job loss, we tend to slow down the process of recovery through personalization, i.e. by believing it's completely our own fault ("*I should have worked harder*."), through pervasiveness, i.e. by believing that one bad thing will affect our whole life ("*Now I will loose my house and my family.*") and through permanence, i.e. by believing that the aftermath of the bad event will last forever ("*I will never find another job.*") (Sandberg, Grant, 2017). We need to reverse our thinking and we need to understand work in a completely new way. Maybe we can't beat machines, but we can be more creative, curious, empathetic, flexible and adaptable. Work has future, we just need to discover what will it look like. And to prepare ourselves for it Cribb and Glover (2018) advise that, amongst all other strategies, we should get to know ourselves, know what's around us, we should have a plan and be ready to take chances, built the right mindset, concentrate on our behaviour and look after ourselves.

Skills for 'survival'

If we want to prepare for the future of work, as much as it is possible, we need differentiation of skills, widening of skill gaps, we need workers with interdisciplinary skills, people with more talent and high skills, like design thinking, critical thinking and problem solving. Also, workers need to have soft skills, like empathy, communication skills, collaboration and perseverance. We can't be rigid, we have to be open to constant change and adaptable to different future scenarios.

In 2016, World Economic Forum reported about the demand of the job market for reskilling and upskilling.

> "Content skills (which include ICT literacy and active learning), cognitive abilities (such as creativity and mathematical reasoning) and process skills (such as active listening and critical thinking) will be a growing part of the core skills requirements for many industries."
> (World Economic Forum, 2016: 22).

Human employees will need to learn new skills and change their profession probably more than once during their working lifetime (Harari, 2018; West, 2018). This simultaneous deskilling and reskilling, while new occupations are being formed and old ones re-formed (Huws, 2014), may come with a challenge, for not all the workers that find themsleves in distress will have the opportunity to catch up with new technologies in time. They just might miss their opportunity to readily join the technological upheaval.

Skills that are considered essential for successful positioning in such a dynamic economy vary from the skills in embedded computing and nanotechnology to skills of social and cultural awareness. It is the age of great differentiation of skills that include interdisciplinary thinking, critical thinking, problem solving, creativity, curiosity, initiative, persistence, adaptability, leadership, generic and complementary ICT skills, and many other (Berger, 2014; Cribb, Glover, 2018; Huws, 2014; OECD, 2017; Rifkin, 2009).

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[2] Some authors emphasize this as especially challenging because: a) if universal basic income would be devised as national incentive it could easily be exploited by economic or other migrants; b) citizens of a certain country could protest paying taxes for universal basic income fund that would further finance people who are not citizens of that country.

According to Bridle (2018) and Meadows (2009), one particular skills that will prove to be essential for the age of technology is system literacy. They warn us of our plain acceptance of technology as a value-neutral tool and our plain reliance on models to learn about the world. Since our lives are built around different systems – systems in nature, man-made systems, artificial systems, etc. – we need to learn how to think in systems, i.e. move from linear thinking to system-thinking. It is necessary that we develop real systematic literacy that helps us understand how complex technology and complex systems work and how they interact, especially those that are mostly invisible and interwoven with our world, and thus not only do they add to our abilities but actively shape and direct them. We can't always control systems, but we can learn how they work and how we can work with them.

Education: To be continued …

As automation, robots and AI substitute human labour across different industries and businesses, it is necessary to rethink education system and incentivize lifelong learning and training for the future (WEF, 2016). We should avoid limiting ourselves by developing strictly defined set of skills designed to get a specific type of job. As some authors point out (Campa, 2018; Gordon, Weir, Girard, 2014; Harari, 2018), we don't know what the job market will look like in 30 years so we need to move beyond formal learning and the idea that STEM education will solve all our problems. Constant changes in the labour market imply we need to be adaptable throughout our working lifetime. We need to move towards social learning, high-quality education and education for new innovative forms of entrepreneurship (e.g. startups). And we need to incentivize lifelong learning through community colleges, distance learning and private businesses (Neufeind, Ranft, O'Reilly, 2018; Skala, 2019; West, 2018).

