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Living with machines?

Innovation and Social Justice

Technological progress has been one of the most influential factors of social development in recent decades. New technologies have deeply changed communications and the production and distribution of goods. More than anything else it was mainly the information technology that fostered the development of the world economy, integrated markets and opened up new ones.

In the coming years, technological development will not lose its impetus: everything will be connected, be it man, things, processes, services or data. In this vision, the real and virtual worlds are destined to merge via the internet. In the "fourth industrial revolution", innovation cycles are expected to be even quicker, with increased range and penetration levels, and the interaction and integration of different technologies, such as information, biotechnology and nanotechnology, will work much better. The digitisation process will continue to unfold and machines will take over an increasing number of tasks in production halls and service centres from London to Dhaka. New products and business models will emerge, whereas traditional ways of organisation and production factors will lose in importance or disappear altogether and value creation chains will be completely restructured.

Much hope is placed in the further development and expansion of information technologies. There are internet-based tools which already draw attention beyond some small expert groups. Among

these are 3D printing which will allow in future to produce goods locally at any place on earth, or MOOCs (Massive Open Online Courses) which offer a freely accessible learning environment and training and education opportunities on democratic grounds. Especially in the global south, technologies adapted to local needs and accessible to many people could contribute to solve development problems. Such tailored technologies should be resource-sparing, long-lasting, flexible and open systems which can be maintained and controlled at the local level. A prerequisite for this to happen is that as many people as possible have not only access to (information) technologies, but that these technologies also spark new socio-economic developments to the benefit of all and actually foster new perspectives for alternative development models.

Whether such innovations will have sufficient impetus to put forward a new production and growth cycle is a much-debated question. So far, many things still remain a vision rather than a reality. But we can see already now that this development will not only change our economic activities, but also have a tremendous impact on our working environment and the way we live together in society as a whole. There was always an ambivalent attitude towards the introduction of new technologies and the drawbacks of technological progress are obvious: we see them in the form of omnipresent control, privacy violations, ethically complex issues in biotechnology or uncertain technology impact evaluations.

The economic development of the last 30 years has led to an enormous technological thrust on the one hand, but also to extreme inequality on the other. On the way into the "Second Machine Age" (Erik Brynjolfsson/Andrew McAfee), problematic distribution effects could intensify due to a massive loss of routine jobs especially in industrialised and emerging countries through automation, but also because of a polarisation of labour markets, increasing inequality between highly and less qualified workers and the establishment of an "economy of the super stars" in which some individuals dominate entire markets.

If we look at the global south the development up to now is also at least ambivalent. It is true that digital technologies quickly spread in developing countries as well: three quarters of the world population have access to modern communication technologies. There are more households with mobile phones than those who have clean drinking water and electricity. Within a few years the smart phone will probably be a universal product of mankind – the first one of high-tech industry. But we should not overlook the fact that the digital dividend, i.e. successes of development, like growth, jobs and better public services which might go hand in hand with it, so far are quite modest and the distribution of such dividends most probably follows the same logic as the capital flows which means that those who benefit from digital technologies are mainly the more prosperous and better educated layers of society, even if "communication" tends to be universally accessible.

Up to now, cheap labour was considered to be an important catalyst of many developing countries in catching up with the industrialised world. But it might lose its significance pretty soon: there are already indications that the further automation of whole segments of industry will not only influence the structure of national labour markets, but might well also change the commercial, economic and cultural landscapes. If it is true that wages will not be the decisive factor for business locations any more, then market proximity will become a more relevant factor again. Emerging and developing countries might well be even more affected by the "Industry 4.0" than the industrialised countries themselves.

Technology and equality issues are therefore very much intertwined and at this conference will have to find answers to the following questions: How will efficiency gains be distributed? Who has access to technology? What needs – and whose – are satisfied by technology? And who actually gets to decide? And most importantly, which regions of the world will be most affected by the environmental and social consequences of resource extraction to

produce those new technologies? Will we continue to apply the same "rules" for production and the distribution of damages and benefits?

Race Against the Machine? Social Innovations

We should not approach technological innovation with blind trust, but it makes just as little sense to have taboos on the subject – after all, the aim is to find out how the social potential of technology can be nurtured and what conditions are required to do this. Technology is not an autonomous force. It is developed and applied by human beings.

New technologies can help to cement rule and maximise profits, or it can make it easier for people to do their work, live their lives and share in society. But technologies also cause damage and have a strong impact. The technological development is an opportunity for us to take care of many things ourselves again, but it can also cause limits at work to disappear and stress levels to rise.

In a nutshell: machine capitalism may not be very popular right now, but that is not the fault of the machines. The innovation issue is thus not only a technological question. Those who want to take advantage of an increasing digitisation need to recognise its potential for society as a whole.

Therefore, technical innovations need to go hand in hand with social innovations and the long-term protection of natural resources and ecosystems. So we need to find new practical ways of tackling social challenges and problems caused by climate change.

