95 THESES FOR LONG-TERM SUSTAINABILITY

LONG-TERM SUSTAINABLE, COMPREHENSIVE AND LIFE-CENTRED WORLD ORDER

GLOBAL DEBATES

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INTRODUCTION

Long-term sustainable, comprehensive and life-centred world order

Long-term sustainable development rests on making our decision-making system comprehensive. In order to ensure the long-term sustainable development of nations and societies, we need a suitable decision-making systems, conceptual framework and value system, that puts life, the nation and nature first, and that reconciles material advancement with physical, emotional and intellectual development, with the quality of individual and social life as well as with the quality of life of the ecosystems on Earth. This decision-making system is provided by a comprehensive world view encompassing the material world, the world of life and the sphere of intellect.

The most crucial issue of long-term sustainable development is to ensure that our decision-making system matches comprehensive reality, our life instinct as well as our desire for a happy and meaningful individual, family, social life and Nature. This requires that the dominant worldview of our society be compatible with reality, with the universal life instinct in general and with the welfare our families, nations and humanity. Improving our decision-making system, we need to improve our world view. Long term sustainable development can only be achieved with a worldview that helps our decisions change and improve the living conditions of our interconnected communities. In the comprehensive world view, the principles of matter, life and intellect are the three main realities, with all three bound together by the life principle, making it the most crucial of the three. Life's fundamentally communal system of interdependences underpins the value system needed for the continuous improvement and development of the quality of life at the level of individuals, families, nations, humanity and the planet.

The comprehensive world view sees the nation as a natural community, the natural place of which is between family and humanity within the cosmic system of interconnected communities. The comprehensive world view urges us to lead a healthy life and elevate our life, connecting us all with our life instinct and the Great Whole. This is why it can be called a healthy worldview.

The principal natural duty of humanity is to improve the environmental conditions for all natural communities, irrespective of their characteristics. A society built on the healthy world view benefits all stakeholders: individuals, families, nations, humanity, our environment and the communities living in the Carpathian Basin.

Long term sustainable growth builds on the trio of balance, growth and sustainability, and the trichotomy of technology, money and geopolitics. A healthy society sustainable in the long term and capable of continuous renewal and development can only be achieved through the healthy world view.

A New Renaissance Age

The basic aim of society is to ensure a good, healthy and happy life for society as a whole, and to improve the quality of life of our planet, our society and the individual in terms of material, physical, emotional and intellectual well-being. We need a way of thinking that ensures this. The key is to progress in the right direction, towards establishing a healthy and good life and natural environment. If we veer off this path, any improvement in the efficiency of economic management will increasingly divert us from our goal. Our environmental impact has increased dramatically, and its economic costs make further quantitative growth uneconomical. The continued rise in material production on the planet has its limits. The finite amount of natural resources, industrial pollution, growing social inequality and the lack of balance in social developments have all passed the threshold of sustainability. A whole range of natural and social phenomena make it necessary to transition to sustainability, and this pressing need has been unprecedented for centuries.

We are at the dawn of a new era, and the last time this occurred was five centuries ago. A new way of thinking is needed. The Middle Ages became unsustainable due to a vast array of social developments, which called for entering a new age. Anecdotally, on 31 October 1517, Martin Luther, a monk, nailed his treatise comprising 95 theses to the door of the castle church of Wittenberg, sparking a public debate about reforming the church. The unsustainability of the Middle

Ages led to the Renaissance, and to social reforms and revival. The chance for prosperity is due to this revival. However, after material prosperity is achieved, development inevitably starts to focus on mental and intellectual well-being.

Nowadays, we are once again experiencing a fundamental change in our world view. A whole range of new disciplines unequivocally point towards a life centred worldview. For example astrobiology is the science concerned with the relationship between life and the universe. As the Nobel Prize-winning astrobiologist Christian de Duve put it, life is a cosmic imperative, and in cosmology the main direction of development points towards conditions conducive to life. Today, a healthy lifestyle has become crucial for society as a whole, and consciousness about the way we live is increasingly prominent. As life expectancy grows, the importance of leading a healthy life has become crucial for society at large. A comprehensive conceptual turnaround centred on life, communities and nature is needed, and the conditions are now available and ripe for it. It is time for the New Renaissance, a great revival.

The 2020 Covid 19 pandemic has amplified the signs of crisis and diverted developments towards health and the quality of life. Security, the role of nations and families are increasingly important. Life is now in the focus, with a new Renaissance unfolding, a new world order forming, based on long-term sustainability centred around life.

Long-Term Sustainable Economics

MEGATRENDS

17 Megatrends of Long-Term Sustainable Economics

We need to reform the way our world works to achieve sustainability

How can the world of the 21st century become sustainable? The world has made huge progress since the Second World War. Hundreds of millions of people have escaped extreme poverty and become part of the global middle class. However, this advancement comes at a heavy price. Absorbing the environmental impact of the world economy would require a planet twice the size of Earth. Meanwhile, everyone can feel the direct effects of the dramatic change in the biosphere and the climate. Moreover, today's economic development occurs in the context of almost unparalleled debt and disparities in wealth. It is easy to see why growth cannot continue in its present form, not only in the long run, but even in the short run.

To keep the development of the world on an ecologically, socially and financially sustainable path under these conditions, a radically different way of thinking is needed than in previous centuries.

Today's way of thinking considers material advancement to be the main goal of societies. Granted, a certain level of prosperity is necessary, and a higher level is conducive to a happy and healthy life. This level was achieved by developed countries in the early 1970s, and the gap has increasingly widened since then. The continued insistence on material consumption is more and more harmful and entails more costs to society. The word 'ecology' comes from the Greek oikos, which means 'home, house, household'. The original meaning of ecology is to establish an effective 'social household' in society, the family of families that, similar to a good household in its everyday sense, takes care of all family members, a positive family atmosphere and the beauty, cleanliness and health of the home and its environment. It is time to reconcile economics with life and the world. It is time for a major turnaround, finding a new respect for universal life and being in harmony with each other and nature.

We continue to learn that economic output arises as a result of the interaction between human and physical capital while using the necessary raw materials. Meanwhile, economics textbooks only mention in passing that these processes also have a negative impact on the natural environment (so called negative externalities). However, in real life these side effects can devastate the whole world, burying everything we have called the economy.

The solution would be to incorporate into our thinking that the natural environment is an essential pillar of the operation of the economy, and preserving and developing it is just as important as in the case of human and physical capital. A similar problem is the mystification of GDP as an economic indicator. As a statistical indicator, GDP offers no information about the quality of people's life, the developments in financing, changes in social inequalities or the impact on the natural environment. As shown in the 1990s by Herman Daly, an economist focusing on sustainable development and nominated for the Nobel Prize, increasing material development in advanced countries is economically inefficient. In the 21st century, the world continues to use an indicator as a target variable that is unsuitable for assessing long-term sustainability. And the list goes on and on.

One common feature of great economic crises is that over time, the economic shock entails the rise of new paradigms in economics, too. After the acute phase of the 2008–2009 crisis receded, opinion leaders among economists, economic policymakers and institutions published one essay after the other, discussing the reasons that led to the crisis in critical analyses. As the global economy slowly returned to normal, the initial push for reforms lost steam, so no groundbreaking reforms have been implemented, even though the clock is ticking for all of us.

The century of biology, sustainability, ecology, healthy economy, healthy lifestyle and the appreciation of ancient knowledge

Five challenges that are reshaping the world

There are five main challenges related to global sustainability: the ecological consequences of economic growth, the demographic boom, the impact of technology that progresses at breakneck speed, the realignment in the geopolitical arena and the digital transformation of money.