If we want to successfully meet the disruption that awaits us, we need education that supports reskilling, retraining, adaptability, personalization of the teaching/learning process, mentoring, project based learning, creativity, curiosity and imagination. And as in work, here, too, we will have the symbiosis of humans and machines – it is certain that future education will be based on the application of technology, but there also has to be place for empathy that comes from human interactions between teacher and students.

Cooperation and collaboration to the rescue

The need to be faster and better and the drive to be efficient and successful that push the new economy forward should be appreciated and preserved, but not for the price of social and ethical responsibility towards our community, society in general and to our environment. This can be hard because our monetary system demands growth and innovation, and many times that comes at the price of widening the gap between different market stakeholders, threatening human values and provoking and/or accelerating ecological problems. We have to use our scientific and technological upheaval to create and seize opportunities to create new and more humane and more green products and services. We should also work on creating new values through: a) global cooperation (Harari, 2018: Thompson, 2018), and b) cross-industry and public-private collaboration (World Economic Forum, 2016).

Especially interesting is the public-private collaboration. Though many of us would think that government should minimise its role as much as possible when it comes to modern capitalism and private ownership, and that enterprises (startups, companies, corporations) are solely responsible for their success and profit in the private economy, the role of governments is vital. State has an important and continuing role to provide essential services (Elder-Vass, 2016), especially in countries where capitalism is emerging, like China and India. And in the age of constant technological change that shapes and restructures economies and businesses, both locally and globally, it is inevitable to consider economic reform more often. But to reform economy we first need to reform political system (Stiglitz, 2019; West, 2018) and rely on governmental decision to resolve the drawbacks of capitalist economy.

Re-discovering humanity

„All of humanity's problems stem from man's inability to sit quietly in a room alone."
(Blaise Pascal)

When we think about the age of high-end technology, we're mostly focused on robots stealing away our jobs, but we're overseeing the algorithms snatching away our awareness and attention. We usually bring to mind images of technologically augmented bodies, virtually represented identities, or even cloud-based simulations of human brains and minds. But the change doesn't have to be so 'evident' to be considered as altering as it is. It is certain that technological (r)evolution will impact not only what we do – our work, our jobs and careers, but also who we are – our identity and relationships, our cognitive skills, our understanding of the true nature of things. Traditional values of leisure and play, as well as work-life balance, stand against values of increased productivity and constant economic growth. Technology tends to create conditions for the rise of ever new values and new ways of not only social and economic organization, but of the way we build and maintain relationships and the way we see and understand reality. This creates a constant pressure to re-examine our perception and views. And that process, in order to be successful, usually takes two things – time and silence. Something we seem to have less than ever.

Though all the changes we're facing might seems either utterly promising and favourable, either degrading and destructive to our current value system, we have to be careful not to oversimplify and generalise the relationship of society and technology and the dynamics of their interaction. To avoid making poor decisions about the future of humanity, we have to be careful to avoid chaotic dystopian interpretations, as well as all confident utopian projections of what is to come. Many entrepreneurs, economists, social scientists, historians, authors, and experts of different kind have identified certain occurring oversights, as well as opportunities to resolve them. They have expressed concerns that inexorable integration of technology is not only shaping certain aspects of our lives, like work and leisure, but is conquering our nature leaving us

with the question how much of our behaviour, choices and actions is really us? There are quite a few occurrences taking place in the age of technology.

Attention issues and digital addiction

The first oversight concerns the issues of addictive technology and extraction of human attention.

Some of the first problems we think about when confronted with the subject of technology 'invading' our lives is that of privacy. But lately we're witnessing other important issues taking place. One of them is the rise of addictive technology which is getting more difficult to resist, whether we're talking about smart watches, behaviour and activity trackers, and similar smart technologies or other type of addictive technologies.

"We spend ¼ of our lives in artificial social systems."
(Center for Humane Technology, 2019).

