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Is Europe shaping the digital transformation?

A new programmatic and political challenge for Progressives

The ongoing digital transformation is deeply changing the reality we live in and is affecting every aspect of our lives, but we are hardly in control of the dramatic changes taking place. The European Union is lagging behind the US and China when it comes to defining this new digital architecture, while quasi-monopolistic digital platforms are not only re-organising markets and production, but are turning our personal information and preferences into goods to be traded. We need a progressive vision to turn the potential of this digital transformation into a positive outcome for citizens, and the European Union needs to develop an alternative strategy if it wants to regain control and shape the current transformations.

In the times we are living in, we feel that all things around us are changing not only due to an unprecedented pandemic, climate change, new societal trends but also due to the digital transformation that brings surprises every day. All the domains of our daily life are being retooled by the digital transformation: the way we manage our time and our mobility, the way we exchange with our family, friends and neighbours, the way we participate in education and in our working places, the way we have access to entertainment and culture and the way we intervene in public debates and demonstrations.

We get the sense that this transformation is so fast and multidimensional that it is going beyond our imagination, and it is difficult to grasp and shape. We feel that below this retooling of our everyday life in all domains something more fundamental is taking place, and we are right. In fact, a 'new world' is changing our 'old world', as this happened with maritime and now with outer space discoveries. But this time this is different because the 'new world' is not being discovered but rather being created by human action, very often with unintended consequences.

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Therefore, we should ask: who is in control in the cockpit? A new architecture of the planet is being defined beyond territorial geography and a big power game is taking place about all this right now. The US and China are in the leading positions and Europe is lagging behind. We Europeans should ask whether we can still enter this game and reshape it in cooperation with many other partners across the world.

The digital toolbox

The first thing to regain control is to understand the digital toolbox which is being created by humankind, but also reshaping humankind. Do you remember Stanley Kubrick's famous movie *2001: A Space Odyssey*, when primitive humanoids transform themselves into human beings once they make the brilliant breakthrough of picking up a stone from the ground and using it as a hammer to transform their reality? Afterwards humankind was able to invent many other tools, from physical and mechanical tools to electronic ones, while we were also inventing new sources of energy powered by humans and animals, wind, water and sun, steam, coal, electricity and nuclear.

Throughout this process, we also started to incorporate human intelligence in this 'stone tool', first of all by oral transmission and then by writing, extending this transmission between generations and regions and inaugurating history. Afterwards, with printing and generalised education, it became possible to mobilise the creativity of much larger parts of the population. More recently, we enriched these 'stone tools' with human intelligence by codifying it in software applications. Even more recently, we started animating our 'stone tools' with artificial intelligence by extracting general rules from big data which are accumulating in gigantic cloud-computing capacities.

Some iconic brands and companies became a central reference in our life. Google, with its ambition to provide access to all available knowledge, first of all in web pages, afterwards in books, documents and videos. Amazon, with its ambition to provide worldwide access to a large range of goods. Facebook, creating different kinds of social network for conversation about whatever the issue. Twitter, developing a worldwide space for public debate on whatever the issue. Industry 4.0, reorganising supply chains with robotised manufacturing and automatic flows management. The Internet of Things (IoT) multiplying sensors in all our devices for housing, transport, urban management and health services to enable a coherent management of our everyday life. And a large competition between apps, brands and platforms is now taking place to reorganise this everyday life.

The digitalisation process

Among the abundant literature to analyse all this transformation, let us pick up a most convincing definition and phasing of this process. Digitalisation can be defined as the transformation of reality by new tools based on codified and computerised human intelligence and which is creating a parallel reality, the virtual one, interacting with the non-virtual one. We can already distinguish different phases of the digitalisation process:

- The first one, based on the invention of the code and of programming software underpinned by several hardware inventions, notably the computer and the personal computer.
- A second one, based on the invention of the Internet connecting personal computers, of the World Wide Web connecting different websites as well as browsers and search engines.
- The third one, based on software applications being downloaded from the Web into different personal devices from smartphones to tablets and laptops. This phase is also marked by social networks enabling many more actors to create new content and also by powerful platforms reorganising supply and demand in almost all markets. Finally, this phase is also marked by robots enabling a higher level of smart automatisation in many manufacturing sectors.
- The next phase is already happening in front of our eyes. It is based on many more entry points beyond PCs and smartphones. It will involve trillions of sensors in all things surrounding our life, in houses, transport, education, working places and public governance bodies, developing the so-called Internet of Things (IoT). All the information gathered by the sensors – the big data – is being accumulated and treated in big cloud-computing capacities. The treatment of this information to underpin quick and automatic decisions is counting on flourishing artificial intelligence (AI).