We have entered the age of digitalisation. Earlier technological revolutions of humanity have allowed people to multiply their strength through innovations. The widespread use of robotics will have a similar effect in the era of the latest technological revolution. However, a new wave of innovations has also appeared in the 21st century. The exponential growth in computing capacities, learning software and artificial intelligence and the round-the-clock availability of huge databases will be able to increase, and often even replace, people's brain capacity. This will open up new horizons for humanity, increasing humans' intervention in nature and the state's impact on society. If our way of thinking does not change, natural and social issues could be exacerbated. A key question of sustainability is whether the economy serves life, or life serves economic growth?

The biggest question is whether we will be able to reconcile the turbulent transformation of technology with the values of sustainability.

If we do, we have a good chance of solving problems that have baffled people for centuries (e.g. finding a cure for diseases now considered incurable, considerably increasing life expectancy, making advancements in space exploration or perhaps in environmental protection). But if we lose control, processes could be easily triggered that undermine the existing foundations of society and the economy.

The most important changes necessary for sustainability could be highlighted by transforming our mentality to make it life-centred. Life-centred economics focuses on managing our life time and life energy, and in particular on the appropriate way for leading and managing our lives, in other words it is the science of choosing the most important goals. The life-centred approach can use a new, comprehensive, life-centred discipline that consolidates the fundamental natural laws of matter, life and intellect. The universal natural law of life is crucial for

sustainability because it can scientifically determine the goals conducive to life at the level of individuals, communities and the planet. The fundamental law of life harmonises biological objectives to ensure that life is preserved and develops in communities in the long run.

Information is becoming a new raw material of our world. Data will be the 'new oil'.

Our economic and social life is increasingly controlled in digital space, which enables a more versatile, sensible and economical approach. Companies as well as consumers can benefit from the collection of data, but the risks related to the ownership, generation and storage of data also increase. Solutions are needed at the corporate and regulatory levels to achieve sustainable data use and inclusive digitalisation.

Groundbreaking changes can be expected in the way we work and do research. On the labour market, the proliferation of 'smart' robots is expected to first reduce employment in routine work stages, for example assembly. However, further down the road they could also affect high-skilled categories such as finance and legal counselling. In research, infinite computing capacities and the use of nanotechnology can further accelerate the development of technology.

In the past, technological revolutions were characterised by growing social inequalities. There is a realistic chance for this now, too, while there are already huge disparities in wealth and income in other parts of the world. Educational and training systems as well as the various channels of digital responsibility need to play a central role in resolving this issue. In today's world, the greatest obstacles to the development of humanity and society are the human, mental and intellectual issues and the confrontations at the level of individuals, social groups and nations. Progressing towards a healthy society facilitates the improvement of mental and intellectual well-being across society, the rise in the significance of cooperation within communities and the development of advanced social skills for ever larger groups in society. The workplace of the future will increasingly demand creativity, critical thinking and advanced social skills, so the development of education should focus on these skills besides the acquisition of basic digital know-how.

Development with a smaller ecological footprint

The changing conditions due to the depletion of natural resources and climate change lead to problems that call into question the sustainability of earlier growth models and trajectories. Meanwhile, technological progress is also profoundly transforming the energy mix. To address these issues, pressing changes need to be implemented in many areas, including economic management, financial investments, the tax regime and social attitudes.

Green growth framework

Organic cooperation should be achieved within the production and consumption chain, including the readjustment of the energy mix, changes in consumption attitudes, the promotion of investments and innovation as well as conscious waste management. Incentives have to be thoroughly modified, during which the actual cost of the environmental impact should be incorporated into economic decisions. One option for this is heavy regulatory intervention, however, planning this would be a great challenge, because any sudden interference in the operation of the economy usually entails a growth sacrifice in the short run.

Another possibility is the ***widespread use of green taxes.*** Green taxes could represent an ever increasing share of budget revenues. A unique element of the green economy is green financing, the importance of which is demonstrated by the World Bank's estimate that infrastructure investments to the tune of USD 89 trillion should be made in the next decades to achieve the climate goal stipulated in the Paris Climate Agreement. There is an urgent need to find those who will finance all this. Most of the governments that are traditionally active in infrastructure developments already struggle with high debt, while private sector players have long been reluctant to finance high-risk projects that only generate returns in the long run.

Humanity's annual energy consumption has risen almost 30-fold since the onset of the Industrial Revolution, and the composition of the energy sources used has also changed considerably. While in the early 1800s the energy mix was dominated by biomass fuels, coal became increasingly central from the mid-19th century,

and so did oil and natural gas from the 20th century. The 21st century will be the age of renewables and carbon-neutral energy sources. Within primary energy, the amount of coal, oil and gas may drop by less than half, while the use of renewables (solar, wind and geothermal energy) may increase manifold, and the proportion of nuclear energy could also grow. To ensure the shift to the low-carbon economy and the spread of low-emission technologies, each year trillions of dollars in funding will flow to the energy sector globally in the next decades.

The 21st century will also guide the evolution of money in an altogether new direction.

Besides IT sectors, financial intermediation could be the first sector to complete the digital transformation. The money of the future will definitely be completely digital. As regards implementation, there are various competing solutions mulled by decision-makers. It remains to be seen whether digital currencies will simply represent a changed physical form of money or humanity will enter into a substantially new financial system. This is already underway. Even if we are not aware of this, we already 'pay' for several services with information instead of money.

Along with money, financial intermediation is also being fundamentally transformed. In the past century, lending has generally been characterised by a strong focus on physical collateral. In the future, collateral will also increasingly be information. This provides a great opportunity for the Big Tech firms that already have enormous databases, and who will put up stiff competition for traditional banks.

Yet judging from the current trends in globalisation and digitalisation, the central banks of nation states may be forced to act in the 21st century. This is because a digital super money spanning across national borders may emerge that could be difficult to regulate. The nation states that do not wish to relinquish their monetary sovereignty could be forced to make cash available in electronic form to households and companies, and not only to the privileged commercial banks, by opening the liabilities side of their central bank's balance sheet. In the meantime, the cost of money, or interest rates, can remain near zero or even in negative territory.

The multipolar geopolitical force field

There are more and more signs in the geopolitical force field that a new world order is dawning on us. The centre of gravity of the world economy is increasingly shifting towards the East, which could make this a Eurasian century. The emergence of a new geopolitical world order will affect all walks of life. New forms of globalisation and regionalisation will appear in economic relations. This presents monumental challenges and excellent opportunities for Hungary, too. The very fast-paced globalisation in economic relations seen in recent decades mainly affected commodity and money markets. Extensive, cross-border and deeply integrated corporate structures have been transformed. The proliferation of robotics curbs this process, and it could even reverse it. Cost considerations, which used to be the most important drivers, are being replaced by rapid access to markets. What is more, the part and assembly needs of certain new technologies (e.g. electric cars) are significantly smaller than that of current production processes. This will pose challenges for the companies and economies involved in the assembly stages. At the same time, globalisation in the services sector is increasingly gaining traction. Virtual space is opening up, which results in new foreign trade relations in traditional as well as modern services. In the global arena, there will be growing competition for new technologies and the raw material of the future, data. Unfortunately, Europe lags far behind China and the United States in both areas.

Demographic dualism and the rise of megacities

Global population growth continues in the 21st century. In 1950, the population stood at 2.5 billion, which had tripled by 2015. In the meantime, GDP grew 11.7-fold, while world trade expanded 260-fold. According to the UN's population forecast, global population is set to remain on an upward path until 2100, peaking at 11 billion at the end of the century. However, different processes will play out on the different continents. Due to the high total fertility rate and growing life expectancy, the population may increase the most in Africa. The African population could double in three and a half decades from the 1.2 billion in 2015, rising to around 2.5 billion by 2050. In the first half of the 2060s, more than 3 billion people may be living on the continent. In contrast, in Asia the population might

increase only at a slower rate, from 4.4 billion in 2015 to 5.3 billion. The only continent where the population could decline is Europe: Europe's population could decrease from 743 million in 2015 to under 700 million in the second half of the 2050s, due to the low total fertility rate.

