

The Work We shall be Amidst Organisation and Community

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Abstract: The essay reflects on the topic of technological unemployment, providing a review of scenarios foreseen by some of the most critical studies focusing on possible future developments. By comparing the risks and perspectives according to the impact of the fourth-generation digital revolution, the author develops a prospect of a welfare encompassing work, community and care from a renewed ethos of co-responsibility.

Keywords: Work, Welfare, Community, Digital innovation, Technological unemployment

1. Introduction

Forty years after the publication of the book "Limits to Growth", Jørgen Randers focuses on future critical scenarios. In the volume "2052 – A Global Forecast for the Next Forty Years" (2018), the author stresses political and governance system crisis, whereby systems are unable to direct efforts towards achieving long-term sustainability. They are deprived of an understanding of developmental limitations of continuous growth model consisting of merely quantitative, material nature. It is not easy to study the future, because everyday life, reality, the present and the future are the result of how they are represented, designated and planned. This difficulty means that the way we study and approach the future influences its attainment.

This idea was also supported forty years ago by De Broglie's intuition regarding the relationship between waves and particles. This intuition paved the way for quantum mechanics, and, today, it enjoys widespread consensus within that corpus of theoretical and empirical studies. Transcending the boundaries of descriptive classical deterministic physics, it came to a probabilistic depiction of reality, according to which the states and properties of the microscopic world are not intrinsically determined a priori, but acquire existence when (and concerning how) they are measured or come into contact with other "objects". In other words, quantum physics postulates that the process of measurement irreparably perturbs what we measure¹.

So, how does one measure the Work of future Work in the future?

If we take this premise into account, the aim of the study regarding the work "we shall be" will be necessary to identify, among myriad of possible future scenarios, the most desirable one; to propose, and possibly adopt (or urge the adoption of) all the means whereby that vision may be translated

¹ An axiomatic theory of quantum mechanics based on four principles: a) particles are described by wave functions; particles no longer have trajectories but wave functions establish the probability of particles being found at a certain point: wave functions evolve following the (deterministic) Schrodinger equation; the particle is involved in an overlap of several possible states (with various possibilities) until its measurement is taken.

into reality, into the construction of the best possible future. Therefore, dealing with future signifies dealing with some epochal lacunae and challenges:

- dramatically increasing inequalities of the contemporary world (Oxfam Report 2020; Alvaredo et al. 2018);
- countless crises that have emerged following unbridled globalization (Latouche, 2010; Piketty, 2018);
- demographic boom;
- the 'end of work' (Rifkin, 1995);
- the 'normalization' of inequalities arising from the abdication of social justice in the face of the superiority and speed of algorithms. They are too often accepted as 'black boxes' with completely discounted actual functionality (O'Neil, 2017);
- the crisis of intermediate bodies (Bassanini, 2019) and the relative breakdown of the social pact between generations and communities.

Whether people will work more or less in the future and what the quality of Work will depend on whether Work is framed within the inevitability perspective or with regard to the awareness and responsibility we apply nowadays when examining the present and building a future, which is grounded in a renewed ethos of co-responsibility (Jonas, 1979). This is the only solution capable of exceeding short and medium-term prospects grounded in the pursuit of immediate profit, and the logic of compliance. The logic of compliance is culturally rooted and focuses more on the appearance than substance. This essay dwells on the following issues.

How can we design a long-term sustainable socio-economic model?

How can we guarantee the valorization of and the mediation between technology and the 'human factor'?

This essay focuses on technology-driven organizational transformations to raise awareness and devise new solutions for intervention with regards to possible future scenarios. By analyzing the literature available, the essay dwells briefly on the concept of future, scenarios most frequently advanced and on various possibilities for building future Work that will be suited to people and the community.

Several brief comments are included in the article.

2. Possible Futures

The word 'future' derives etymologically from the Latin futures, future participle of the verb 'to be', indicating what will be or will occur in a time to come. As illustrated by the Italian Treccani encyclopaedia, the future is a declension of being. It does not exist as such because, in the timeline of existence, it stands ahead and cannot be seen. It stems, moment after moment, from a formless dimension, and always delivers the human being into the hands of uncertainty. Anything and everything is possible, and this vagueness can create more or less significant states of anxiety. For these reasons, when addressing change, we come across more or less animatedly debated comparisons between pessimistic and enthusiastic visions.

