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The Challenges of EU Social Policy in the Clutter of Human Rights – What Will the (Bio)technological Singularity of the 21st Century Bring by 2030?

The EU has to meet three requirements simultaneously under the Treaties: 1. the protection of individual liberties (i.e. the European humanist heritage and the Enlightenment ideal); 2. the protection of traditions, culture and national identities (which means the heritage of ancient culture and Judeo-Christian traditions based on the continuity of rights and traditions); and 3. the protection of fundamental rights in the context of ever-accelerating technological developments, such as the protection of society in the face of the challenges posed by digitalisation or biotechnology. While the EU as an institution and regional organisation was awarded the Nobel Peace Prize in 2012 for its efforts for peace in Europe, the same year saw two revolutionary breakthroughs in the use of artificial intelligence and biotechnology, which pose fundamental challenges both in the field of social and employment policy and in the field of human rights. The significance of this is that equality of opportunity itself, and thus social mobility, sustainability and stability – and the future of the EU as a whole – may be called into question when (self-serving – see trans rights) biotechnological interventions, robotisation and AI, migration and family policy goals and practices are not placed in a coherent framework, especially when it comes to long-term strategic goals and instruments in the light of the (bio)technological singularity of the 21st century.

"Those who do not remember the past are condemned to repeat it."[1]
George Santayana, American–Spanish philosopher (1863–1952)

Introduction

The European Union leadership seems to be unwilling to acknowledge the close links among certain contexts such as demographic challenges as well as certain aspects of technological development and their consequences, or only very slowly and ex post, as you can observe by European Parliament reports (for example, begin by the 2015 migration crisis, the European Parliament's Employment and Social Affairs (EMPL) Committee has systematically refused to vote on amendments that would have initiated scrutinising the possible effects of mass (irregular) migration and robotisation. Moreover, the first comprehensive report on artificial intelligence and robotics *(Report on a Comprehensive European Industrial Policy on Artificial Intelligence and Robotics),* adopted in 2018, even though it contains more than 12,000 words, mentions migration only once, and only in the

[1] Santayana 1905.

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context of prohibiting the manipulation of the subject by algorithms in media and public debates. The refusal to engage in a substantive and straightforward debate will therefore prove to be a fundamental mistake in areas such as migration management, family policy as well as social and labour rights and human rights in the light of technology.

Given the limitations of both the scope and the title of this paper, it will only partially present the legal development as well as the present of EU social policy since the aim of the author is to focus on the technological singularity and its human rights and social policy (employment policy) dimensions and perspectives. The author's intention is not to offer a detailed, descriptive study of EU social policy, but to present issues that are either taboo or currently under-discussed due to lack of a holistic approach, and which are probably under-discussed in the literature. The title may be misleading at first reading, however, due to the specificities of EU law – referring to the speciality of the so-called acquis Communautaire – the sides of socio-political as well as that of the singularity of technological development touch upon social and employment policy, although it is precisely in these areas that policy-makers are less concerned with these challenges and risks, in contrast to, say, industry, the internal market or defence. In addition, biotechnology is essentially a health competence for the time being, whilst robotisation is a competitiveness and investment-related issue, as well as an economic policy one, both in the EU and in the Member States. To put it very simply: conferences are now being held across the EU on killer military robots, but officially no one is talking about the risks of biotechnology, however, it is in the interests of disabled and ill people – rightly so! – implants developed for the good reasons, and the potential for modification of the human genome could also be advantageous, not to mention how these technologies could rewrite the social fabric and structures of societies.

EU social policy is not only largely a national competence, but at EU level – although the European Social Fund was the first European financial tool and dedicated fund set up by the Community in 1957 – it remains of limited importance and, for our purposes, is more concerned with equal opportunities (discrimination) – see the relevant important directives adopted in 2000 as a starting point.[2] More importantly, the structure and functioning of the European Commission and the case law of the Court of Justice of the European Union tend to place aspects of social and employment policy under the theme of equal opportunities, from Roma strategy to disability issues, from work–life balance to improving women's employment. And the technological singularity – whether we look at robotisation or biotechnology – will revolutionise both disability (ability) and gender relations – which is why I approach these issues from here in this paper. Why? Before I answer that, let us look at the framework first!

Preamble (sentences) 2, 4 and 5 of the EU Charter of Fundamental Rights, signed in December 2000, reads: "The Union is founded on the indivisible, universal values of

[2] Council Directive 2000/43/EC of 29 June 2000 implementing the principle of equal treatment between persons irrespective of racial or ethnic origin; Council Directive 2000/78/EC of 27 November 2000 establishing a general framework for equal treatment in employment and occupation.

human dignity, freedom, equality and solidarity; it is based on the principles of democracy and the rule of law. […] while respecting the diversity of the cultures and traditions of the peoples of Europe as well as the national identities of the Member States.

[...] in the light of changes in society, social progress and scientific and technological developments by making those rights more visible in a Charter [...]".

This means that the EU must meet three requirements simultaneously: the protection of individual liberties (i.e. the protection of the European humanist heritage as well as the Enlightenment ideal), the protection of traditions, culture and national identities (which means the heritage of the traditions of ancient culture and Judeo-Christianity based on the continuity of rights and traditions), and the protection of fundamental rights in the face of ever-accelerating technological progress, such as the protection of society when dealing with the challenges posed by digitalisation or biotechnology.

To sum up, these issues – such as the management of migration, family policy, social and labour rights, automation and robotics, and the links between human rights and the technological singularity – and their interconnections can only be understood in their broader context and by taking a big step back.

(Bio)technology and law – more challenges ahead for human rights?

I bring attention to an entirely new and previously unanticipated realm, which is set to unfold through the development of information technology and modern science, a process that is still underrated or misconceived as "natural". That development is going to go down in flames with the current established axioms, assumptions and good practices, as well as the resulting, widely accepted policies and human rights narratives. Innumerable analyses and declarations have attested that the community of what is now the EU had once identified itself solely as an economic entity in the 1970s. That self-perception has changed, however, as the EU has also claimed authority in the realm of social policy and human rights. (Political institutions in Europe with primarily strategic, political and, to a smaller extent, cultural and social mandate had existed before, including the Western European Union [disbanded in 2010] and the enduring Council of Europe, founded in London, and currently struggling to position itself in the shadow of EU institutions.) The principal novelty came with the emergence of EU-level discourse on social policy and human rights, which gained momentum after the transition of the countries of East Europe to democracy, when the European Union shifted its focus first on social, and then, on human rights through the Maastricht Treaty of 1993, which added a distinctly political dimension to the European project, originally and primarily formed to foster economic cooperation (with a clear emphasis on common issues rather than disparities).