Also, one of the greatest challenges of the global economy is the ageing of the population. The number and population share of those aged 60 and over is expected to increase everywhere in the coming decades. The number of those aged 60 and over may surge at an unprecedented rate from 900 million in 2015 to 2 billion in 2050. In the long run, the ageing of the population may exert a negative impact on growth opportunities through various channels. The growing ratio between old and young generations requires new solutions in financing budgets (e.g. reforming the taxation of capital, introducing green taxes). An important question is whether growing life expectancy will go hand in hand with the rise in the number of healthy life years. In view of the developments in healthcare and the health industry, there is a good chance for this.

An increasing share of the world population flows into cities, while there is also a concentration among urban areas, which means that large cities become even larger. Nowadays in the world economy, 147 global corporations produce 40 per cent of world GDP, and around 700 companies generate 80 per cent of global GDP. These firms are clustered in cities where creative workers with the appropriate skills are available. The world is becoming a network of megacities, which will become the hubs of economic, social, financial and cultural life. Currently, in the age of the rise of the cities and networks of cities, there are 64 global urban regions and megaregions that produce 80 per cent of global GDP. The proportions with respect to urbanisation are also forecast to shift towards the East and the south by 2030.

Growth axes and regions start to form, with cities at their centre, from the Boston–New York–Washington axis to the New Hanseatic League in Europe to the Pearl River Delta in Asia (Hong Kong–Shenzhen–Guangzhou) to Singapore. In the new competitiveness rankings, the cities on the eastern cost of Asia are becoming increasingly important. New competitiveness rankings will be needed that also apply to cities and highlight new factors such as in-

terconnectedness, creativity, knowledge, technology, innovation, integration into global trade, welfare factors, security, liveability and the proportion of green areas.

How can economics respond to the new megatrends?

First of all, we need a new measurement system. Today, the best-known measure used in economics for gauging economic development is gross domestic product. In the past century, economies have undergone a tremendous structural transformation, so measuring economic performance based on value added in industrial sectors is becoming ever more uncertain in the light of digitalisation and the new technological revolution of the 21st century. Moreover, GDP, which primarily focuses on production, measures welfare only up to a certain level, while disregarding several things that are important from the perspective of people's subjective well-being and sense of happiness.

In the digital age, the System of National Accounts also needs to be placed on a completely new footing. At the same time, the development of alternative measures addressing the shortcomings of GDP has already begun. The heterogeneous 'multilingual' groups should be harmonised to create a homogeneous multidisciplinary welfare and sustainability science.

A change in attitudes is also needed. We need to shift towards a way of economic operation where welfare is not only measured in consumption, where short-term benefits do not override long term opportunities and where the environmental impact is integrated into decisions during economic interactions, right from the first stage. Just as in many other areas, the waves of evolution usually come from the periphery. To help economics regain its dominant position in the discussion about sustainable development, the renewal process that started in the past decade needs to continue. It is important to increasingly harness the power of fusions among the various disciplines.

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To find the appropriate ways to address the new hurdles, both the natural sciences and the social sciences, and in particular economics, need to be reformed. Although there are areas where much headway has been made, it is undeniable that the renewal is still progressing slowly overall. A mere facelift will not suffice this time—we need to rethink the basics. Success hinges mainly on increasingly harnessing the power of fusions among the various disciplines. Scientific progress has proved countless times that new ideas come from fields that have previously been considered peripheral.

The boundaries between the various disciplines are blurring, while digitalisation will also put the science of measurement, a pillar of development, on a new footing. Instant access to huge databases, the exponential growth of computing capacities and the integration of the findings of psychology, sociology, game theory, network science, geosciences or political science could herald a genuine golden age for the economics of a sustainable future. However, the road to that is still long and fraught with difficulties, and it can only be traversed with the right amount of openness, creativity and perseverance.

The future will indisputably be about major, often systemic changes. But one thing will certainly stay the same. In the future, any new idea, claim or correlation can only become general knowledge if it is verifiable. Precisely because of this, summary is given below about the major trends that will shape the decades ahead.

1. Climate change – Earth as a global hothouse?

The latest trends in climate change paint a rather bleak picture. Despite all the promises, the overall greenhouse gas emissions of the Earth continued to increase in 2018. Emissions would still grow until the end of the next decade even if all the countries implemented the national commitments under the Paris Climate Agreement. However, the postponement of the turnaround in greenhouse gas emissions also means that the economic transformation (decarbonisation) that would ensure the maximum 1.5–2°C rise in average temperatures targeted in

the Climate Agreement would need to be increasingly radical, yet this makes the implementation of the turnaround less and less realistic in terms of (geo)politics.

An even grimmer picture is shown by the new studies that examine the relationship between the man-made surge in temperatures and Earth's own natural processes. Based on these, there are many 'vicious circle' feedback processes that increase the probability of the so-called Hothouse Earth scenario. This is because Earth's natural structures also influence climate change. They significantly affect the reflection of the incoming sunrays or even store a huge amount of greenhouse gases. However, these structures, such as the large ice fields and glaciers, may become unstable even under the scenario with an average temperature rise of 1–3°C, which is the most optimistic assumption in the Paris Agreement. The growing heat absorption due to the thawing of the ice fields would cause a domino effect resulting in further heating, which may lead to the thawing of the permafrost areas that preserve large amounts of methane gas or the collapse of the ecosystem services of the South American and South Asian rainforests that act as Earth's 'lungs'.

In the Hothouse Earth scenario, the new equilibrium position would be reached after sea levels increasing by 10–60 metres and average temperatures rising by 4–5°C, making many regions inhospitable. Of course, Hothouse Earth is only a potential scenario, but its probability increases as time goes on. The only thing that seems certain is change: the global economy needs to quickly dispense with fossil fuels and every other greenhouse gas, or the climate as we now know it will radically change, with all the social consequences that this entails.
It is vital for all countries the enhance their own natural conditions, soil quality, air quality, water quality, water supply and life conditions to the highest possible level. While the changes in global conditions largely depend on international circumstances, all countries have a vested interest in fixing their own natural and social life conditions. Although the conditions are difficult to improve at the global level, all nations and families have the chance to interpret and assess their life conditions from several aspects, in a comprehensive manner and in the long run, which can be used to make them better.

2. The unbalanced growth of the global population

In the decades to come, global population may continue to bloat, whereby Earth's population may reach new highs. Notwithstanding this, population growth may diminish in the decades ahead, due to the gradual decline in the total fertility rate. However, the future change in population sizes may vary across continents. Because of the high total fertility rate and growing life expectancy, the greatest population growth may be in Africa. The African population could double in three and a half decades from the 1.2 billion in 2015, rising to around 2.5 billion by 2050. In the first half of the 2060s, more than 3 billion people may be living on the continent. In contrast, in Asia the population might increase only at a slower rate, from 4.4 billion in 2015 to 5.3 billion. The only continent where the population could decline is Europe: Europe's population could decrease from 743 million in 2015 to under 700 million in the second half of the 2050s, due to the low total fertility rate.

3. Ageing societies

In the long run, the ageing of the population may exert a negative impact on growth opportunities through various channels. *Ceteris paribus,* the growing ratio of old and young generations requires new solutions in financing the budgets (e.g. reforming the taxation of capital, green taxes). However, the undesirable effects can be mitigated with the appropriate economic policy preparation, and ageing may also entail potential opportunities in certain areas of the economy. An important question is whether growing life expectancy will go hand in hand with the rise in the number of healthy life years. If the additional life years are spent in good health, ageing may provide potential opportunities for society, for example longer active careers.

4. The twilight of the hydrocarbon economy

Humanity's annual energy consumption has risen almost 30-fold since the onset of the Industrial Revolution, and the composition of the energy sources used has also changed considerably. While in the early 1800s the energy mix was dominated by biomass fuels, coal became increasingly central in the mid-19th century,

and so did oil and gas in the 20th century. Today, more than 80 per cent of the global energy production comes from fossil fuels, and even though the use of renewables other than the biomass is continuously increasing, their proportion is still below 5 per cent.