Faith in progress has historically remote roots. We might recall, for example, that in 1889, Frederic Harrison already spoke of the "new era" when stating that "faith in human progress is replacing hope in the heavenly rewards reserved for the isolated soul". From the early stages of the industrial revolution on, the risk that accompanies every innovation in technology was that of a utopian drift of trust in the universal harmony deriving from the coordinated action of Order and progress. Less than 130 years after this affirmation, the time has come to deal with the paradoxes of the wealth produced by western industrial capitalism. This kind of development, as Latouche explains (2010),

corresponds to the invention of the economy and leads by means of a slow and profound transformation of values, to a point where Work is considered the very basis of society and the market economy.

However, as Reade pointed out after a journey to explore Africa in 1872, "our prosperity is based on the agonies of the past". This means that each generation with its' everyday choices determines the fate of its descendants, for better or for worse. This reflection leads to the innovative thinking of the responsibility that all of us have towards each other.

This responsibility goes well beyond time and space. Our contemporaries are only a part of the "neighbour" towards whom we are obliged to assume responsibility for our actions. From this point of view, even when the ethical dimension of our action acts as a utilitarian matrix designed to seek the happiness of the greatest possible number of individuals, these must include the unborn generations. This extension of the moral code leads to reconsidering the very conception of Work and the modern economy and their interrelated impact upon the world-system from a global and temporal perspective. This is what Jonas (1979) had in mind when speaking about the 'ethics of co-responsibility' (overcoming for this way Weber's idea of Protestant ethics [1970]) referred to a code of values capable of going beyond merely economic evaluations associated with profit and the immediate. He advised us to be guided by a long-term view of time and space.

3. Scenarios

These premises act as the basis upon which to found the analysis of Work being dealt with here to reconstruct possible scenarios hovering on the horizon while remaining aware that how they manifest themselves will depend significantly on the levers it is possible to activate in the present.

The first representation of a possible future is based on an analysis by the Millennium Group (Glenn, 2016), which brought together a global think-tank network intent on drawing up projections regarding possible futures, starting from a global perspective. Their latest contribution provides a summary of the global challenges addressed by new sustainable development programmes. Among the most interesting issues, the Report called 2050 Global Work/Technology Scenarios emphasizes, is the complex interaction and mutual co-evolution existing between all the challenges represented. This means that improvement cannot be achieved by acting according to the logic of Fordist and mechanistic 'watertight compartments' which characterized the development of modern organizational approaches². We need, instead, to embrace the logic of 'complex systems', a set of variable and strongly interconnected elements, including aspects of their temporal evolution. This is why specific, specialized knowledge will not suffice to establish the overall development of the system³.

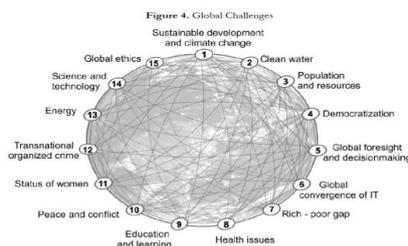


Figure 1: What future for Work and technology by 2050? An analysis of the Millennium

² For more in-depth information regarding the development of organisational theories and models, see, among others (Bonazzi, 2002; Cocozza, 2014).

³ For further information on the complexity of organisations acting within a liquid globalized environment, characterised by features of post-modernity, see, among others, Donati (2007); Negrelli (2007); Piketty (2018).

Another essential element highlighted in the same Work is the urgent need to pursue, in every sphere of life, a form of development bent on a global kind of ethos (Challenge 15), to try to anticipate, among the many possible futures, what one truly seeks to build by directing today's choices towards expectations and effects that are promising and sustainable even in the long term. The results of this analytical forecast⁴ provide three possible scenarios in terms of the policy.

The first scenario envisages an acceleration of change under pressure from business, driven by the digital revolution, accompanied by a substantial absence of foresight and long-term strategies, apt to produce high rates of unemployment, favour increases in inequality and drifts of power towards corporate giants beyond the control of governments.