The year 2024 will be symbolic in the history of the European Union not only because a multitude of events over the past 30 years have reshaped the European Union to a degree that renders it hardly recognisable for observers from the past (and, similarly, it may not be recognisable for our current selves as early as in 2030) as well as 2024 will mark the 20th anniversary of Hungary's EU accession. Upon joining in 2004, Hungary could scarcely

have foreseen the profound and paradigm-shifting effect of long-lasting demographic changes, coupled with the migration crisis and the immigration waves that erupted in 2015. Similarly, Hungary could not have predicted the perspectives that the unfolding healthcare revolution (from cancer research to managing the effects of aging) or the singularity of automation and artificial intelligence (digitalisation) would open up by 2024. Moreover, the turning point in these trends may well have occurred as early as in 2012, when the EU (currently one of the greatest champions of rearmament of Europe in the light of the war between Russia and Ukraine) was then recognised by the Nobel Peace Prize for its decades of efforts at cooperation, mutual respect, and peace in Europe.

All of that came to pass at a time when artificial intelligence appeared in the fastest smartphones (Apple's iPhone 4s), and advances in biotechnology (partly attributable to world-famous and now a recent Nobel Prize winner [2023] Hungarian scientist Katalin Karikó) and genetic modification patents (CRISPR-Cas9) reached new milestones which will, individually and collectively, alter the future of the world and the EU fundamentally by giving humanity the power to reshape its physical and economic (industrial and agricultural) environment (industrial revolutions altogether), and, practically, the capacity to transform our human selves ('biosocial revolution') , as – perhaps most glaringly – indicated by the proliferation and strengthening of what are known as "trans rights" in America and Western Europe. The latter raises numerous questions of ethics and bioethics, which now poisons the relations between western and eastern EU member states.

The discourse about trans rights goes beyond challenging the much-touted freedom of sexual and personal identity and self-determination, as it raises *de jure* questions about the very essence of the human race itself. If an individual's gender may be legally altered, increasingly available technology will also impart the right to modify human genes, which is as yet prohibited. This could be the last step toward an 'enhanced human'. With human genome modification becoming de facto possible during Covid-19, and no international law or United Nations treaty providing a definition of the human species, we are left to ponder what modifications might entail the creation of a new species. A large number of leading biotech nations (including, but not limited to the USA, China and the U.K.) are not signatories to the relevant and key international treaties on bioethics. This question is valid as it could put Central and East European countries at a (competitive) disadvantage and could also create legal chaos, particularly in the light of the 1997 Ovideo Convention (Convention on Human Rights and Biomedicine)[3] for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine, since the countries of our region ratified the Convention before their accession to the EU in order to comply with human rights and democratic values. However, several other states, including the Benelux countries, Germany and Sweden as

[3] The Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine, otherwise known as the European Convention on Bioethics or the European Bioethics Convention (Oviedo Convention) and Additional Protocol to the Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine, on the Prohibition of Cloning Human Beings.

well as major powers like Russia or the United Kingdom have not adopted it.[4] Moreover, the United Kingdom decided in November 2017 to withdraw from the EU's Fundamental Rights Charter which, *inter alia,* prohibits eugenics. That ban had served as a major (in-principle) legal barrier to experiments and developments of that nature.[5] According to a report published in *The Wall Street Journal,* China had announced a five-year plan and relaxed administrative regulations for an ambitious CRISPR technology program back in 2016. As a result of that 'regulatory asymmetry' and lower security requirements compared to the Western world, China claims to have made progress in preventing or treating several illnesses and disabilities.[6] This is significant because the Ovideo Convention gives precedence to "human beings" over "persons" (the latter being the notion that pro-abortionists emphasise). This distinction applies across various domains, including insurance, gains derived from the human body or organs, the 'right to not know', genetic heritage, or the necessity to obtain the consent for experimental therapies. In addition, the expressed and legal protection of genetic characteristics is specifically mentioned in Article 21 of the Charter of Fundamental Rights of the European Union: "(1) Any discrimination based on any ground such as sex, race, colour, ethnic or social origin, genetic feature [...] shall be prohibited." If the Western countries mentioned, as well as China and Russia, cross this line, the consequences could be very similar to certain aspects of eugenics, a theory of Anglo-Saxon origin that was popular in the 1910s and served as a direct precursor to Nazi racist theories.[7] The promise of modern eugenics (semi-legal/illegal biotechnology) may turn out to be as mirageous and eventually tragic as its predecessor in the last century, as we have seen the consequences of irresponsible and uncontrolled interference in nature: for example, how an aggressive and vigorous bulldog, originally a herder of bulls, became a deformed creature, unable to fight on its own, almost suffocating on a small hike, seriously deformed in comparison to other dogs. (More on the dangers of eugenics, which originated in the United States, later.)

The fundamental question is therefore whether the issue of the human race can or will be the most important political issue in the 21st century, since the question that will soon be decided is whether our fellow citizens, ourselves, are merely biological factors in society that can be shaped without limits, or whether there is a concept, a value or a condition that goes beyond the human being. The main question, therefore, will be whether the right to their genetic property is an opportunity or a limitation. Will anyone have the right to make changes to their own genome at will, not only to protect life and to protect against disease, but also, for example, in connection with biological processes unrelated to it (e.g. sex change), as is possible today with implants in the beauty industry, or even as is permitted by law in connection with abortion when it comes to women's "control of their body"? On the other hand, the other side of the coin is also whether our existing genetic make-up and heritage preserves what makes us human from birth and what sex

4 Council of Europe 2023. (Promulgated by Act VI of 2002.)
5 Cowburn 2017.
6 Rana et al. 2018.
7 Lovászy 2018a.

we are, and whether, in addition to the prohibition of human genetic modification, the core of conservative values in the field of human rights, and especially in the protection of children, is that, in accordance with the UN Convention on the Rights of the Child, the raising of children is primarily the freedom, duty and, not least, responsibility of parents?