The composition of the energy mix also affects the sustainability of growth through environmental effects. Since the beginning of industrialisation, greenhouse gas emissions have increased sharply, mainly because of the widespread use of fossil fuels. As a result of the accelerating climate change and the increasingly frequent extreme weather events, the measures introduced to curb global warming will attract more and more attention, which may entail a radical transformation of the energy mix. Within primary energy, the amount of coal, oil and gas may drop by less than half, while the use of renewables (solar, wind and geothermal energy) may increase manifold, and the proportion of nuclear energy could also grow. To ensure the shift to the low-carbon economy and the proliferation of low-emission technologies, each year trillions of dollars in funding could flow into the energy sector globally in the decades to come.

5. New geopolitical age – The rise of Eurasia

We are at the dawn of a new world order. While 1980–2010 was dominated by hyper-globalisation, the economic crisis of 2008 started to engender new forms of cooperation, new players, new conceptual forms, new solutions and new value systems. In 2010, globalisation entered a new age, where innovation and knowledge are crucial, and in 2013 it entered a Eurasian age based on long-term sustainable growth.

In this new era, economic geography is on the rise, and geopolitical processes are replaced by geo-economic developments. In the 21st century, we will live in the interconnected world of networks and fusions, in which it will be ever more important to apply a versatile, comprehensive, in other words complex, approach.

The power centre of the global economy will increasingly shift towards the East, thereby potentially making this Eurasia's century. China will play a leading role in connecting Europe and Asia. The essence of the New Silk Road is that it moves

the axis of the world economy from the oceans to the land, and restores and rebuilds the former economic, political and cultural role of Eurasia. Meanwhile, the Central and Eastern European region may become a gateway to the Eurasian continent. To understand the processes of this new age, new maps are required that show the powers and major centres of the 21st century with their hubs.

6. The rise of global cities

Nowadays in the world economy, 147 global corporations produce 40 per cent of world GDP, and around 700 companies generate 80 per cent of global GDP. These firms are clustered in cities where creative workers with the appropriate skills are available. Accordingly, besides strategic companies and nation states, the new power centres of the 21st century will be cities. At present, in the age of the rise of the cities and networks of cities, there are 64 global urban regions and megaregions that produce 80 per cent of global GDP. The proportions in respect to urbanisation are also forecast to shift towards East and South by 2030.

Growth axes and regions start to form, with cities at their centre, from the Boston–New York–Washington axis to the New Hanseatic League in Europe to the Pearl River Delta in Asia (Hong Kong–Shenzhen–Guangzhou) to Singapore. In the new competitiveness rankings, the cities on the eastern cost of Asia are becoming increasingly important. New competitiveness rankings are needed that also apply to cities and highlight new factors such as interconnectedness, creativity, knowledge, technology, innovation, integration into global trade, welfare factors, security, liveability and the proportion of green areas.

7. Globalisation in the 21st century – Competing for knowledge and information

Two things set apart the latest wave of globalisation from the earlier ones. Emerging countries have become richer, which influences the volume of foreign trade, and more and more products are consumed locally, instead of being exported to advanced countries. This effect will increase in the decades ahead, as the purchasing power of developing countries grows. Therefore, the volume of trade be-

tween advanced and developing countries relative to GDP will probably decline, but it will increase among emerging countries. This phenomenon will most likely create distinct blocs in the global economy. The development of robotisation also points towards this. The proliferation of robots and artificial intelligence reduces the labour-intensity of production, thereby shortening production chains. Companies no longer focus merely on unit labour costs when picking a location for their production—they also take into account the proximity of end markets.

Another similarly important phenomenon is the digitalisation of services, which allows them to be accessed from increasingly remote locations. This will boost foreign trade, and the same process is expected to play out in services that was seen on the market for industrial goods in the second wave of globalisation: the emerging countries with lower wages will produce most of the services.

The most important raw material of the 21st-century digital economies will be data, and the huge databases built by collecting them. Data will become an important factor in competition, not only locally but also globally.

In the short run, trade tensions and the restrictions that appear in their wake may hamper the growth in the volume of foreign trade. Just as the volume of trade diminished between the two world wars despite transportation costs not rising, in the coming period, a potential tariff war may considerably sour trade relations. However, we believe that in the long run, economic interests and technological opportunities will determine the economy's direction, and globalisation will not abate as a result of unfavourable regulation.

8. Robots and artificial intelligence as the new factors of production

Data use and the development of data analysis technology will become one of the most important forces shaping the future. Due to the proliferation of the new means of production, i.e. artificial intelligence and robots, several types of jobs may disappear from the labour market, but technological progress also leads to new jobs. These jobs produced by innovation may also play a key role going forward. Lifelong learning and the continuous development of our

knowledge will become even more important than today, so that employment can remain high even after robots become widespread. Nonetheless, as a result of robotisation and innovation, labour market polarisation could continue to grow. Digitalisation will affect not only automation but also transform the features of work processes, while flexibility will become more important, both in time and space as well as in terms of the forms of employment.

Going forward, the trend that in certain fields the place and time of work will increasingly change, could continue. This is reflected in the growth of the sharing economy, which provides greater freedom than traditional employment relationships. Virtual employment means more flexible opportunities, the number of people working in digital space (digital nomads) is steadily increasing, and this trend is expected to continue in the years and decades to come. The new technologies accelerate the change in the skills considered important by employers, with those skills becoming more valuable that can only be substituted by machines in the distant future. In the light of this, future jobs will mainly require creativity, critical thinking and advanced social skills (communication, cooperation).

9. Information will become the oil of the 21st century

Almost 90 per cent of the currently available data has been produced in recent years. And this process is continuing rapidly: each day, 2.5 quintillion (10 to the power of 30) bytes of data are produced. Based on forecasts, the pace at which data is generated will continue to grow exponentially. This staggering amount of data currently provides the basis for artificial intelligence and machine learning. Today, these technologies are far from their potential maximum utilisation. Besides self-driving cars and retail trend analyses, machines will be able to analyse emotions, explore space and treat illnesses. Innovation substantially transforms the labour market and, in tandem with that, the required skills and competencies, too. According to the latest forecasts, big data will soon be replaced by 'fast data', where data is analysed instantly, in 1 millisecond, by the computers programmed to do so. Whereas in the 20th century the chief raw material of the global economy was oil, in the 21st century it is increasingly being replaced by information.

However, progress also entails challenges, and several questions need to be addressed to allow data to become the true 'oil' of the present and the near future. The rapidly growing amount of data represents major risks in the protection against unauthorised access and cyberattacks, since the current level of data protection cannot keep up with the pace of data growth. The encryption of data, the reduction of fraud and the level of confidence in those who use our personal information should all be improved.

10. The general proliferation of the platform economy

The emergence of the sharing and platform economy disrupted whole industries over the span of a couple of years, clearly upsetting the former business status quo in mobility and transportation, retail trade, tourism, multimedia and telecommunication, finance, energy and HR. This business innovation continues to proliferate very rapidly, so we are definitely in for further radical transformations in the future, and not only in single sectors but in the economic environment as a whole.

The best-known firms of this new business model have become almost indispensable players in the global economy in a very short time, and their market capitalisation often already exceeds that of most traditional businesses. According to a PwC estimate, while these sharing companies generated revenues of USD 15 billion in the most relevant sectors in 2013, 2025 will see over 20 times that much, at USD 335 billion. The proliferation of the sharing economy may be chiefly influenced by technology as well as demographic developments. The most important of these is the continued growth of the global middle class (expanding to over 5 billion people in 10 years), the steady increase in the number of female consumers, who are the main users of the sharing firms (establishment of the 'she-conomy'), and the surge of the older generation who maintain their community and economic activities on the platform.