Therefore, the political left, in particular, should not be frightened of the gadgets, but should give thought to the social use of technology. The question what digitisation means for the people and our societies has not yet been thoroughly researched in detail. Where are the risks? And what opportunities for social and ecological progress are out there for all nations? Who is going to bear the consequences of damage caused by technological progress?

It is therefore the task of socialist, progressive and social democratic parties to reflect on combining technological and social innovations and come up with sustainable social, environmental and development concepts. This is the only way for politics and society not to be hunted by change, but to actively shape it. The question is also how to develop the social and democratic potential of technologies and what conditions are required to do this. The aim of social innovations is to ensure that not only individuals, but societies as a whole benefit more from technological innovations and to make innovation processes more sustainable and socially fair, but more participative and efficient as well. Social innovations are inclusive, i.e. they expand rights, claims and access to them to as many population groups as possible. They put people at the centre and ask how we can ensure that as many people as possible benefit from technological developments, but also which skills are required to manage those changes. And finally, they put the focus on social networking, communication and cooperation among all stakeholders. Social innovations can also lead to new laws, and especially to new organisational procedures, institutions, behaviours or techniques. Without such innovations, man and machine will enter into a competition which is detrimental for individuals and communities, but also hinders social development in general.

The most important areas for social innovations are labour and education, strengthening democracy, preserving the cultural diversity of humankind and supporting fair transition processes, as well as data security and privacy protection.

Social Progress and Technology

Without social progress it is impossible to implement social innovations. Because the relevant factors for a further expansion of modern communication technologies are not only the "hard" ones, like stable and broad physical infrastructures, market access and affordability, but also "soft" factors, such as training and education levels, as well as a local acceptance of new technologies.

The working environment is faced with huge challenges: not only digitisation, but also globalisation, demographic development, migration and changing values will bring about change that needs to be politically and socially managed.

This raises questions of what the future and the main features of work will look like in the digital age: Will digitisation allow that most people will also have a job in the future? And if so, under which conditions? What are the effects of new business models, such as "digital platforms", on work in the future? If men and machines will be increasingly working together in the future, how can machines then contribute to support and enable people in the working processes? How can a flexible world of work be shaped to the benefit of workers? How can we guarantee co-decision in companies and at the work place?

In addition to automation at the work place, changes in professions and working processes, as well as a shift of activities between different sectors are other challenges that need to be tackled. It is a historically proven fact that sudden changes in the working environment lead to inequality and poverty. Therefore, we demand planned and early investments in formal and continuous training and education to improve qualifications and further training, but also to ensure social and environmental protection which includes new forms of work.

Co-decision opportunities and democratic participation in shaping working conditions are a fundamental prerequisite to ensure social fairness while shaping the digital structural changes.

Data Protection

Our digital data are the most important resource of the future. Data protection and data security are key tasks in a digital world. Common standards need to be found for data security in the areas of the economy, the protection of copyrights and privacy or the "right to be forgotten". This issue is also not exclusively linked to technical

solutions, because security starts with the human being. Through information and education opportunities starting already at school, an informed and competent way of dealing with (one's own) data can be learned.

Participation and Communication

The further penetration of technology across society will lead to a number of conflicts: distribution conflicts, conflicts between ethical principles and competition interests, between the demand for open markets and the need for innovation protection, as well as between the right to privacy and the need of control mechanisms. The social acceptance of new technologies will be more and more a condition for implementing innovations.

Therefore, social innovation also means to take the debate on technology out of the largely closed confines of government and business, where it currently takes place, and bring it into the public at large, because that is where it should take place. Only if there is a transparent public debate on new technologies will people be open to embrace such technologies and capable of assessing the risks involved.

In the end, social innovations mainly happen as a result of dialogue. Therefore, the dialogue with society must be a natural component of any research and innovation. This requires to create more spaces for discussion on how to share and combine political and technological goals. These must be places where technology is geared to people's needs, where we can find new methods to reduce the environmental and climate impact of new technologies and the utility aspect of things takes priority, where professionals with adequate human capacities can be attracted to get involved in meaningful technological projects for the benefit of all.

Ensuring Fair Transition Processes

Digitisation will generate new winners and losers at the regional and the global level. To ensure fair transition processes means to ask the question in each concrete process of how unfair situations can be avoided and who is going to pay for the restructuring process and the possible frictions involved.

Many workers have experienced and suffered from the fact that the various transformation processes of the last four decades were mostly imposed without their participation and against their economic and often existential interests. Industries that will be affected by these transformations are providing jobs and income today.

Therefore, fair transition processes need to guarantee three global objectives: protecting the necessary living conditions all over the planet, creating jobs in new sectors and providing direct help and support for all people who are directly affected by structural change. This includes research and an early assessment of social, environmental and occupational consequences of transformation processes, as well as necessary training and education measures and the extension of social security systems.