We have always known there is a crisis, but no one took it seriously

In 2005, well before the onset of the financial crisis in 2008–2009, the Organisation for Economic Co-operation and Development (OECD) estimated that economic growth in the developed West in the decades ahead would shrink to a fraction of the levels observed between 1970 and 2000.[8] Moreover, a high-level task force led by former Dutch Prime Minister *Wim Kok* warned in November 2004, almost 30 years ago, that feeble economic expansion in Europe would pose another major challenge alongside the ascendance of Asia. Drawing from the tendencies seen in 2000, their prediction suggested that per capita GDP in the EU would plummet by 20% in 2040, while Asia's economic growth would outpace that of Europe by a factor of two, albeit from a substantially lower basis. A few years later, in 2011, the European Commission projected that the European Union's share of the global GDP would crumble from 29% in 2010 (or from 22% according to World Bank data) to 15–17%.[9] World Bank statistics suggest that these projections have materialised as of 2022, with the European Union accounting for only 16.5% of the world's total economic output. Back in 2011, the EU was still ahead of the USA and China in that regard. [10] But the tides have since shifted as both the United States and China boast larger economies than the EU whether measured at purchasing power parity or in actual USD value. Notably, only the GDP of the EU showed a decline in 2022 at current USD value.[11] The alarm raised by the Kok report 20 years ago reverberates: "In the mid- and long term, what is at stake is no less than the sustainability of the society built by Europe."[12] This trend persisted as revealed in a volume published by the European Commission in late October 2011, shortly after Viktor Orbán's newly formed second government called for a demographic turnaround. The publication, which was based on updated figures, projected that the European Union's share of the world's GDP could be halved over the following four decades, while the EU's population would shrink by twice the current population of Hungary, even with the ostensibly liberal immigration policies at the time (2012).[13] As early as on 30 April 2014, the *Financial Times* claimed that China would potentially eclipse the USA within that year as the world's leader in economic output, a status held since 1872. While the question of economic leadership remains arguable to this date, China is definitely recognised as the only country capable

8 OECD 2005.
9 European Commission 2012; World Bank 2022.
10 The EU, the US and China account for more than half of global GDP.
11 World Bank 2022.
12 Kok 2004: 13, 19.
13 European Commission 2012: 62–63.

of realistically rivalling or surpassing the size of the American economy.[14] (It is worth noting that the interplay between competitiveness, economic growth and social provisions is also complicated: China, a country that claims to have a Communist system, has never established a comprehensive and unified social insurance network resembling the one we have in Europe.)[15]

The above-mentioned tendencies should also be evaluated in accordance with automation, robotics, and other scientific and technological developments. But this perspective is almost entirely neglected by the decision-makers and politicians of EU institutions. This claim is based on my experiences between 2009 and 2018, when I worked as an adviser dealing with dossiers of the Employment and Social Committee of the European Parliament in Brussels, where I was responsible for the Committee's reports. Most EP members systematically refused to endorse amendments proposed by Committee members that raised questions about the extent to which European politics were prepared to face a more complex landscape – one that challenged the prevailing orthodoxy on the imperative of massive irregular migration.

Are we in the midst of a demographic "counterrevolution" and competitiveness crisis?

The global demographic explosion of the past 50 years coincided with the gradual decline of the population of developed countries. As George Friedman puts in his popular book *The Next 100 Years* (2010), this phenomenon may be considered "natural" due to improving health care, more complex services and industrial output requiring additional qualifications, higher-level education which costs more for families, as well as post-industrial (public) social and security systems that are no longer related to families. The overall fertility rate has dropped below 2 in the EU, marking a lasting and irreversible trend, at least in the short term: the value of this indicator was halved between 1950 and 2013 in the world. And women in most of the world, apart from Africa, have fewer than two children on average. The situation is particularly pronounced in Europe, as the fertility rate does not reach 2 in any EU country. A modest uptick in the first decade of the 2000s (to 1.57 in 2010) was followed by stagnation and a continued decline (to 1.53 in 2021). (It is noteworthy that China relaxed its one-child policy in the 2010s, when the fertility rate was around 1.6, but this did not prove sufficient as the value is now around 1 – specifically, 1.16 in 2021[16] – even lower than Japan's 1.30 value.) Consequently, increasing fertility rate (to 2.1) is a legitimate goal for Hungary. As I pointed out in 2018, a more sustainable society needs more attention on and better opportunities for women to have their first child at a younger age than the current average child bearing age of

[14] Malatinszky 2023.
[15] Branigan 2013.
[16] United Nations 2022.

30 because young people are simply running out of time and, even if suitable support is available, they will not, or even if they wanted to, will not be able to have three or more children.[17]

This is only one problem, the other is that mass childbearing by people over 35 also carries the risk that – according to the latest findings of eminent Hungarian scientists' (Ádám Sturm, Tibor Vellai et al.) research published in August 2023 in Nature[18] – the birth of more and more offspring whose genetic heritage will be more and more severely affected by the higher age of the mothers will also have a profound impact on Western civilisation due to the increasing infertility of the indigenous population and the growing number and proportion of genetically more affected offspring,[19] especially in view of increasing immigration. (Older fathers, while capable of bearing children up to 80 years of age, may produce offspring with autism at rates up to 3–4 times higher than their younger counterparts.)[20] And on top of this, the promise of irresponsible and self-serving and uncontrolled genetic modification for the purpose of "improved man", without knowing today what these modifications will entail. Perhaps it is worth looking back at Hungarian history in this respect! The great figure of Hungarian criminal law, the academic Pál Angyal, in the heyday of eugenics, which was popular worldwide at the time, put it this way in his work entitled *The Criminal Law Aspects of the Negative Eugenic Trend* in 1936: "We, Hungarians at least must be extremely cautious about the means of negative eugenics, because we can hardly afford the luxury of cutting our ranks in exchange for the dubious and uncertain advantage which promises the alleged ennoblement of the Hungarians, who are dwindling in number."[21]