The successes of this business model achieved so far and expected in the future do not mean that the platform economy is guaranteed to succeed, as many companies that have a large user base struggle to turn a profit. Looking ahead, platform firms will have to take into account efficiency and business considerations, and especially tackle the challenges arising from using personal data. They will also undoubtedly face the regulatory measures that will endeavour to address the economic, political and power aspects of the huge amount of amassed data.

11. The age of zero interest rates

Even before the latest financial crisis, nominal interest rates were generally on a downward path, however, central banks were faced with the issue of the effective, zero lower bound only after the eruption of the crisis. In the course of the crisis management efforts, the room for manoeuvre for conventional monetary policy instruments became limited. In the context of the prevailing inflation expectations, central banks were unable to maintain the real interest rate necessary for stabilising the economy, even though the base rate was cut to the effective lower bound. It was demonstrated that there can be situations when monetary policy could only achieve the necessary level of the real interest rate by pushing nominal rates into negative territory. Some advanced-economy central banks used negative interest rates, however, the room for manoeuvre proved to be limited in these cases as well, not to mention that negative interest rates can have several unintended side effects.

As a result of the continued decrease of the global equilibrium interest rate level, the likelihood increased that in the future central banks would hit the zero lower bound of nominal interest rates more often. Due to the falling neutral interest rate level and the prolonged crisis management, the overwhelming majority of central banks were unable to raise their benchmark rate well above zero per cent. What is more, the room for manoeuvre is expected to disappear shortly in the newly deteriorating economic situation. As seen in the years following the crisis of 2008–2009, after reaching and maintaining the zero lower bound, monetary policy can best stimulate the economy by using targeted, unconventional instruments. The importance of coordinated economic policy increases, since it can foster recovery more effectively. This process may be changed by the development and introduction of central bank digital currencies, which may open up a completely new territory for central banks.

12. Digitalisation of money

The 21st century may guide the development of the money used by us in an altogether new direction. Historically, money was mostly designed to express and strengthen sovereign state authority and consolidate a certain area with monetary instruments. Nowadays, as the sovereign *corpus* is determined by nation states, from citizens but in a way regulated by the constitution, they would be entitled to designate and issue money. However, the introduction of the two-tier banking system and the prohibition of monetary financing of budget deficits had made the situation more complex by the end of the 20th century: although the state designates the ultimate means of payment, new money in circulation is created by private banking players, through lending and in the form of deposit money. Currently, the role of the central bank is limited to the regulation of money creation by commercial banks, with a special focus on the stability of prices and the financial system.

Yet judging from the current trends in globalisation and digitalisation, the central banks of nation states may be forced to act in the 21st century. This is because a digital super money spanning across national borders may emerge that could be difficult to regulate. The nation states that do not wish to relinquish their monetary sovereignty will be forced to make cash available in electronic form to households and companies, and not only to the privileged commercial banks, by opening the liabilities side of their balance sheet, and this is referred to in the literature as central bank digital currency. This may considerably transform banks' current operating models, but it would provide an opportunity for establishing a negative interest rate environment preventing the excess accumulation of money, as propagated by Silvio Gesell 100 years ago, as well as a much more efficient monetary policy transmission mechanism.

The means of payment used as a global currency could also be significantly transformed. After the Second World War, the US dollar became the dominant global currency. Not even the introduction of the euro could substantially influence the monetary dominance of the dollar. In this context, the rise of China coupled with the decline of oil as a basic raw material

and digital progress may bring about fundamental changes. The backing of the fiat money of the 20th century decoupled from gold was the long-term potential economic output of the issuing country, while in the case of smaller countries, the IMF sought to back the cash by building foreign currency reserves. However, this could also change in the 21st century, as our world will increasingly focus on the complex systems of *energy* and *data*. Of course, international competition would be reduced if the currency of the future was issued without backing, like an energy-efficient, scalable cryptocurrency. It remains to be seen, however, how the user confidence necessary for long-term sustainability could be established for a currency like that, even though it would be a vital precondition of the currency fulfilling its traditional standard of value, transaction and means of hoarding functions.

13. Big Tech firms in finance

Investments in fintech companies have increased exponentially in recent years. Globally, funds of USD 55 billion are estimated to have flown to such firms in 2018, and investors' appetite does not seem to abate. In fact, in the first half of 2019, a record amount of investments of USD 2.5 billion flowed into the greatest challengers of traditional banks, the so-called NEO banks (new banks that only offer mobile banking services without branches and use a new approach).

Banks' business model will undoubtedly change in the next decade, as the digital world forces the financial sector to progress. Fintech firms introduce a new approach to banking, providing simplicity and access to daily finances, primarily because of their ability to efficiently use technology to place the customer in the focus with their services. They offer financial solutions on a platform along the whole banking value chain, sometimes supplemented with personalised services. At the same time, today only traditional banks can offer fully individual services to customers and respond quickly to the creation of special products (e.g. subsidised loans or other economic stimulus programmes). This is because fintech firms offer a schematic range of products, the main point of which is simplicity and that it should be available to the public at a low price.

Although our daily finances may be transformed in the short run by digitalisation and the appearance of these new players, complexity and the need for personalised services will not disappear. Therefore traditional banks will have their own role to play on the market, which, however, may require them to change their business model.

In other words, there are opportunities for optimisation in terms of banks' operating processes, but when it comes to our personal or business finances, our needs call for professional banking service providers in all situations, and fintech firms need to adapt to this. In the future, this may be provided to customers by a whole financial ecosystem, and only those banks and fintech companies will remain on the market that are able to tweak their business models in line with this. In the years and decades to come, both parties have much to do for their customers and sustainable business models. The expectation of our age and the future is to continuously learn and adapt.

14. Long-term ESG approach in investments instead of short-term profits

In the decades ahead, the world needs to face several environmental and social challenges that are interconnected in many aspects and that pose an increasingly high risk from an investment perspective.
The adjustment and the mitigation of the negative effects call for a change in the market mechanism with a short time horizon. On the one hand, short-term market activities with a sole focus on profits are one of the main reasons behind the social and environmental risks. On the other hand, the efficient and sustainable distribution of the resources (human resources, technology etc.) necessary for addressing the problems can partly be implemented on the market.

Therefore in the near future, the methodical consideration of environmental, social and governance (ESG) factors may become increasingly important in the investment processes. This could mean the integration of many previously disregarded but significant environmental and social factors in investment decisions. The integration of the ESG approach may become a general, or even required, method for investment funds. However, real effects can only be achieved by de-

signing appropriately 'strict' ESG standards, and the coming years will hopefully be about ensuring this. Failing that, the concept of ESG may become hollow, making it suitable only for disguising the lack of necessary measures.

15. Growing role of green taxes

Future budgets are expected to focus more on green taxes based on both regulatory and revenue considerations. The proliferation of green taxation will help curb global polluting activities and improve the health of the public and, indirectly, assist labour productivity growth. Green taxes make environmentally harmful activities more expensive and encourage the implementation and development of solutions replacing polluting activities. Their beneficial effect on economic performance is exerted through two channels in the long run. First, levying green taxes helps prevent pollution from curbing future growth, and second, reducing pollution leads to healthier life conditions and thus, ultimately, more hours worked. Green tax revenues can be spent by governments on green research and development facilitating environmentally friendly solutions, either directly or indirectly through subsidies to businesses. In the countries seeking to escape the middle-income trap, this could help encourage the shift to an innovative economy, whereas in economies that are already innovation-driven, the expansion of research and development opportunities can be fostered.