It can be said and rightly so that this representation is already with us if we consider the inequity of the tax havens which benefit companies that have their roots in the 'global village of the air' and the short gaze of political, economic and industrial leaderships inspired by a world view enthralled by the paradigm of technological determinism.

The second scenario imagines an exacerbation of economic and political unrest caused by an explosion of unemployment and social polarisation. In this situation, Order deteriorates and generates powerful local and global tension, terrorism and organized crime.

For this reason, one can draw, too, on the many national and international political events which have worsened very recently due to the global pandemic which has brought the most fragile sectors of the population to its knees. These are people who do not enjoy the protection of the labour market and who barely survive on a subsistence type of economy. They are numbered, therefore, among the excluded. In this case, too, the lack of foresight on the part of politics and civil society is evident; both rest upon their positions in defence of the established Order, unable to see or consider distress and provide adequate answers to the growing abyss between the real world and illusions of modernity.

The third scenario envisages an economy of self-realization as the outcome of a policy capable of anticipating the impact of Artificial Intelligence and technology, capable of promoting cultural change, and establishing a new social pact grounded in the principle of a universal basic income, and a new socio-economic model able to cater for people and communities.

Focusing now on studies by the Economist Intelligence Unit (EIU), it is possible, to sum up, the central macro-economic forecasts regarding the period up to 2050 and identified by this group as follows: the hegemony of China in terms of nominal GDP growth by 2026; the loss of global-ranking positions by some western nations and the exit of Italy from the list of the world's Top 10 economies; the continued growth of Asian countries; worldwide dominance of the three top economies (China, USA and India) which will acquire the power to define global-agenda priorities; a demographic contraction with a negative impact on active-population percentages; a demographic explosion in Africa; a crisis of the economic-growth model associated with the demographic increase that feeds consumption; an increase in poverty and social inequality in the face of an accumulation of poorly distributed wealth. A further contribution useful to an understanding of how digital technologies can change organizational and production models is that of the studies conducted by the World Economic Forum (2019). Shifting the emphasis from the political and economic spheres to that of employment, these studies outline three possible developmental alternatives.

1. Automation as a channel of optimization. It is Khanna (2019) who imagines this scenario which he believes should be based on adherence to four standards to be applied to the transformation

⁴ The research is carried out by the Millennium Project on a global scale using a methodology involving over 450 futurists and experts in the dynamics of work and technology thanks to a Real-Time Delphi application (Turoff, 1974). For further information, see 2050 Global Work/Technology Scenarios (2016).

process: improvement of job conditions and opportunities instead of workforce replacement; improvement of the way companies act on the market; addition of customer value; improvement of data-use potential without violating privacy. In this perspective "Automation and artificial intelligence should benefit companies, their customers and their workforce".

2. Cooperation with machines, not automation. This perspective foresees the integration of the workforce with technology instead of recourse to replacement; something which may be pursued by involving workers in the adaptation of automation processes while avoiding alienation from them. The achievement of this goal would affect society at different levels, would have an impact upon policies that go beyond the logic of mere redistribution and welfare; the organizational aim would be to highlight the responsibility of the leadership and managerial systems; industrial agreements would need to aim at promoting a different model of protection by creating the conditions essential for the affirmation of a new social contract and development models where the use of digital technology would create renewed opportunities (Heeks, 2020).
3. Digital transformation and workforce transformation. This can be achieved by creating digital Work designed to promote employment standards suited to the digital economy and avoid the explosion of social inequalities capable of destroying the already fragile social fabric.

The contributions made by the McKinsey Global Institute (2017) move along the same lines and sustain that about half of the world's current jobs will disappear quite soon. According to these studies, this would mean the disappearance in Italy of about eleven million jobs over the next decade, partially offset by the birth of new jobs that do not exist as yet and cannot even be imagined.

Even in the face of what has been said, the management of similar disruptive scenarios cannot be left either to chance or to self-regulating market mechanisms which, over a period of thirty years of uncontested development, have eloquently revealed their weaknesses in terms of the depletion of collective resources, of the failure to redistribute the enormous wealth produced, of financial speculation, of the widening of poverty brackets and of the harshening of nationalistic, cultural and religious clashes on a global scale etc.