Since addiction is produced largely by environment and circumstance, addictive technology design is structured to include six 'environmental and circumstantial' ingredients that compel human mind to addictive behaviour: chasing goals, getting feedback, having a sense of constant progress, 'solving' escalating tasks, attempting to resolve different cliffhangers, and social interaction (Alter, 2017). For instance, constant goal tracking leads not only to always pursuing more than enjoying success and accomplishments, but also to quantifying the aspirational self, dreams and desires that ultimately leaves us feeling purposeless and empty. Most of today's economic, i.e. consumer culture is built around this emptiness and loss of meaning. Modern man seems to be disconnected as ever. People are feeling alienated from nature, from other people, creativity, and from being in touch with the self. Economy and traditional capitalist culture tend to fill this gap with products and services but they seem to fail (Bauwens, 2018; Harari, 2014; Mumford, 1967). As Rifkin (2009) concludes, human being is a thinking and feeling animal that can't be limited to just 'having'.

Attention issue or shorter attention spans is a result of extractive attention economy. By combining overwhelming AI and principles of extractive attention economy, artificial social systems have overpowered human nature and downgraded our relationships and our attention spans (Center for Humane Technology, 2019).

Another challenge for our attention involves the issue of continuous partial attention, the result of digital overload and multitasking. Constant engagement of our attention that is being dispersed between number of simultaneous tasks is making us more stressed and less efficient. As Spitzer (2012) points out, we are constantly outsourcing our mental activity to our gadgets and apps while engaging in multitasking which may cause not only attention issues, but also behaviour problems, sleep issues, cognitive and other health issues.

Both digital addiction and attention problems emerge as a result of technology exceeding human vulnerability. There is a technological race to capture human attention and hijack personal interactions, to turn us to addictive behaviours, to create the culture of instantaneous communication, less personal relationships, polarized opinions and superficiality. This commercial exploit of our weaknesses creates false sense of accessibility and entitlement but in return controls and shapes our culture, politics, relationships, behaviour and consciousness (Center for Humane Technology, 2019; Johnson, 2019; Nichols, 2017; Stiglitz, 2019; Wu, 2016).

The downgrading of humans

Second oversight, immediately following digital addiction and shorter attention spans, is the issue of downgrading humans. As Harris and Harari already concluded (Thompson, 2018; 2019), the true danger comes from technology exploiting human vulnerabilities and hacking human feelings, attitudes, beliefs and behaviours. Domination of a certain perspective, like the one where technology gains precedence by overcoming human strengths, can turn out to be unwise because it overlooks the true challenge we face – (self-learning) algorithms sensing and exploiting human weaknesses. We are slowly loosing free will to algorithms and social pressure, and the only thing we can do to protect our consciousness and mental space is to become more aware of the things, or even, as Lanier (2018) and Wu (2016) suggest opt-out, unplug or take "digital sabbaths".

"My illusion of free will is likely to disintegrate as I daily encounter institutions, corporations and government agencies that understand and manipulate what was hitherto my inaccessible inner realm."
(Harari, 2018: 49).

The biggest mistake we are doing is constantly pursuing the next big technology while neglecting the development of our own being. We have been developing AI and upgrading machines while downgrading humans and disregarding the development of human consciousness (Harari, 2018; Johnson, 2019, Thompson, 2019).

Besides aforementioned oversights, there are also few opportunities we can utilize to successfully mitigate these complex challenges.

Designing 'calm' technology

We can choose to design more calm, invisible and more conscious technology. By incorporating the principles of minimalism and simplicity in its design, we can create technology that respects human attention while considering the issues of reliability and context. That way technology amplifies the best from both, humans and itself (Case, 2016). Smart technologies, AI and algorithms act as enablers of interconnection and interdependency of humans and machines. Considering the near future of connecting human brains to AI networks and systems, conscious technology becomes more important than ever. And combining wisdom and 'mysticism' from all ages and cultures with technocratic approach (Glenn, 2015) can help create more contemplative, mindful, trusting and safe human-technology symbiosis.