The current low level of green tax revenues is expected to substantially increase on a global scale, and environmental and economic sustainability can be further strengthened by levying new green taxes on consumption. In 2016, green tax revenues in OECD countries amounted to 1.6 per cent of GDP on average. Both this and the Hungarian figure (2.7 per cent of GDP) fall short of the leading Danish (4 per cent of GDP) and Dutch (3.5 per cent of GDP) values. In the future, other countries may also considerably raise the current values as green taxes become widespread. The number and extent of the taxes on greenhouse energy use (primarily carbon dioxide emissions) is expected to increase and the emissions trading systems spanning multiple countries are forecast to expand, which boosts the revenues from this tax type. Carbon dioxide taxes may help reduce global warming and thus strengthen environmental sustainability.

Environmental load charges on air, water and soil use, which represent a relatively large share within green tax revenues in Hungary, will be introduced or raised worldwide, facilitating the preservation of the natural environment.

16. Social polarisation or inclusive development

Recent decades have seen income and wealth inequalities rising in most countries, however, the future paths of development are far from clear-cut. Several factors influence how inequalities change. Today's technological progress and globalisation have brought about numerous innovations and deepened trade relations, however, history suggests that it has also contributed to a rise in inequalities within the economies. Experience shows that the benefits of increasingly rapidly developing technology have not been distributed equally among the different groups of society. Several fundamental factors can be identified with respect to future directions.

If the trend from earlier decades continues (i.e. the proportion of wages relative to capital income steadily declines), high earners will have an ever-growing proportion of total wealth. Based on experiences from economic history, technological revolutions usually point towards this. In the absence of appropriate measures, societies may become extremely polarised, which could lead to major political and economic instability.

However, the current trends could also be reversed with the appropriate instruments, including, among other things, the provision of access to high-quality education and healthcare for as many people as possible, the introduction of a job guarantee or the strengthening of financial regulation. With respect to technological progress, the balance between those earning capital income and earned income should be maintained. In this regard, the way in which capital is taxed may have to be reformed. This would ensure inclusive growth improving wealth for large swathes of society.

17. New set of measures instead of GDP

Today, the best-known measure used in economics for gauging economic development is gross domestic product and its various versions. However, as modern economies develop, the measurement framework developed during the growth of the 1930s driven by the manufacturing sector needs to be revisited completely. The currently used measure has several shortcomings. It does not measure welfare accurately, as it cannot quantify many subjective factors, such as people's sense of happiness, and it disregards the role of natural resources and the issue of ecological sustainability. What is more, it does not focus on issues of distribution and financing, including social and financial sustainability.

In the digital age, the System of National Accounts also needs to be placed on a completely new footing. At the same time, the development of alternative measures addressing the shortcomings of GDP has already begun. The heterogeneous 'multilingual' groups should be harmonised to create a homogeneous multidisciplinary welfare and sustainability science, which could ultimately produce a new system of Global and National Accounts.

36 Theses of Long-Term Sustainable Economics

Why should we not realise that sustainable Hungarian convergence requires sound foundations in economic theory, and that the previous foundations have changed. The earlier classical, neoclassical, liberal and social market economy theories and other varieties do not apply anymore. They are being replaced by a new, emerging flavour of ideas, the theory of sustainable economics. We are learning the new laws as we progress. Who else would think about this if not us, unorthodox economists, and when else if not now, during this period of promising convergence?

Let us see a logical summary of the 36 new correlations that can be used as a basis for the new, sustainable economics. The first 18 contain a new conceptual revolution, while the second batch targets new economics. Let us first see the primary theses of today's conceptual revival, which is similar to the intellectual revolutions of the Renaissance and the Reformation 500 years ago.

18. The basis for material wealth is an intellectual resource: knowledge

When transferred, knowledge becomes information, or data when it is unified. Data represent the new oil, talent is the new capital and creativity is the new land.

19. Knowledge expands exponentially as it is transferred

Material goods are reduced as they are used, while money and capital can either increase linearly while being used, but they can also decrease. Knowledge is the first economic resource that expands exponentially as it is shared, in other words consumed.

20. Talent and creativity will become essential resources

Knowledge can be built through learning, work and diligence, and this process can be radically accelerated by talent and creativity. The latter are limited resources, which makes them bottlenecks.

21. The exponential growth in knowledge leads to general abundance

The scarcity of material goods is replaced with their abundance, because the expansion in knowledge continuously triggers new technological revolutions that result in abundance.

22. The breakthrough was achieved due to the new technology of knowledge sharing

At the end of the last millennium, the internet entered our everyday lives, followed by other equipment in the communication revolution, which together lead to new technological revolutions.

23. The revolution of knowledge will ultimately have material limits

Exponentially expanding knowledge leads to general abundance, but it hits natural and social limits at a certain point. Humanity has now reached this point.

24. If it wants to survive, humanity needs to make a turnaround in sustainability

Knowledge expands exponentially at all times and in every direction, that is why it has natural and community limits. The human community can only ensure its survival by turning the development of new technologies into a sustainable direction. That is what the 21st century is about.

25. The turnaround in sustainability begins with a conceptual revolution

As new technological revolutions mainly occur in the economy, that is where we first see the material limitations of knowledge. That is why we are now on the brink of a turnaround in economic thinking.

26. The conceptual revolution is based on two main principles: sustainability and the life principle

The sustainability principle rests on balanced growth, and its formula is B+G. The life principle accepts that all economic and social organisations are living organisms, whose operation follows the 'greatest impact' principle, in contrast to the 'smallest impact' of the inanimate world.

27. New economics is based on the primacy of the public interest

Every economic and social community goes its own way, but they also have to follow the rules of sustainable economics, which does not focus on capital and profit anymore, but on the public interest, in other words sustainability and the respect for life.

28. Accessibility trumps ownership

Nowadays, talent and creativity are bottlenecks, and access to the basic goods of life becomes more important than ownership for all individuals, families and communities. Basic goods include humanity's shared knowledge and the tools facilitating the expansion of that knowledge (labour, home, high-quality education and healthcare). Talent and creativity can be used when access to these is ensured.

29. The principle of diminishing returns is replaced by the principle of growing returns

Exponentially growing knowledge and the technological revolutions make the principle of diminishing returns obsolete. Nowadays knowledge, an unlimited resource, dominates, while today's limited resources, namely talent and creativity, are bottlenecks, therefore growing returns can be traced in all human activities.

30. The conceptual revolution of sustainability builds on the principle of growing returns

It does so in two ways: first, it guides research and investment towards sustainable technological breakthroughs in line with the public interest. Second, it takes into account the greater risk entailed by growing returns, especially in the nature/humanity and individual/community relations. Both methods support the idea of, and turnaround in, sustainability.

31. The conceptual revolution and the life principle bring about a non-linear conceptual revolution

The exponential growth in knowledge triggers non-linear developments, which can already be felt in natural deterioration and social harm. Asymmetric time profiles, various butterfly effects and an increasing number of murky causalities can be observed, so the conceptual revival is not linear but exponential, with new creative developments.

32. The conceptual revolution is like a 'mission'

The exponentially spreading changes do not allow for the earlier neutral technical approaches, because uncertainty and unpredictability increase in every human activity. The conceptual revolution of our age (just as the Renaissance and the Reformation earlier) has a 'mission', bringing emotions and feelings into conceptual and real transformations, thereby fostering and accelerating the turnarounds in thinking.

33. The revolution of knowledge creates two realities

Besides the currently existing world and the economy that operates within that, it creates a virtual reality and a virtual business world. The traditional production of goods is supplemented with a world of communication, with different rules of movement than in the real world. Sustainable economics will also have this duality, just as there are two worlds in physics, one for large bodies, and one for elementary particles.

34. The turnaround in sustainability builds a new spatial structure

The sustainability revolution of our thinking breaks with the earlier concept of time, as the increasing body of knowledge is spreading at a growing pace, and the rising energy of human knowledge bends the spatial structure of modern economy. Shared spaces such as homes, public squares, venues for social events, cities and city centres gain prominence. In addition, places for individual and family 'relaxation', including gardens, parks, forests, waters and mountains, also become more important. The spatial structure changes and becomes dual to foster the sharing and expansion of knowledge.