As Toynbee (2004: 78) recalls, "the effects of the industrial revolution show that free competition can produce wealth without producing well-being". Since the end of the Cold War, which marked the fall of a world power capable of offsetting the ideology of the free market, the only cultural, community counterbalance existing today is Islamic fundamentalism, with all the dangers and drifts we are told of daily by the chronicles all over the world. Despite all this, virtuous experiences are to be found here and there in the world, even in Italy. These are experiences which strive to create critical mass and establish themselves as an alternative. The difference lies mainly in the ability of political and managerial leadership to foresee solutions to problems, but also in their ability to view the reality with awareness and intellectual honesty, without either alarmism or facile enthusiasms. This is the issue we shall seek to examine in the next paragraph by addressing the topic of "the work we shall be".

4. How Much We shall Work

When discussing the results of technological innovation, from a historical point of view, literature has assumed two positions:

1. denunciation of a structural reduction in employment due to a prevalence of the substitution theory (substitution theory);
2. confidence in the free market's self-regulatory ability to compensate for the substitution effect by neutralizing the negative impact of technology on employment levels (compensation theory).

Looking at the history of the various industrial revolutions, one may safely say that technological development is never neutral because every time it appears it causes a radical change in the framework of the skills the changing world of Work expects. In this regard, several scholars (Frey; Osborne; 2013; Brynjolfsson, McAfee, 2015; Ford, 2015; Acemoglu, Restrepo, 2017) have sought to analyze the upshot of this "disruptive innovation" and have arrived at the conclusion that over the next 20 years, an estimated 47% the USA's workforce will risk replacement due to what is called the skill-biased technical change (SBTC), meaning investments in technological innovation aimed at increasing the productivity of skilled, compared to unskilled labour, while broadening even further the inequality gap, especially that regarding wages and salaries.

As for Italy, one of the country's main drawbacks is its inefficient and scarce use of human capital⁵, leading to ever-increasing skill mismatching. The analyses carried out by the OECD-PIAAC (Programme for the International Assessment of Adult Competencies) show that 12% of the Italian workforce possesses skills superior to the tasks they perform; while 8% are under-skilled. These values exceed the average for the OECD countries which stand at 10% and 4% respectively: 1 worker out of 5 is unable to exploit his/her potential to the full (OECD 2018). The OCSE estimates for Italy hypothesize that 10% of all jobs risk becoming automated and that 44% of all employees will see their jobs change radically. Similarly, the McKinsey Report (2017) holds that approximately 75 to 375 million people will have to change their jobs and learn new skills by 2030. This means the considerable transformation of the conception of the workplace, with consequent changes for all workers. This aspect was highlighted by the forced smart working imposed on people by the recent global pandemic.

At the same time, however, several studies confirm that the tasks which cannot be replaced by technology are those of a non-routine type, that is, those defined as high-intensive and creative, like many caregiving jobs which require high-density socio-relational skills.

We can safely claim that every industrial revolution arouses the fear that Work may cease to exist. Concern over "technological unemployment" always causes clashes between "the apocalyptic and the integrated" (Eco, 1964). For this reason, it is necessary to take a long-term view of things and understand the changes using systemic logic, fully aware that the organization of work co-evolves with the environment and society on the whole, that organizational and labour systems are the outcome of dominant cultural models (Weick, 1997; Argyris, 1998; Strati, 2008).

As far back as 1821, David Ricardo had already spoken out against the weight of "technological unemployment". Since then, the world has taken a different direction, foregrounding numerous problems and contradictions, like the wealth of western countries asserting themselves at the expense of the third and fourth worlds, which have, for some time now, begun a process of redemption, upsetting individual consolidated geopolitical balances. Work has been transformed due to the pressure of several technological innovations. Each season of progress has radically changed the work chain, shattering both consolidated balances between workers, entrepreneurs, unions and communities, as well as altering the rules of the game played upon the global labour market. From the first to the third industrial revolutions (the steam-powered machine; the assembly line; automation), we have witnessed the replacement of fatiguing, repetitive manual tasks by increasingly advanced technologies. Keynes, in his famous speech on economic development held in Madrid in 1930 and subsequently included in the collection of his writings (1969), hoped that the development of technology, accompanied by forward-looking socio-economic policies, might reduce working