Based on the previously mentioned causes, people live and remain active longer as our quality of life improves, however, the dramatic deterioration of fertility should also be taken into account in the developed world, including Hungary, where factors such as (early) menopause coupled with insufficient sperm quality and quantity are blamed for the high incidence of infertility among couples (who have been trying to conceive naturally for at least one year), which is currently at 150,000.[22] That is why it should be essential for the EU to support more effective artificial fertilisation programs for couples above 30 years of age, a move recognised by Hungary's government in 2018.[23] New developments, which straddle a legal "grey area", and innovations such as the potential development of artificial wombs (as yet only for animals) or the creation of embryos without gametes could fundamentally reshape child-bearing habits and trends in the coming decades. Consequently, previous long-term demographic projections may also have to be revised, with highlighted focus on human rights and religious ethics because it is not the EU, with its 5–6% of the population, that will determine this development, but Asia and the U.S.

17 Lovászy 2018b.
18 Sturm et al. 2023: 1–3.
19 Sturm et al. 2023: 1–3.
20 Rudy 2023.
21 Angyal 1936.
22 Government of Hungary 2021.
23 Boromisza 2018.

And if we step back a little for a broader perspective, we see that Europe may be almost the only continent where population will at best remain on a plateau or will only decline slightly, with the number of residents diminishing in Eastern and Southern Europe, and growing in the North and West. As another facet of demography, the ageing of the population will speed up to an extent never seen in history, bringing forth new dilemmas and requiring a paradigm shift in social policies. According to European Commission estimates, the number of individuals over 65 will rise by almost 60 million by 2050, alongside a decrease (by 48 million) in the active workforce.[24] Health issues and disabilities arising from advanced age will be increasingly prevalent among the elderly. The number of people aged 100 years or older will jump by almost 1,000% by 2050, with the cohort above 65 years of age expanding by 188%. Contrary to popular belief, performance-impairing conditions affecting the elderly, such as dementia and Alzheimer's disease, will not primarily impact the residents of developed countries, because individuals in the West tend to live healthier lives due to higher living standards, better work conditions, and more effective health care (resulting in a higher average age compared to East Europe). That is why it is imperative to address this issue in Eastern Europe.[25]

Meanwhile, as the third demographic facet, the EU's population grew by almost 100 million from the 1960s due to immigration. But according to the European Commission,[26] close to 70% of that growth was attributable to immigration to Western European countries, mostly from their former colonies. At the same time, dramatic tendencies evolved especially in Central and Eastern Europe, but also in Germany, the powerhouse of Europe, and specifically in the former East Germany. For example, Thüringen's population may drop by as much as 40% by 2060.[27] (When running for her second chancellorship, Angela Merkel announced major family tax cuts and other financial family supports in her 2013 election campaign,[28] partly inspired by Hungary's example, even though few of those measures were realised during her coalition government.)[29] Nevertheless, the overall data indicate that boosting fertility remains an impossible challenge for citizens and the indigenous peoples of the EU. Even in Germany, the fertility rate had only risen by 0.8% (from 1.50 to 1.58)[30] by 2021 despite the great opening, known as the infamous *Willkommenskultur,* eight years earlier, and the masses of new immigrants it attracted. Actually, the meaning of the word itself shows a symbolic change, as the original concept was designed to attract well-trained workers to Germany, portrayed as a helpful and hospitable country suffering from an increasing labour shortage. But even according to the correspondent of *The Guardian,* a periodical considered left-wing, the primary and more current meaning of the word is now associated with assisting immigrant

[24] European Commission 2012: 84.
[25] WHO–NIH 2011: 8, 15.
[26] European Commission 2012.
[27] Stevens 2011.
[28] MTI 2013.
[29] Sozialpolitik 2022.
[30] German Federal Statistical Office 2023a.

groups from remote war-torn countries.[31] Statistics show a drastic surge of homelessness after 2015 with 440,000 registered refugees reported as homeless in that year, and an official figure of 170,000 seven years after the *Wilkommenskultur* (on 31 January 2022).[32] And immigrants' employment prospects have not improved much with almost 800,000 working-age Syrian and Afghan immigrants residing in Germany for at least five years and only one third employed according to the official statistics.[33] Eurostat's data show that the unemployment rate among people from third countries exceeded 8% in 2022; in fact almost one third are long-term unemployed.[34] These data should signal to Germany the need to alter their course and to devise a new strategy or else they will be "left with" better trained East European workers and professionals. If the latter are drained away for good, the EU will ultimately cannibalise its own workforce and sacrifice itself on the altar of competitiveness, thereby generating another social policy crisis in an ageing EU.

Productivity is one if not the most important aspect of competitiveness. Unlike demographic and especially fertility indicators, productivity has been improving steadily in the developed world. During the industrial revolution, the productivity of the weaving industry rocketed fifteen-fold in England between 1770 and 1850. This progress was reflected by people's income. Per capita GDP jumped by almost 150% between 1850 and 1950 even in less developed Germany and Italy. In turn, the output of the processing industry surged fifteen-fold between 1950 and 2010, despite employing only one third of the previous workforce to manufacture the products. However, the productivity of the workforce of more affluent EU countries has been continuously decreasing relative to the USA and Japan since 1995. In addition, the difference between the per capita GDP of the EU and the USA has risen by as much as 50% to the benefit of Americans since the 1990s according to a report issued by the European Investment Bank in 2016. Also, the number of patents registered in the EU in 2015 was 30% lower than in the USA; and in the previous year, more patents were registered in China than in the USA and Japan combined. These figures highlight the global relocation of research and development centres. Europe's development seems to lose momentum; less developed regions had still been converging towards the EU's average in 2008, but the pace of that convergence has slowed down significantly by 2023. Germany has slipped behind France to position 10 in the EU productivity ranking. The gaps between EU members have not narrowed: the difference between Ireland, the leader, and Bulgaria, Hungary and several of its neighbours is seven to ninefold according to the European Commission.[35]