35. Convergence driven by new visions can only be organised around the idea of sustainability

Successful past examples should be utilised in the future. However, past successes cannot serve as accurate guides, because history, in particular the laws of economics, have changed dramatically. We should follow those who operate as if in the future, building on today's conceptual revolution, and especially the laws of sustainable economics.

36. The various areas of knowledge all come together in the theory of sustainable economics

The technological revolution of knowledge, information and data combines traditional economics with the world of the other social sciences as well as natural sciences, especially quantum physics and biology.

37. The different areas of the economy form a complete circle, therefore the circular economy requires a new theory

Consumption data become the raw material for production. The fields of consumption and investment are merged, as the 'consumption' of knowledge turns into an investment. The lines between industry and services are blurred. Circular chains emerge in all production fields to ensure sustainability, and this can only be described in a new theory.

38. Traditional economic correlations 'fizzle out', fade or completely disappear

The new theory of the circular economy is supplemented with the knowledge from other social and natural sciences, and it dismantles the earlier causalities and linear correlations, which are replaced by probabilities, uncertainty correlations and time profiles with an unusual geometry.

39. New economics will have a much greater amount of highly diverse factors

Long-term sustainability requires the analysis of practically all social and economic data, so the number and type of factors observed in economics will multiply.

40. The mathematics of pure numbers and the correlations in life sciences will be strengthened and unified

Mathematical economics will return to Pythagoras (pure mathematics), complemented with the correlations of Bauer's principle (life principle). The theory of sustainability focuses on the formulas of the golden ratio, the golden spiral and sustainable growth.

41. New economics reinterprets global, regional and local economies

The composition of today's global trade has shifted from material goods towards intellectual goods, while regional trade expands due to the circular economic structure. The local economy (knowledge creation within the family as well as local businesses and firms in the domestic market) benefits the most from the revolution of knowledge, because knowledge is increasingly produced and consumed locally.

42. New economics deepens towards the past and accelerates towards the future

As economics merges with social and natural sciences, a dual change occurs in economic thinking. Every piece of information, from any age of civilisation, that describes the operation of contemporary societies and the economy, is explored, turned into data and incorporated into economics. The correlations applicable to today's economies are sought to be established. Meanwhile, the laws of natural sciences are used to decipher the economic correlations of the future.

43. New economics measures everything and turns everything into data

Since new economic thinking is characterised by new correlations and time profiles, we need to be ready for change and self-adjustment at all times. This requires measuring every economic event, then turning it into data, constantly revising previously solidified theses. There is no more orthodox economics set in stone, only constantly changing, and thus unorthodox, economics.

44. New economics is built around networks and platforms, just like the economy and society

New economics is not built around eternal laws (for example the invisible hand, the self-regulating market, inflation and wage increases) but around fast-changing knowledge networks and platforms. They continuously produce new data, correlations that start out small, hunches and even conflicting theories.

45. Business life merges with economics education

Everything becomes data during the digital transformation, piling up in huge data banks and providing the basis for business decisions and economics education. Every facet of higher education will become dual, especially in economics, as the educational material and business data form a unique circular network.

46. Economic theory will also be based on culture

As the economy built on exponentially expanding knowledge is becoming culture-based, economics unites with culture. Economics organised around sustainability incorporates everything that serves as a cultural source to economics and growth (thought patterns, values, behaviour, shared intellectual capital).

47. New economics makes a new price theory

In the new age built on information, the real value, or price, of basic economic goods converges to zero. This will first hold true for information, then for money, energy and other material resources. This is because of the other technological breakthroughs facilitated by the communication revolution (Industry 4.0, Society 5.0, New Agricultural Revolution).

48. New economics reinterprets complexity and simplicity

Anything that incorporates a greater amount of highly diverse knowledge into the production of goods is made more valuable by the knowledge revolution. This lends greater importance to the density of connections (complexity) in the areas of circular production/consumption. Meanwhile, simplicity also becomes more important, as intermediaries are increasingly abandoned in various areas of life (online sales, financial investments, online banking, learning).

49. Interactions will be key in new economics

As a result of the demand for, and pace of, the proliferation of knowledge, vertical organisations turn into networks, intermediaries are abandoned, and the interactions between previously separate areas will become the norm. The new integrations between the financial system and the technology sector, the IT sector and the car industry as well as higher education and the IT sector already show that the economy of the future will feature knowledge completely interlinked with capital.

50. New economics needs new measures

Economic correlations are changing at an increasing pace, so more and more factors, which are also increasingly fast, need to be measured. It is necessary to measure an ever growing amount of changes in more and more areas, because the links that form between them are also faster. This calls for new measures that can supplement/replace the currently used ones. The process should be guided by long-term sustainability, in which both elements of balanced growth, balance and growth, need to be measured more broadly, faster and reliably than today.

51. The time horizon of economics increases due to the guiding role of sustainability

The time band of measurements shrinks, because more types of more indicators have to be measured faster and in a new manner. In the meantime, the time band of economic correlations becomes longer, because the long term behaviour of an increasing number of diverse factors need to be taken into account in the development of time profiles shaping the future.

52. The state will have a new role in new economics

Since its emergence, the state has always played a role in operating the economy, which changed from era to era. States, also individually and together, are the only ones capable of accelerating the transition to long term sustainable operation. This can be achieved with streaks of operation in two directions that strengthen each other: accelerating the knowledge revolution and guiding the economy towards sustainability. The state's operation will focus on the digital transformation and green transition, education and the health industry, families and communities as well as protecting and strengthening public and cultural assets.

53. Sustainable economics is the science of human relations

Until now, economics has mainly been about the connections between humans and the world beyond humans, analysing the links between land and people, the means of production and people as well as money/capital and people. The knowledge revolution links human communities, where the main factor is the relationship between humans rather than between the living and the inanimate world. Sustainability is about human civilisation, so sustainable economics focuses on human relations.

The scramble for knowledge, talent, technology and capital

In the past 500 years, the nations that rose were able to turn money into capital and introduce new technologies, while providing knowledge to large swathes of society and promoting talents. For a long time, many people thought that countries' rise hinged on their geographical size and population size, military power, energy sources, raw materials, favourable climate or special geographical location. It has been conclusively shown that this is not the case. There are too many examples of these features benefitting certain nations but not others, so they could not be the main sources of national success in the past 500 years.

Actually, in the new age that was ushered in with the intellectual revolutions launched with the Renaissance (in 1439 Florence) and the Reformation (in 1517 Wittenberg) as well as with the Age of Discoveries, the interplay of four factors determined success or failure. A good combination or absence of capital, technology, knowledge and talent could decide whether nations rose or lagged behind. The winners appreciated, multiplied, connected and shared these resources, and the losers did not.

Today, we are living in an age of the New Renaissance, progressing towards a new intellectual revolution, the revolution of long term sustainability, where the technological breakthroughs hearken back to the Age of Discoveries. The same four resources seem to be the key to success, with a major difference: their order has been reversed. In the 500 year period that just ended, the four factors of success were actually led by capital, shaping technology, knowledge and talent. Now, talents shape the other three.

Talents need to be nurtured, knowledge needs to be accumulated, the waves of technology need to be conquered, and capital needs to be amassed.

54. The importance of families and nurturing talent

Recognising talent early, first within the family and then in the community, is vital. Every talent has to be appreciated, because the skills leading to success in the future are different from those that can be used today. Talent has to be sought in everyone, because every child has some skills. The staff of nursery schools, kindergartens, primary and secondary schools all foster talent, they are not merely teachers, therefore they need to be appreciated and compensated more, much more. With respect to families, the recognition and fostering of talent should be acknowledged in taxation and in the pension system. The cultivation of talent requires a diverse environment, which calls for early scholarship programmes, perhaps even with opportunities abroad. The full potential of talents can only be harnessed with a new attitude of the government. Based on the Ministry of AYUSH in India and the Ministry of Happiness in the United Arab Emirates, a Ministry of Talent is required in Hungary. There is a global hunting licence for 'talent' as a skill, so we should also go on a hunt.