⁵ A set of skills, competences, knowledge, professional and relational abilities generally possessed by the individual, acquired not only thanks to scholastic education, but also through lengthy learning or experience in the workplace and, therefore, not easily replaceable because of having been intrinsically developed by the person who acquired them (latest consultation 20/10/2019): http://www.treccani.it/enciclopedia/capitale-umano_%28Dizionario-di-Economia-e-Finanza%29/

schedules to "three hours a day, five days a week, for a total of fifteen hours a week, with the same income". He imagined, therefore, the resolution of the technological crisis by reducing the working week and redistributing wealth. This failed to occur despite the achievements of the trade unions upon which the social pact of the modern welfare state was founded. This social pact excludes, moreover, a growing plethora of subjects (the unemployed, the redundant, the inactive, those expelled from the labour market, atypical workers, interns, VAT-number contractors, freelancers, housewives) living within the context of new socio-economic transformations.

In the face of competition from technologies which vie with each other within the sphere of physical Work, education has always represented a guarantee of requalification and social mobility such as to permit workers to defend their employability and aspire to climb the social ladder. Today, this is no longer so. Artificial Intelligence and the latest generation of digital technologies have placed machines and software on the market capable of competing with many intellectual and highly professional skills (from the lawyer to the medical doctor). This generates a dramatic employment problem and represents an unprecedented challenge for the education system, which is no longer in a position to persistent unemployment. It is no coincidence that there is a growing mismatch between job supply and demand as professional and skill profiles provided by the education system fail, more and more, to meet the demands of the job market.

3.1. Technological Unemployment

As Campa (2007) points out, the concept of technological unemployment denounces declined changes according to one's theoretical point of departure. Many studies have tried to describe the evolution of employment during the different stages of technological development, outlining the gradual shift of an increasing number of the workforce from one sector to another: the transition from traditional agriculture to intensive agriculture, followed later by a move towards secondary manufacturing, then towards the tertiary and services fields. Today, the world is facing a new transition phase labelled Society 5.0 and based on the Internet of things, algorithms, big data, and the infosphere society (Foridi, 2018), where related technologies operate independently of human intervention. This state of affairs imposes a fresh challenge and a quest for a new kind of balance capable of countering the risk of new waves of technological unemployment and intensification of processes of social disintegration, also determined by difficulties of adaptation to, understanding and "dailyization" (Jedlosky, 2005) of a new hyper-technological world. For this reason, it is useful to reflect on the tools that accompanied processes of reabsorption of workforce surpluses expelled from the market during the various stages of the evolution of labour.

- The development of the free market with the birth of new sectors of the economy caused masses of workers to move from one industry to another.
- The presence of public social and industrial policies has helped reconcile growing tensions through a redistribution of wealth and thanks to the achievements of the trade union (halving working time, retirement and disability pensions, paid holidays, paid sick leave etc.), fuelling the development of that socio-economic system ascribable to the Western consumer model.
- The expansion of the modern welfare state through all its central and peripheral tributaries has often guaranteed the maintenance of minimum employment quotas in the most deprived areas.
- Increases in migratory trends which, for decades, saw many fellow citizens seek their future fortune in countries deemed rich in opportunities.

We may also add to this list the presence (and example) of some great visionary entrepreneurs capable of interpreting and implementing Article 41 of the Italian constitution which recites, "Private economic initiative is free. It cannot act in contrast to social utility or in such a way as to cause harm to security, freedom, human dignity" (translation and italics mine).

If we accept the analysis forwarded by Campa, today's looming risk of an increase in unemployment in the face of the vortex of the development of integrated digital platforms needs to be read systemically to understand what is happening at different levels and to enact synergistic strategies

capable of achieving a common goal with highly complex social, economic and political characteristics.

The problems posed by the threat of technological unemployment that accompany the fourth industrial revolution can be identified at both endogenous and exogenous levels.