Make no mistake, artificial intelligence is so far very distant from human intelligence's diversified capacities, but it goes faster than the latter when it comes to identifying patterns and general regularities by analysing a large number of cases. Therefore, AI is not the replication of the unique human capacity to identify rational causalities between different phenomena. It is rather a replication and amplification of the human capacity to measure correlations between different phenomena. AI is not able to produce new concepts, but rather to confirm statistical trends. And emotional intelligence – one of the key powers of humankind – is certainly not there.

Digital capitalism(s)

In terms of the progressive intellectual tradition of political economy and political philosophy, we should also ask which are the features of this new phase of the capitalist system. With digitalisation, capitalism goes further in commodification, not only of our physical and psychological force, but also of our personality as worker, citizen and consumer.

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In fact, new powerful entities have emerged: quasi-monopolistic digital platforms which are re-organising the interplay between supply and demand in almost all sectors, from the financial to many others, including retail. Their raw material is information, including information about our personal identity and preferences, which we provide to these big digital platforms in exchange for our free access to their services. But these platforms can make increasing revenues and profits when they sell our personal information to advertising companies and services. This particular business model defines the new power relationship about who controls the organisation of production, the circulation and the distribution of wealth in our societies. A Mephistopheles dilemma is emerging for many citizens: selling our soul to get more knowledge and power?

Nevertheless, inside this general transformation of capitalism, we can identify different varieties of capitalism and different regimes of digitalisation. The leading one remains the American one where most of these monopolistic platforms are located even if they operate across the world. Their influence has been boosted by the Covid crisis, when they provide software to support health care, education services, telework and platform work, access to entertainment and news.

Their implications for democratic life are also huge and became particularly striking with Brexit, Trump's election and, more recently, the Capitol Hill insurrection. We could clearly understand how two different perceptions of reality and of the outcome of elections can undermine democracy and create an internal confrontation of beliefs about what is the truth and common will.

A systemic alternative is now being built and provided by China, with Chinese platforms replicating the American ones in different domains, from search engines and social networks to entertainment and delivery logistics. Ali Baba, for instance, aims at delivering worldwide in almost all sectors. The implications of all this for the political system are also very worrying because they reinforce an authoritarian control in most spheres of social, economic, cultural, political and personal life. Big Brother is not far.

All these recent trends are triggering a wake-up call about the dangerous implications of the digital transformation. Yes, there are risks of losing privacy and freedom, of getting biased information, of being manipulated in our preferences, of being confronted with internal disruptions in our societies, of being put under social and political pressure, of being exploited in our working conditions, of seeing our jobs replaced by robots and artificial intelligence, of losing our capacity to govern our societies democratically. A new intellectual school of thought is spreading about the several risks of a surveillance capitalism.

This critical approach and the fight against these risks must be part of the progressive movement and should involve citizens on a larger scale, but we also need to devise how to turn the potential of the digital transformation in a positive way for the well-being of humankind and the planet.

We need a progressive vision. Using the digital tools to turn the Sustainable Development Goals (SDGs) agenda into reality should become a central cause. The green transition in all sectors from housing to mobility, access to health care and education and tailor-made social protection can be largely enabled by digital tools and human-centric AI algorithms. The democratic governance of our societies at all levels with participatory and representative mechanisms can also be strongly developed to include many more citizens at all levels from the local to the national, European and international level.

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A European progressive way for the digital transformation

Facing this grand transformation, the European Union started to move with a more comprehensive action to define a specific European way. A general European approach will be settled by an EU Declaration on digital principles: universal access to internet services; a secure and trusted online environment; universal digital education and skills; access to digital systems and devices that respect the environment; accessible and human-centric digital public services; ethical principles for human-centric algorithms.

A more detailed policy agenda – the European Digital Compass – was launched, complementing some new legislative instruments. The General Data Protection Regulation (GDPR) is being followed by the Digital Markets Act (DMA), the Digital Services Act (DSA), the Data Governance Act, the White Book for AI.

Nevertheless, a clear and comprehensive strategy to provide an alternative vision and fully fledged policy agenda is still missing, able to mobilise the full EU toolbox from regulation to capacity building, financing and governance.

If we want Europe to shape the digital transformation and to make the best of it, we need to quickly build some stepping stones:

1. The potential of this digital transformation to offer new services, products and apps is huge and naturally very attractive for most citizens of Europe and beyond, but the underlying business model of the dominant digital platforms is becoming disturbing and largely criticised. Europe is well placed to develop a consistent alternative business model which should involve transparency, accountability, different choices, open-source software and better standards for users. The role of the state can be particularly relevant to push in this direction:
   - by using public procurement operations at national and European level to set better standards;
   - by developing public services with digitalised solutions in housing, health, education and urban management; and

- by launching public joint ventures in strategic activities such as research, cloud services, cybersecurity or the public media sector.