In view of the above, it should be noted that robotics will progress significantly and generate further immense changes according to a comprehensive projection published by the think tank Bain Company in 2018. In terms of the average hourly wage, China's workforce is still more competitive than collaborative robots (cobots), but the gap in Germany and France is tenfold. Even in – still considered as a developing country – China, where

[31] Connolly 2015.
[32] German Federal Statistical Office 2023b.
[33] Fairless 2022.
[34] Eurostat 2023a; Eurostat 2023b.
[35] European Commission 2023.

it is still more lucrative economically to employ humans than cobots, the return period of investments in industrial robots has been rapidly shortening (from 5.3 to 1.5 years). In the American economy, advancing technology will allow for a 30% average increase in labour productivity between 2015 and 2030. This ratio could reach 55% in industry, and up to 18% in health care and social services. Consequently, Bain's experts predict that global economy will come under dual pressures. Due to the ageing population, 55 million people will exit the labour market between 2015 and 2030, a challenge that could theoretically be offset by boosting the productivity level recorded for 1955–2015 by 54%. The analysts described the scale of the transformation by comparing their projections with the overhaul of the U.S. agriculture between 1900 and 1940, when the sector shed close to 40% of its jobs. In the 10–20 years following 2020, 20–25% of all jobs will be transformed fundamentally or terminated. Strictly for the sake of comparison, "only" 13% of the jobs were transformed between 1970 and 1990.[36]

Even though advances in robotics in Europe could unleash the next "industrial revolution" in productivity,[37] this will hardly resolve the problems of the unskilled masses that have flooded our continent. What is more, the sanctions levied in response to the war between Russia and Ukraine have clearly harmed the competitiveness of Europe's economy due to rocketing energy prices and the resulting surge of inflation. Lower wages are a key to the competitiveness of East European countries, and war-induced inflation (and rising energy prices) endanger people's livelihood. It follows therefore that the heart of the matter is the price economic operators and especially households pay for public utilities. For that reason, even though Hungary's support policy known as "utility protection" may appear to be a matter for domestic politics and social policy, it is an important factor in a complex (even part of important economy policy-related) issue and must not be something that European politics toys with, including in particular any players that support state intervention and call for a unified EU-wide social policy. The policy of sanctions has recently become a political matter rather than one of competitiveness, where member state action was replaced by EU interventions into market processes and supply safety that lead to measurably deteriorating the EU's competitiveness.

Finally, advances in robotics and automation deserve attention because they have speeded up spectacularly in Asia recently. (We shall return to this issue briefly below.)

New era of healthcare revolution to rewrite social policies?

In addition to our increased life expectancy, we generally experience nowadays, future health risks (other than smoking, alcohol and drug consumption) should also be examined, since several countries have already introduced programs and preventive measures which are, however, not yet sufficient so far. A previous report[38] from 2017 by the International

[36] Lovászy 2020: 1–12.
[37] Inforadió/MTI 2014.
[38] ISCA 2015.

Sport and Culture Association (ISCA) revealed that physical inactivity causing obesity and illnesses has become a graver health risk in the EU than smoking, as this sedentary lifestyle claims the lives of many Europeans, with 500,000 dying early every year. In a similar vein, Juval Noah Harari's popular book *Homo Deus* points out a new and striking development in the history of mankind: at the end of the 20th century more people were dying in the world due to nourishment-related issues (specifically diabetes and its complications) than in armed conflicts. Science may have found a cure for obesity: researchers of Washington University announced in September 2017[39] that they had prevented obesity in mice. Another recent medical breakthrough in this area occurred when the staff of the San Antonio Health Centre of the University of Texas cooperated with researchers of the University of Pennsylvania and Cornell University to prevent obesity in mice subjected to a high-sugar and high-fat diet.[40]

Another direction of innovations in the 2010s drove the proliferation of wearable medical devices and services (algorithms) facilitated by smartphones, smart wristbands and smartwatches. In addition to the wide spread use of surgical and medical robots (e.g. in surgery), the massive digitalisation of healthcare data has helped artificial intelligence-based algorithms to play an increasing role in diagnostics. Robots and algorithms are used in revolutionary new ways, including nano-sized devices and even smaller, DNA-based robots that move in the human body and promote or correct physiological functions with increasingly intelligent programs.[41] Also, mind-controlled devices could proliferate in a few years;[42] since the first major breakthrough in a direct brain–internet ("brainternet") connection occurred already in 2017, when three individuals managed to interpret each other's brain signals.[43] This could open immense prospects and it is merely a question of time, that is why no wonder Elon Musk, one of the richest persons on Earth, is planning to use brainternet to build a dedicated, obviously profitable, billion-dollar business primarily for rehabilitation purposes. He was rumoured to have received a preliminary permit for human experiments from the U.S. authority (FDA) in the summer of 2023,[44] in September Neuralink said it has received approval from an independent review board to begin recruitment for the first human trial of its brain implant for paralysis patients.[45]

Based on these developments, all this suggests that a specific direction can be noted calling the renaissance of medical rehabilitation, which opens new perspectives to people with disabilities, representing 5% of the population. Prosthetic limbs controlled with mobile phones or even with the user's mind are now a reality; with recent developments allowing users to actually perceive sensations in their prosthetic arms or legs. This promises to revolutionise attitudes towards disability already in the mid-term and may

[39] Dryden 2017.
[40] Sansom 2023.
[41] Delveinsight 2022.
[42] Colucci et al. 2022: 747–756.
[43] Jiang et al. 2018.
[44] Snider 2023.
[45] Reuters 2023.

even lead to better replacements. New devices replacing prosthetic parts could in fact render the user/wearer even more competitive. As a result, the artificial body parts industry, like the beauty industry, could be as big as the breast implant business, which was already worth more than US$2 billion by 2020.[46] WHO predictions and an analysis of trends in terms of disabilities clearly suggest that the most frequent and critically prevalent disabilities after 2030 will be old-age hearing loss and its severe complications, including dementia and cerebral disorders.[47]

That is why it is in the basic interest of a nation (and its economy) to invest in the health and lifestyle of active elderly individuals (with a better body mass index [BMI]), with increased focus on prevention. Hungary's National Brain Research Program 2.0 highlights that cerebral disorders, responsible for about one third of the diseases in developed countries, now require higher state health care expenditures and budget allocations than cardiovascular diseases, cancer and diabetes combined.[48] The good news is that a protein potentially capable of slowing down the process of ageing may have been found in 2023. Scientists still have a long way to go yet as ageing is a very complex phenomenon. But some view it as a disease that could ultimately become curable,[49] and even life expectancy can be extended up to 120 years, so that we will still be in much better health at 80–90 years of age than our parents are today. It is therefore important, for example, to study even the seemingly unusual Japanese examples and practice, and to adopt good practices in areas ranging from education and healthy lifestyles to active ageing[50] as well as strict authorisation of the participation of foreign workers in targeted areas.