As regards the endogenous sphere, a series of risks and critical issues imposed by sophisticated connective technologies mean that:

- by surpassing roles and tasks that can be performed with increasingly more frequent ease by advanced technology (artificial intelligence, the Internet of things, algorithms, 3D), we cause increasing quotas of expulsion from the employment of low-skilled workers;
- an increase in the power of a sort of "technological totalitarianism" which some have labelled the "algocracy" and identified as:
 - a) highly advanced control systems made possible thanks to new technology (for example facial and iris recognition, block-chaining, traceability, profiling etc.), which do not always find adequate correspondence in institutional power-balancing systems, or in an understanding of the risks on the part of citizens-users-workers, let alone on that of the institutions whose responsibility it is to act as guarantors;
 - b) the excess economic power acquired by the world's ten economic superpowers (Gesualdi, 2019), seven of which belong to the digital world and can exercise enormous influence over the nation-states, affecting their destinies by moving their investments; all this without having roots or being members of any specific territorial-fiscal community;
- the polarisation of organizational systems for the benefit of large multinational organizations which tend to pulverize and impoverish the supply chains. In numbers, this means that around 200 international companies are holding the planet, its economic and financial wealth and the exploitation of its resources, to ransom. These resources include air, water, soil and the environment which belong to everyone.

On an exogenous level, we recall the convergence of a series of systemic threats which impact directly and indirectly on the traits unemployment may assume in the 21st century and which demand serious and urgent political-institutional intervention, as in the case of:

- the failed redistribution of wealth fed by the global free market and which leads to an increase in poverty and socio-economic inequality across the globe;
- the flaws in the labour-market protection system at the national and global level;
- the crisis of the traditional welfare system on which the development of all modernity was based;
- the attempts made to reduce the inefficiencies of the public administration (and its relative costs) by reducing the white-collar labour component by investing in technology;
- the inversion of migratory flows (out versus in);
- the crisis of the eco-system environment with its disastrous impact on global balances.

The technological unemployment alarm lurks just around the corner. For this reason, it is essential to underline the fact that according to the data of the 2018 Digital Skills Observatory, Industry 4.0 generated 4,000 businesses in 2018, despite the difficulties mentioned as well as a lack of skills and vision; the discontinuity of industrial policies on this front; the mismatch characterizing the demand-supply of ICT profiles; the lack of training courses capable of responding to the demand; the effort made by small and medium enterprises to build integrated digital nodes/supply chains to drive and support their territories. According to the Observatory, in 2017, job vacancies in the sector were 7% greater than in 2016, 50% greater than in 2014. Companies operating in the information and communication technologies sector (ICT) are also expected to expand because of the surge produced by the global pandemic.

It is clear that there can be no simple solutions, nor can they come from above. This state of affairs poses to "the work we shall be" a series of arduous challenges, the outcome of which depends very

heavily on the choices we have the courage to make today as explained above. The alternatives that appear on the horizon are the following.

- a) Technological unemployment might find a solution in a revision of weekly working hours informed by Keynes's forward-looking intuition, supported by the fact that the countries where the best quality of life is registered are those which succeed in guaranteeing a balance between life-time and work-time. This is even more important when digital technology permits us to cross the space-time boundary creating the risk that work times and loads may dilate seamlessly, especially in the case of unprotected categories.
- b) The technological impoverishment which characterizes low investment jobs where returns on technology spending are not convenient (cleaning, caregivers, attendants). This leads to a polarisation of the workforce divided into super-technicians, handsomely paid by virtue of their high skills and/or abilities and a majority of employees whose functions are depleted and jobs made precarious. These people are often trapped in "blocked biographies" because of being unable to enhance their employability profiles.
- c) The risk of a kind of technological neo-Taylorism (more pervasive and alienating than the original model) is profiled in highly automated work processes which tend to place productive, decision-making and managerial intelligence inside the machine, depriving the worker of these as he/she becomes a mere extension of the machine itself (as a remote controller, for example).
- d) The change in the configuration of the risks associated with increasingly digitalized Work; a-spatial; a-temporal and a-social because developed in the "non-place" of the network which very often deprives subjects of the symbolic expressions through which to construct their selves and their system of belonging within a relational framework of mutual recognition where people identify themselves as "collective actors", members of an organizational and territorial community.

3.2 Amid Risks and Prospects

After examining the critical issues linked to the disruptive strength of technological transformation outlined here in brief, and to the possible scenarios connected with them, we shall now try to focus on the prospects opened up by the so-called fourth industrial revolution.