Europe should develop its own capacities of cloud computing services, reducing its fundamental dependence on the big American platforms

2. Furthermore, in order to ensure cyber security and increased strategic autonomy, Europe should develop its own capacities of cloud computing services, reducing its fundamental dependence on the big American platforms because these comply with the American standards defined by the US Cloud Act, which are different from the European ones. Gaia-X, a European initiative to set cloud standards and the European Alliance for Industrial Data, Edge and Cloud are interesting points of departure, but should develop much more quickly. In the meantime, a European framework should be defined for the operations of American companies in the European single market or for their technological transfers with European companies.

3. Europe can also build on its critical mass and competitiveness in manufacturing sectors, which are still not dominated by the current monopolistic digital platforms. Robotisation and artificial intelligence can be used by particular manufacturing clusters with the aim to develop a European approach for the Internet of Things to be applied to housing, transport, environmental management, or products for health care, education or cultural activities.

4. Nevertheless, these interesting possibilities can only be explored if Europe takes a proactive approach in digital industrial policy to support not only big corporations, but also SMEs in many sectors and also to create several general capacities, notably:
   - the production of semiconductors, batteries and specific hardware;
   - the development of artificial intelligence with human-centred and transparent algorithms;
   - the expansion of renewed broadband infrastructures with G5 networks as well as with gigabit networks for all European households, while ensuring European-scale interoperability.

5. A leap forward in human resources is also crucial to turn the digital transformation into an innovative and inclusive process. First of all, by developing specialised digital competences coupled with innovation policy to invent the European way for the digital transformation in all areas of economic and social life. Secondly, by ensuring universal access to basic digital competencies, mobilising the entire lifelong learning system in order to prevent the risk of a deep social divide between the digitally included and excluded populations in the different regions, sectors and generations. Gender equality must also be under the spotlight. What is at stake is not only skills, but also general education to be a person and a citizen in the digital era.

6. Due to a widening gap in digital human resources, a brain drain of specialised digital workers is taking place between regions of Europe and between Europe and the US. These trends can be reduced if new jobs are created to provide innovative products and

services responding to new social needs everywhere. Many new jobs can indeed be created but, on the other hand, others can also disappear, being replaced by robotisation or by artificial intelligence, unless robots and AI are conceived as complementing rather than a total replacement for human action – another important task for the European way to shape digitalisation

7. Moreover, another marking feature of this European way should also be about the working conditions in digital activities, be it platform work, telework or robotised production chain. Clear regulations about working time, work intensity, access to training and social protection as well as decent remuneration are now being submitted to an intensive legislative debate at European and national level, in the framework of the European Pillar of Social Rights. Urgent action is needed to prevent the emergence of a digital proletariat – often wrongly classified as entrepreneurs! – as well as to prevent a digital social dumping and a downward spiral, which will undermine welfare systems everywhere.

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8. Nevertheless, a transformation on this scale requires huge financial resources. The current community programme Digital Europe and the EU Invest initiative should be amplified and prolonged with a stronger European budgetary capacity. The national budgets can play an important role with the new National Recovery and Resilience Plans, but must go further with an updated version at the Stability and Growth Pact enabling long-term investment in infrastructures, skills and innovation initiatives.

9. The argument that financial resources are not available is just not credible because most current added value in global economies is taking place in the big digital platforms which are not paying their fair share of taxation. The recently agreed minimum corporate tax at global level is a first step which should be completed with specific digital taxation.

10. The current governance framework of the digital transformation also requires a serious update when it comes to the internal organisation of the European Commission, of the European Parliament and of the Council of Ministers. Social dialogue and civic dialogue should also be invited to play a more comprehensive role as well as the networks for regional cooperation.

11. A major flaw is also now in the media ecosystem. Strong action is urgently needed to support high-quality and plural journalism, which has been damaged by the dominant role of the big online platforms controlling the main social networks. This should be part of a new infrastructure for the European public space and for multilevel, representative and participatory democracy in the digital era.

In the end, the decisive factor might be a citizens' movement to gain control of the digital transformation according to European values and democratic rules in order to improve their living and working conditions. Several risks of democratic disruption and authoritarian manipulation do exist, but a promising potential to improve well-being and active citizen-

ship is also there! Just think about a European digital identity enabling each citizen to vote, to have access to health care, to education choices while intervening responsibly in European public space. This would certainly open a new phase for the European project!