It may not be far-fetched to talk about "enhanced humans", biological specimen with enhanced skills, as a new phenomenon to which society, politicians and especially the European Union have yet to formulate a response. Over a longer term, this could challenge all established human rights aspects related to disabilities, such as determining who qualifies as disabled and eligible for aid. Additionally, limited or no access to state-of-the-art, albeit expensive, medical technology could exacerbate the risk of poverty among individuals with disabilities. The risk of hacking attacks (when it comes to implants) should also be reckoned with, as I repeatedly pointed out as a contributing expert at UNCRPD meetings in Geneva, and in my writings between 2012 and 2022. The problem is complex because purely scientific responses are no longer possible as they involve values and legal doctrines, akin to the discussion about euthanasia, abortion, or the legal capacity of persons with mental disabilities with impaired power of judgement. These values and doctrinal questions are inextricably linked to our beliefs about humanity, too. Furthermore, if people live much longer healthy lives, the imperative of massive immigration will diminish, especially in case we prevent or drastically reduce old-age-related disabilities. Hence, safeguarding people's hearing becomes a significant priority.

46 Grand View Report 2023.
47 Lovászy 2021a: 220–238.
48 NAP 2.0 s. a.
49 Kingsland 2023.
50 Lovászy 2023: 48–64.

These results, coupled with the explosive growth of biotechnology fuelled by coronavirus vaccine research, which eventually introduced genetic modification technologies, could also trigger a fundamental paradigm shift in the area of ageing. That, in turn, will once again question the paradigm of massive immigration, and especially irregular migration which the EU has so far supported or at least tolerated.

The symbiosis between the labour market and artificial intelligence: The digital revolution

Recognising that its demographic crisis continues and deepens despite abandoning its one-child policy, China also is planning to scale up the use of robots in its manufacturing and processing sectors. The oriental giant is already the largest market for industrial robots, accounting for over half of the global demand. According to the International Federation of Robotics (2021),[51] China has already surpassed the United States in automation and is now ranked fifth globally, boasting 322 industrial robots per 10,000 workers. (South Korea, where the fertility rate is also around 1.0, still outpaces China in terms of automation.) Current projections indicate that new robots could enhance the productivity of certain industries by up to 30% by 2025, thereby reducing labour costs by some 20% primarily in the USA, China and Germany. It is worth noting that the leading Asian countries (China, Korea and Japan) have so far manufactured five times more robots than the leading EU member states (Germany, Italy and France) combined. According to data from 2023, the number of robots installed in the top five EU countries (Germany, Italy, France, Spain and Poland) rose by 6% in 2022. These states commissioned about 70% of all industrial robots in the EU.[52]

Naturally, however, technological progress will not only terminate jobs, it will also create new ones, leaving us with the ultimate dilemma, namely relative ratio of jobs lost and created. The National Intelligence Council, a recognised futurology think tank advising the presidents of the United States, raises questions about a labour market for human workforce after 2030, when significance of growth perspectives will be less important and growth itself will be less relevant.[53]

These developments unfold as the EU, after almost eight years, should finally acknowledge now that the *Willkommenskultur* policy in response to the immigration crisis of 2015 had become untenable by 2017.[54] Few heeded Aydan Özoğuz, Germany's minister responsible for immigration at the time, who conceded in an interview with the *Financial Times* that only 45% of recently arrived Syrian refugees could produce any evidence of their education level, and three quarters of them were projected to be inactive and dependent on aid up to five (but probably 10) years due to insufficient language skills

[51] IFR 2022.
[52] IFR 2023.
[53] Lovászy 2022: 269–302.
[54] Lovászy 2017a.

and qualifications. The reputable Ifo Institute also reminds us that only 8% of all employed refugees and immigrants have been hired as trained workers.[55] Western member states of the EU understandably pushed for obligatory immigration quotas recognising the correlation between a massive influx of refugees (immigrants) and France's economic vulnerability, as President Macron happened to admit later in an interview.[56] The general sentiment has changed fundamentally since the autumn of 2015, when Dieter Zetsche, head of Daimler (Mercedes-Benz) happened to forecast that refugees would start a new economic miracle in Germany.[57]

Looking to the near future, the reputable analysis firm McKinsey points out[58] that productivity rose by 0.3% annually between 1850 and 1910, while it is expected to increase by up to 1.5% between 2015 and 2060, including the sector of services where 70–80% of the labour force is employed. This might put the rate of growth at 300–400% compared to the first industrial revolution. Thus the impacts of full or partial automation on the services sector remains unpredictable. According to U.S. federal labour statistics, demand for less skilled or even unskilled workers (in personal care) will increase the most in the future. The EU also anticipates growing demand for labour primarily in health care and education, where language proficiency and shared cultural background become crucial due to the need for communication and personal interactions. (Japan, on the other hand, is planning to use robots to replace a growing number of such jobs, according to a strategy developed in 2016.) Also in 2016, a comprehensive analysis by Oxford University and Citi concluded that it was demand for routine cognitive/routine manual workers with medium level qualifications that had declined the most in the USA between 1984 and 2014, which had harshly adverse consequences in the services sector as well. The productivity of conventional services and production sectors has declined sharply since 2008. According to the OECD, the most productive and innovative services improved by 50% in that regard between 2001 and 2010, while their traditional competitors failed to achieve productivity improvements and could only match the figures (rate of growth) seen before 2000.[59] Based on McKinsey's analysis, Báger believes that the automation potential in Hungary, by following Japan and South Korea, may now be higher than in Germany, Austria or even the United States.[60]