Taylorism and Fordism are known as low-reliance systems; while post-Fordism is considered highly reliable because it tends to provide the worker with a more significant margin of control over his Work. The organizational models inspired by this principle (Stark, 2011) are increasingly constituted by interactivity, trust and interconnection rather than by command and rigid hierarchies. This approach requires "flexibility" and adaptability on the part of the worker as well as a good dose of social and communication skills. These transformations are accompanied by an increase in female participation in the working world, particularly in terms of services and high-density social-relational care provision; an increase in the working-age; an increase in the numbers of foreign workers; a shift towards self-fulfilment criteria when drawing up one's personal and professional project; a generational divide and quest for new inclusive welfare models. These are a set of factors which require the development of diverse management policies capable of transforming the problems introduced by digital technologies and the changes mentioned briefly above, into critical opportunities.

Technology does not automatically generate innovation and/or improvement. Computing is nothing without a system of cognition capable of interpreting and directing processes. Artificial Intelligence is a dangerous oxymoron in the absence of the specificities of human intelligence (Gardner, 2007) which comprises, among other things, synthesis, creativity, ethics and empathy.

What is dramatically needed today is an innovation of society and of processes capable of introducing these technologies into concrete everyday life and reality. Rather than looking at the catastrophic effects caused by technological innovation, it would be useful to analyze the risks as well as the unforeseen, undesirable, unwanted results, to intervene promptly, planning and working

industriously for the future we wish to build. We need to avoid feeding risks of exclusion because the shift towards digital citizenship is creating a vast population of invisible; the new excluded, the so-called "lepers of postmodernity". They do not dwell beyond the walls of concrete cities but outside the virtual world built by the society of big data and digital identification systems. These are real tools capable of preventing the access to rights and services of flesh-and-blood people while favouring a minute elite which dictates the times and modes of development.

It is necessary, therefore, to carry out an in-depth investigation of new social needs and new job profiles capable of anticipating and directing development towards a new model of welfare-community. This requires an ever-closer alliance between the university, the school, the world of Work and Life-Long Learning, to carry out a joint social engineering effort capable of producing new job designs for Society 5.0, that is, "a person-centred society capable of balancing economic progress with the resolution of social problems within a system which integrates virtual and physical space, more and more". The most significant obstacles to take into consideration when seeking to contain risks of self-implementing and deterministic prospects are:

- difficulties of an administrative kind, seeing that it is always necessary to conjugate large investments in new technology with the reorganization of Workflows, loads and processes;
- problems of a legal nature aimed at balancing tensions between controls, privacy and transparency;
- the knowledge divide, not only on the side of digitization. In fact, in a highly complex world like that of hyper-technology, the need to master a symbolic-abstract and logical-mathematical system of thought is becoming more and more urgent and widespread, because, within the framework of the new industrial revolution, there is no need for action regarding the physical-material dimension but only intervention regarding the symbolic immaterial sphere of knowledge. It is here that the most significant risks reside;
- the difficulty of adapting the knowledge and skills of the workforce to manage the many opposing tensions that exist and reduce dangers of hardship, exclusion and poverty;
- the problem in accompanying civil society towards a new destination characterized by a digital society requiring a new social pact.

4. Conclusions and Recommendations

To summarise the analysis carried out so far and answer the initial questions posed, it seems appropriate to shift the emphasis towards a different order of considerations.

As regards the first point, that is, how to design a sustainable socio-economic model, we shall try to answer by referring to Simmel (2000) and his view of technology.

"Means of exchange, technical tools, machines [...] have reached an unprecedented level of complexity [...] and yet, no one can say that mankind has refined, elevated and enriched itself spiritually in a similar manner [...]. It has been forgotten completely that technology is only a means to reach an end [...]"

There can be no innovation, no social justice, no progress, no improvement of the quality of life if one loses sight of the human being. The aim of technology can only be a better humanity-community, if one is to avoid the technological, social, economic and political drifts which, thanks to the studies of future scenarios examined, we have been able to outline here.