Becoming true users of technology

We can change our mindset. We need to accept that we have all become cyborgs and there is no turning back. The key is our attention. We don't have to completely unplug and discard technology, but we can choose where we will place our attention. And with the right attention, instead of technology consuming us, we can start to consume technology for our benefit – strengthening relationships, building careers, improving health, etc. (Dancy, 2018).

Progress and development are intrinsic to our human nature and to our society. They cannot be stopped or reversed. Our economies and markets are in service of the progress; to oppose them would not only be in vain, but probably even destructive for the other side – us, our human values, our environment. In the eyes of the increasing pace of technology and economic development this 'other side' can easily become secondary in importance, especially if it opposes progress. This is why a comprehensive and encompassing approach is necessary. It can restore balance, create technology that respects human values and improves human lives, it can bring back control to humans, and optimize them for their technological future.

"Technology is not an exogenous force over which we have no control. We are not constrained by a binary choice between "accept and live with it" and "reject and live without it""
(Schwab, 2016).

Becoming mindful

Our last opportunity lies beyond quantifiable and augmenting character of technology – it is our ability to slow down and be mindful, to show kindness, to nurture the culture of cooperation and giving, and to distinguish what is important from what is not.

We need to slow down, rest in a moment, become more relaxed in order to become more creative.

"When you try to understand something, it's often most effective to set aside your preconceptions and observe it quietly so that the object of your examination reveals what needs to be understood. Instead of diving into the muddy water of your emotion as a way to conquer it, you should observe it from the outside and let it settle down and transform on its own."
(Haemin, 2017: 30).

Human tendency to be kind and giving to others has always been one of the foundations of cooperation and collaboration. And though many corporations today have made their wealth through exploitations of others rather than through wealth creation (Stiglitz, 2019), to build successful and good society, we need to abandon classical economic win-loose approach of cutting others down. We have to cultivate the culture of givers and adopt win-win approach where well-being and success of others amplifies our own well-being and success (Grant, 2013; Rifkin, 2009).

Other traits of human nature that can help build more humane and sustainable society, culture and economy are mindfulness, compassion, self-awareness, consciousness, self-understanding, self-identification, capacity to self-transform and empathy (Gelles, 2015; Harari, 2018; Mumford, 1967; Rifkin, 2009; Thomspon, 2018). They can help us become more socially responsible, more sustainable and humane, but also to regain control over the flow of our minds. Sustaining these values doesn't go against advancement and progress.

"It doesn't square with the competitive and aggressive business culture, it just means that workspaces become more humane, product more sustainable, consumers more choice-aware."
(Gelles, 2015: 185).

People have always sought happiness in different places – good and healthy relationships (family, friends), success, financial stability, in the feeling of empowerment and inner growth, or from within themselves. And since we live in an age where these thing are obtainable easier than ever before, we would think people could be quite happy. But in a socio-economical ecosystem where technological upheaval constantly challenges our careers, relationships and beliefs, and influences our minds and our power of framing the experience, we tend not to be so happy. At least not as expected.

"People are not so happy as expected, they are happy as long as their personal delusions are synchronised with prevailing collective delusions."
(Harari, 2014: 397).

One of the most prevailing delusions is "perfect nonessentialist storm". Enabled by technological bounty and created by exponential increase of choices and outsides influences, that "storm" makes us think we can have it all and do it all. And when we don't succeed, we face failure and disappointment (McKeown, 2014). The key is to understand that sometimes less is better, and that in order to regain clarity, control and joy, we need to understand that we can't have it all, we can't do everything, and we have to choose.

Everything is impermanent and everything has an expiration date. Our suffering is born from our inability to fully understand and accept the transitory and impermanent nature of all things; including suffering and happiness (Goenka, 1994; Hanh, 2014). We can overcome our over-attachment to good experiences and joyful feelings, as well as our aversion to bad experiences and painful feelings through right knowledge and understanding (Yogendra, Yogendra, 2011).