All that points toward an impending unemployment paradox. As increasingly intelligent machines and robots gain prominence, an increasing number of experts raise concerns about the threat of massive global unemployment hitting humanity. Meanwhile, others predict that the number of people out of work will not increase (excluding unskilled immigrant populations); in fact, a raging shortage of labour has hit us and is here to stay, albeit differently than expected. Both sides may be right in a sense, but the future we are heading for will be markedly different. It is also clear that the EU will require a new

55 Chazan 2017.
56 Robert–Stupp 2017.
57 Euronews 2015.
58 McKinsey 2017.
59 Lovászy 2022: 269–302.
60 Báger 2023: 30–41.

paradigm shift to address the financing of the pension system and youth unemployment. Revolutionary – even contrary – changes are expected due to the explosive development of artificial intelligence, especially in menial jobs that do not require modern skills; the Roma Strategy, as an achievement of the 2011 Hungarian EU Presidency, was a good starting point in that regard. Moreover, the positions of relatively less skilled workers can also be improved indirectly, as the economy expands, where significant results can be achieved through targeted state intervention. This is supported by the improving employment indicators of Roma people in Hungary. According to statistics,[61] the ratio of Roma individuals aged 18–59, sharing households with no employed members declined by 15% between 2014 and 2021. This shift followed the introduction of a large-scale public work program previously criticised by the EU, and was primarily targeted at Roma people who were unqualified or held only basic qualifications. An increasing number of Roma found their way into the primary labour market, many securing jobs where productivity gains were increasingly attributed to artificial intelligence, especially in the service sectors, logistics, catering and construction. And ageing may offer the prospect of the less skilled being able to meet a growing need for carers, if the number of people dropping out of primary education is also reduced, as it is the health sector that will face one of the greatest labour shortages, especially for nurses.[62] Therefore, it would be essential to improve the positions of Roma people across Europe before EU policymakers contemplate further immigration from third countries. (In addition, the robotisation and digitalisation of the healthcare is also revolutionising in Asia, especially in Japan, but that could be the subject of another study.)

In addition, the labour market is influenced by a relatively unforeseen development arising from artificial intelligence, which also has long-term political ramifications. At present, young people face a disadvantage when seeking highly qualified jobs, where personal experience, practice, and a network of connections carry significant added value. Data suggest that the employment of highly qualified people above 60 years of age is increasing steadily, along with their income and quality of life. At the same time, since the mid-2000s, fewer young people, especially in Western Europe, can anticipate only the same standard of living improvements enjoyed by previous generations of their parents and grandparents.[63]

Finally, there is a little known aspect of digitisation which is also worth mentioning: as our world becomes a digital copy (metaverse),[64] the role of culture is being valued, as more and more programmers need to provide a culture-based response to modelling the situations and preferences to be decided in advance, in order to make increasingly complex systems coherent. In other words, the worldview and values of the programmers behind the empowering algorithms and their clients who write them – somewhat like the monastic scribes in the Middle Ages – may inevitably become the determinant in

61 Kiss 2023.
62 Kiss 2023.
63 Mckinsey 2016.
64 Lovászy 2021b.

the face of accelerating and widespread digitisation. As György Matolcsy put it in 2021: "Underlying the emergence of the human – artificial human, the real–virtual world or the new dual world system is the dichotomy of the 0-1 digital code. The new society will be twofold in everything, so it will be a more diverse and colourful decade than today, a decade of contrasts, stronger competition and stronger cooperation."[65] Matolcsy also points to a new model of sustainability: the knowledge revolution will connect human communities, where the human–human relationship, defined by culture (civilisation), will become crucial, rather than the previous living–things world connection. Thus, sustainability will also be about human civilisation, and therefore human relationships will be at the heart of sustainable economics in societies powered by artificial intelligence and robotisation.[66]

How will the future be very different – The solution

All of the above played out against a backdrop of several recently reported scientific breakthroughs, partly in the treatment of disabilities and injuries and the subsequent rehabilitation, which allow for improving and enhancing "healthy" people. These innovations could pave the way for 'enhanced humans' in the foreseeable future, leading to countless human rights dilemmas and implications for social policies and (bio)ethics (see legalising biological sex change). For example, research suggests that it may be possible to eliminate menopause through a better understanding of brain functions[67] and the adoption of methods such as artificial wombs, egg cryopreservation, and stem cell therapies when it comes to fertility. This could usher in another paradigm shift, primarily in the USA and Asia, triggering another demographic revolution after 2030 leading to unprecedented consequences.[68] In terms of age, '50 or older' could replace '40' as the new '30'; with individuals in their 50s becoming increasingly vital to European societies from a political perspective and by reason of election mathematics. As they age, they may become more receptive to biotechnological solutions, which are currently used primarily to prevent disabilities.

Both Hungary and the EU need to reassess the coming decades from a social, societal, demographic perspective, and (in the light of the war between Russia and Ukraine) also in terms of organising the economy and reindustrialisation as French President Macron suggested in May in a *Financial Times* article entitled "Europe Needs More Factories and Fewer Dependencies".[69] "Made in Europe" should be our motto, he suggested. It should be noted that influential experts and reputable university scientists initially dismissed Hungary's Prime Minister after 2012 when he expressed similar views. Critics, including

[65] Matolcsy 2021.
[66] Matolcsy 2022: 9–20.
[67] Griffin 2023.
[68] Reddy 2023.
[69] Macron 2023.

Ákos Valentinyi, member of the Shadow Monetary Policy Committee and Professor of Economics at Cardiff University argued that countries wealthier than Hungary had a higher share of services and a lower proportion of industry, calling re-industrialisation an inappropriate strategy. Consequently, Hungary's new economic model announced by Viktor Orbán based on Minister of Economy György Matolcsy's 2011 Hungarian Growth Plan, which calls for re-industrialisation, i.e. significantly increasing the share of industrial output within GDP, appeared misguided.[70] However, time has disproved these critics. It was apparent as early as 2013 that the EU lagged behind its main competitors, namely the USA and Japan, in almost all areas, from information technology to optical devices, except the pharmaceutical industry.[71] (It might also be worth studying Japanese examples in this area, in particular to understand – including even the disruptive – aspects of the unprecedented and astonishingly rapid historic catching-up success in industrialisation and technology transfer of Japan [1946–1970] and the model of the incentive state that created national flagship industrial companies, "national champions" [*zaibacu* in Japanese]).