This position is shared by Zygmunt Bauman (2001: XIX) who recalls the fact that globalization divides what unites while he reminds us that the causes of this division are the same as those who, on the other hand, promote global uniformity. In other words, far too often we come up against a predatory attitude towards the environment-community to the detriment of the collectivity (local and global) obliged to pay for the costly upkeep of managers and leaders. The example of environmental crimes

or investments in technology that turns out to be harmful to people, the territory and communities, are merely the tip of the iceberg the rest of which is often challenging to discern. This is why it is vital to insist on the idea of sustainable work-organization and development. These elements should not be alien to the present generational ability to gratify their own needs without compromising the possibility that the future generations be in a position to satisfy theirs. The concept of sustainable development goes beyond protection of the environment and the ability of companies to blend social, environmental and ethical human rights as well as consumer needs into their development strategies.

Based on these considerations, how can the enhancement of mediation between technology and the 'human factor' be guaranteed?

Industry 4.0 brings with it enormous investments, but the main challenge the outcomes of this "epochal change" brings (Pope Francis, 2015) lies in education not as a simple transfer of knowledge but as a quest for and construction of commonly shared values capable of conveying meaning (such as circularity, development, equity, sustainability) which might otherwise sound purely rhetorical.

Several interesting experiments show that a different future is possible, like the one which orients productive investment towards the quality of production, towards a positive organizational atmosphere and a society-based type of corporate responsibility. A socially responsible company is one which calculates the impact of its activities upon society and adopts business practices aimed at containing negative externalities. Socially accountable companies "voluntarily commit themselves to the protection of people and the environment, even beyond the obligations of the law. They assume their responsibilities and take sustainable development into account". Among the virtuous models, that based on the 1-1-1 concept grounded in the following logic seems particularly interesting: "1% of the time, 1% of the product and 1% of the human capital returned to the community". This way, the company returns to the collectivity more than it takes through hours of voluntary activity, pro bono hours of Work and support for beneficial projects that have a positive impact on the whole of society.

The challenge posed by technological transformation is that of avoiding entanglement in the low-quality trap. To achieve this, a systemic approach is required to guide the current phase of development towards an idea of Welfare Community capable of co-fostering communities co-interested in:

- creating the conditions for an improvement in the life quality of citizens, workers and families, also for a better (and sustainable) use of the resources and skills present within a territory;
- rebuilding liveable and recognizable communities based on an idea of proximity capable of integrating the real and the digital to encourage the creation of virtuous circles of exchange, communication and sharing;
- promoting community empowerment to enable people to make informed, responsible choices, not only on a personal level but also, and above all, concerning repercussions on the community and the future.

To foster a widespread culture of the welfare community, however, it is necessary to make room for new approaches to policies capable of enhancing and taking on the concept of diversity, by recognizing the specificities required to develop complementarity, synergy and inclusion. Designing an idea of a kind of welfare-oriented towards the idea of a community means founding individual and collective action on the concept of social co-responsibility which, on the one hand, is aimed at active, participatory and responsible citizenship, on the other, undertakings capable of permitting all citizens to express their resources by removing those historical, cultural and contextual legacies impeding their full, responsible participation. This implies the need for a paradigmatic change capable of restoring dignity to work and overcoming mere production-bound market perspectives in favour of a global vision capable of recovering and enhancing a more care-oriented "new humanism". It was care which permitted humanity to perpetuate itself from the dawn of history to the threshold of

modernity (which has since imposed itself and developed to the detriment of three-quarters of the world's population).

A central role in this paradigmatic change is that to be played by processes of culture and transmission which require a shift from the logic of instruction - from the Latin "in-struere" meaning to bring in, to place something within a container, an image which conjures up the idea of an empty vessel to fill with notions - to that of education, from the Latin "ex-ducere" meaning to draw out, bringing to light something which is concealed. In this regard, Sen (2005) speaks of a capabilities approach, because, though it is true that while digital technology can create many opportunities for integration, inclusion and decentralization, it is also capable of bringing to the fore capabilities which have remained hidden for many different reasons, from economic to cultural, to cognitive, to emotional and social poverty. In a society of uncertainty and accelerated change, it is necessary to educate people to envision and build possible futures along the lines of the unknown. For this reason, the real challenge needs to be addressed within the sphere of education and Life-Long Learning by focusing on the construction of a social-community model capable of combining work-updating, continuous social commitment and opposition against all forms of inequality.

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