We have to choose more often to engage our thinking System 2 and our experiencing self (Kahneman, 2011) and thus with more mental effort, consideration and awareness, living more in the present and less obsessed with our 'stories' and 'delusions', we can create conscious society and conscious economy.

So, besides restructuring technology into more calm, mindful and respective of human values, we need to re-discover and nurture our most essential human talents – to have compassion and tendency for cooperation, to be aware, to consciously reflect on reality of things and mindfully engage in our relationships and activities. We cannot perceive, understand or act

properly if we are constantly being distracted and our attention constantly being dispersed by different goals, tasks, and interactions. Nurturing silence, awareness, humour and solitude (i.e. disconnection) can sharpen our perception and understanding of reality. So, maybe finding time to 'sit quietly and alone' is our first step to re-discovering what it means to be human in the age of technology.

Conclusion – 'Invention of the Future'

"*Anything which is troubling you, anything which is irritating you, THAT is your teacher*."
(Ajahn Chah)

Our present, and more so, our future, have never been so existentially transformative. Future technologies will certainly revamp humanity. Current technological disruption, such as the rise of AI, robotics, and self-learning machines, blockchain revolution and cryptocurrencies, developments in genetics, biotechnology, nanotechnology and information technology, the prevalence of 3D printing, IoT, Big Data, cheap computing power and expanding processing power, to name a few, will, and in some way already is altering every single aspect of our lives – work, leisure, monetary system, market, education, governance, legal system, etc. Despite different catastrophic outlooks on the future there is no doubt modern science and technology empowered people and societies. Whether we're talking about most basic accessible and inclusive technology or brain-machine interfaces and algorithms in computational finance, technology sustained our economy, education, ecology, health, and basically started a new renaissance in the history of mankind. However, it must be acknowledged that emerging technologies are reshaping our careers and redefining our identities in a ways we have yet to understand. How will we welcome these challenges? There is no prescription that will make us do it 'by the book', but there are certain things we can do that will ensure we benefit from all the shifts.

We can carefully choose our guiding principles. Is it competition and profitability or collaboration and sustainability? This doesn't imply we have to choose between growth and stagnation, but that we have to be more aware, more connected and more conscious when building good and prosperous society and economy.

We can approach our challenges in a more nuanced manner. Strategic planning, anticipating problems, being proactive, introducing incentives, creating partnerships, developing cooperation and cross-industry and private-public collaboration, including governments in the process, innovating education and incentivizing lifelong learning, and inventing new social and economic models, all demand subtle, but profound and responsible action of every individual, institution and society. We can decide to build a more conscious and caring society where well-being of individuals, societies and environment has the same value as securing infinite economic growth, making scientific breakthrough and building cutting-edge technology.

Despite the acceleration of scientific and technological innovation, we should understand that most of the big problems that we face today are seemingly beyond the ability of technology to resolve. Most of the times the answer will lay in our own imagination, creativity, authenticity, free will, awareness and consciousness, in our values and skills for survival. We need to learn, or at least remind ourselves, how to rely on and trust ourselves again.

Instead of chasing perfection, we have to realize that we have limited control over the tools (technology) we use and over the direction we're heading to. Or as Shirky (2009) would conclude:

„Our principle challenge is not to decide where we want to go but rather stay upright as we go there."
(Shirky, 2009: 300).

It means we should combine our high ambitions and expectations with realistic possibilities of both individuals and society. Being ready to accept our own limitations and the possibility of taking a detour into unknown may come to be some of the most important skills for the coming age.

Lastly, being prepared for the change doesn't necessarily mean we will avoid making mistakes. Failures can be our greatest teachers. They can liberate our present self while inviting our aspirational self to come to light. But only if we are ready to learn from them.

Remember the intricate dance from the beginning and us taking the steps that lead to a certain but still unknown direction? It can be a problem to not know where we're heading, and sometimes it really is. But then again, isn't that what the (invention of) future is all about?

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Milijana Micunovic

mmicunov@ffos.hr

(Faculty of Humanities and Social Sciences. Josip Juraj Strossmayer University of Osijek, Croatia)