These issues are important to the EU because the union should seek balanced European development to prevent working-age people from migrating away from new (Eastern European) member states. Such migration trends would cannibalise the EU's own competitiveness and undermine social cohesion, a core EU value, namely social cohesion in a broader sense, as it aims to promote the well-being of the peoples of Europe to fulfil "the objective of promoting economic, social and territorial cohesion and solidarity between Member States" [Article 3 of the Treaty on European Union (TEU)].

Addressing this challenge is a fundamental responsibility for social policies because millions of Eastern Europeans have already migrated to wealthier Western EU member states, a trend that could pose a major risk and threat to European integration in the future, despite a recent reversed trend of people returning to Eastern Europe and especially Hungary.[72] For seven years now, starting in 2016, more Hungarian citizens have returned home than left; in fact, Hungary's emigration rate is the lowest among the countries of Eastern Europe. As this is a discussion of migration inside the EU, an interesting related development should be noted: the number of German pensioners residing in Hungary has increased by about 25% in recent years. According to a German public service TV channel,[73] many Germans choose Hungary for political reasons (secure borders, strong public safety, no threat of irregular migration), in addition to the appeal of lower prices. And then the potential of employing the less skilled in the health sector can come to the fore again, achieving the goals of even higher level of employment ("work-based society") and that of GDP growth, which may also be attractive to Western Europeans moving to Hungary ("where it is good to live"). Moreover, it is not only expatriates who need to be taken into account, as the data show that the number of Hungarian younger people (aged

[70] Valentinyi 2014; Madár 2014; Index 2011.
[71] European Commission 2013: 21.
[72] Hungarian Central Statistical Office 2023.
[73] MDR 2023.

20–44) living in the EU has fallen significantly over the last few years, with fluctuations but overall, while the number of people aged 45–59 has risen and the number of people aged 60–64 has remained virtually stagnant, meaning that people aged 45 and over are stable in their chosen destination country.[74] The latter are still active but will have to think about their retirement after 2030, especially for those whose children are even more mobile than they are and may leave their country of current residence. All in all, taking Eurostat mirror statistics[75] as a basis, we are talking about almost 100,000 (96,000) Hungarian citizens who will come home and spend their retirement years in Hungary, which could increase demand and have an impact on the property market, as they will be able to return and presumably enjoy higher benefits than in their home country.

The challenge at hand is far from minor. Tackling it requires the European Union's willingness to acknowledge certain demographic challenges, as well as the obvious connection between certain less-explored facets of technological development, along with their potential risks, especially in areas such as immigration management, family policies, competitiveness, or social and human rights amidst a biotechnological revolution that raises questions about the very essence of humanity. These questions and problems were evident back in 2016 as highlighted in my articles about the topic entitled "A migráció vagy a robotok mentik meg Európát?" [Will Europe Be Saved by Immigration or Robots?] (Portfolio, 26 October 2016) and "A népesedési katasztrófa ellenszere: okos családpolitika és robotok" [Smart Family Policy and Robots as Antidotes to Demographic Catastrophe] (Portfolio, 29 April 2018). However, the leadership of the EU ignored seeking an answer to the triplet of questions whether the EU should rely on the influx of unskilled immigrants, rapidly advancing robots, or neglected families grappling with low fertility[76] in an EU where its ageing and increasingly sick societies become more and more inactive, while responding to the positive potential of biotechnology and robotisation to transform society (e.g. to mitigate the severe disabilities that increasingly affect ageing and to ensure higher productivity) and their potential risks of destroying social mobility, e.g. due to barriers to access to technologies.

In conclusion, it can be said that humans themselves will become the most important political issue, since the question to be decided will be whether our fellows, ourselves (and our children) are merely biological factors in society that can be freely shaped, or whether there is a value and a conception that goes beyond humanity, based on which there is an inalienable, unchangeable dignity of human beings, which cannot be touched under any circumstances, either for individual or for state interests and purposes. Which preserves what makes us human from birth and what gender we have. This is precisely the essence of the conservative value in the field of human rights, and particularly in the

[74] Note: A detailed study on international migration in the 2018 Demographic Portrait of the Population Research Institute of the Hungarian Central Statistical Office finds, among other things, that the rate of emigration growth slowed in 2013, then stopped in 2014–2015, and by 2016 it had already started to decline. This decline is reflected in both domestic data and mirror statistics (see also Gödri 2015: 187–211; many thanks to Ágnes Grábics, statistician, for her help in interpreting the data).

[75] Eurostat 2023c.

[76] Lovászy 2016.

field of child protection, which states that child-rearing is primarily the freedom, duty and, not least, responsibility of parents, and does not support the self-serving genetic modification of people for the purpose of improving their genetics beyond disability with rehabilitation based biotechnology, including the risky 'enhancement' of offspring, for the scientific and social reasons explained above. And it is precisely here that the irreconcilable contradiction and issue of child protection and trans rights are linked.

But it is also easy to imagine that these 'complex' issues will not be addressed by EU policy-makers, who would think that these issues will 'sort themselves out', creating even more problems for both human rights and social and employment policies. The explanation is that equal opportunities themselves are being undermined at a time when self-serving biotechnological interventions and robotisation, as well as migration and family policy practices, are also likely to redraw the prospects for mobility in European societies, which may well run counter to the core values of the EU, namely the values with which we enthusiastically joined the European Union 20 years ago in 2004, namely the obligation to "promote prosperity". These values are the objectives set out in Article 3 of the TEU: The Union's aim is to promote the well-being of its peoples. "It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance." Well, it is precisely these values that may be at risk in the not-too-distant future, and this will be the case even if economic growth and development is otherwise sustainable, but only if the well-being of peoples as well as the EU's territorial and social cohesion are at stake.

We have not a minute to waste. The world, including the EU and the European Parliament, should have taken action five years ago.[77]

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[77] Lovászy 2017b.

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