55. Full and free access to the public good of knowledge and the establishment of a knowledge infrastructure

Every young and adult citizen need to have full and free access to the public good of knowledge. This requires the establishment of a new knowledge infrastructure. Families should have universal access to the internet for free, as everyone should have ample opportunities for lifelong learning.

56. The importance of education

Competition and cooperation should be a general feature in all areas of education (using competitions, rewards, scholarships). A comprehensive reform of higher education is necessary with a special focus on competitiveness. During this, all educational performance should be measured in different time bands (classes, semesters, years) in every institution. Every higher education institution should function based on their own 5–15 year

vision, devise their own strategy and schedule for achieving the goals in their vision. Every institution should find international partners, develop dual degree programmes and student exchange programmes with both Western and Eastern peers.

57. Renewables, especially solar energy

The importance of renewables cannot be stressed enough, and using solar energy is especially crucial.

58. Sustainable technologies should replace today's unsustainable technologies

A new transport and vehicle industry needs to be built, especially for the revolution of electric and self-driving cars. The environmental industry of the green transition replaces today's unsustainable technologies with sustainable ones.

59. A new health industry is needed – The goal is to ensure a long life

Establishment of a long-life industry, a new health industry, which completely changes the lives of everyone, especially older generations. Creation of a new leisure services sector, which doubles the spaces for spending free time in the real and virtual worlds. It also combines education and fun, entrepreneurship and community building, politics and civil society, hobbies and making money.

60. Involvement of artificial intelligence and a complete digital transformation

Involvement of artificial intelligence in all walks of life to improve the efficiency of today's traditional operations at an extent that seems inconceivable now. Complete digital transformation in everyday life, the state and the business sector.

61. Establishment of the defence industry

Establishment of the defence industry, which increasingly replaces humans with new technologies using artificial intelligence.

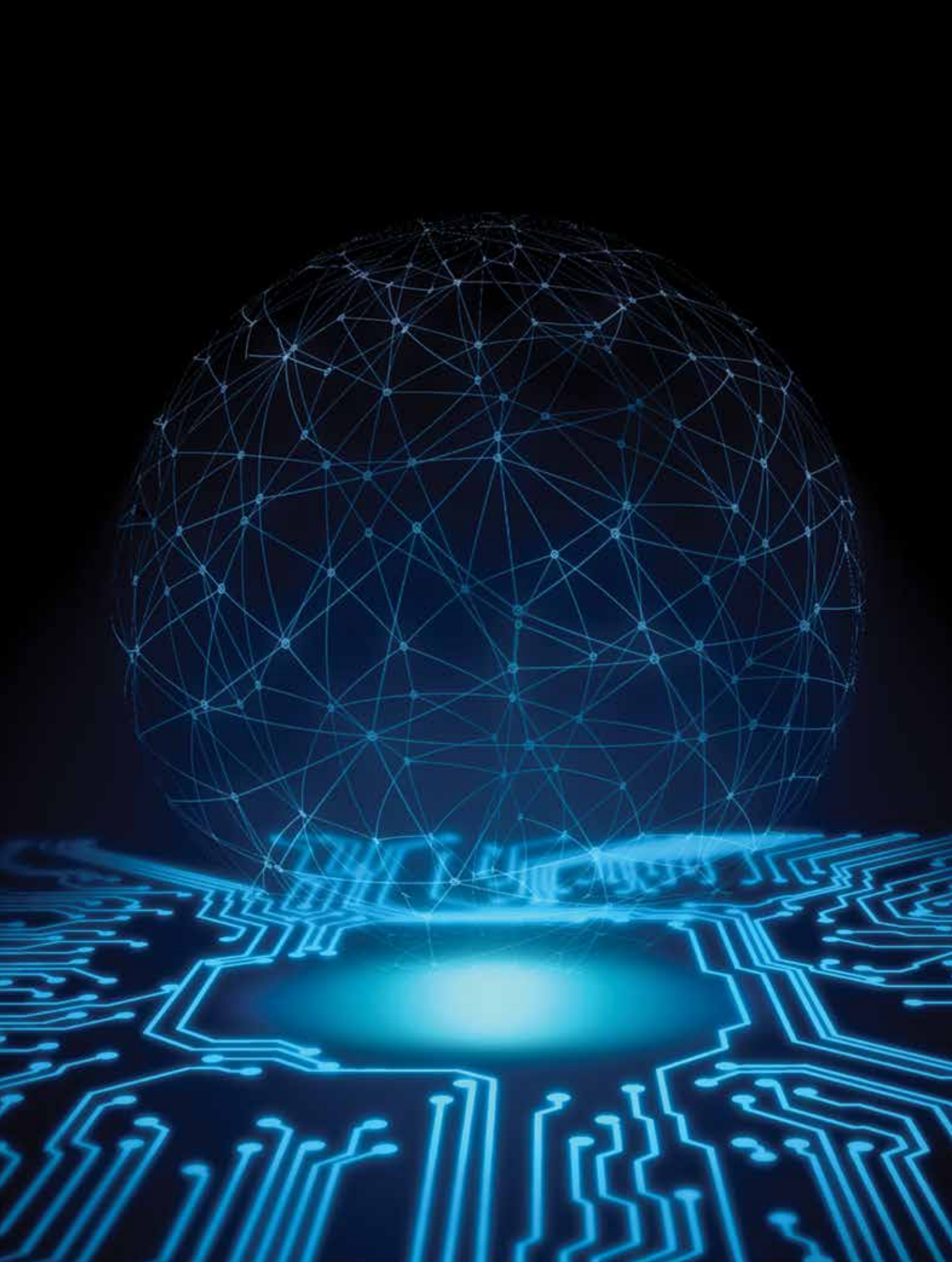
62. Fostering new financial savings

The economic growth of the new era is capital-intensive, and success requires dynamic capital accumulation, capital imports and outbound investments. Domestic savings should be encouraged with institutions and forms of financial investment with positive real yields. Corporate investments should be promoted with loans that have negative real interest rates. There should be strong government investment programmes, while allowing private firms to participate. The achievement of the convertibility of savings and loans into capital and of the inclusion of 'dead' capital elements in the business world should become a primary aim of the financial system.

63. Public infrastructure and knowledge capital developments

Public infrastructure developments should be used to increase the value of the entire country, enabling the conversion of land and other local resources into capital. A public outbound investment programme available for companies is necessary. Foreign direct investments in Hungary should be guided towards capital-intensive sectors. Technology and innovation parks should be built around every major university, offering the talent, knowledge, technology and capital necessary for companies to investors.

If in the past 500 years the key to success has been the conversion of funds into capital, the key of the period that starts now is the inclusion of talent in creating the best combinations of knowledge, technology and capital.



Long-term sustainable Eurasian age

New geopolitical age

Globalisation has entered a new age of technology and knowledge, and a Eurasian age based on long-term sustainable growth. In these new times, geography and economic geography are on the rise, geopolitical developments are replaced by geo-economic ones, where the competition will be for markets rather than territory. Geo-economics describes and deciphers the developments in the world economy by fusing economics, social sciences and geography. We are witnessing the rise of geo-economics, a competition in the language of trade but with the logic of war. This new geopolitical competition transforms the global economy and the global balance of power. Geo-economics is simultaneously the antithesis and the greatest triumph of globalisation.

The centre of gravity of the world economy is shifting towards the East, marking the end of a 500-year 'Atlantic period'—the 21st century will be a Eurasian century. Europe and Asia become connected to form a new supercontinent, Eurasia, where China will play a leading role. The Central and Eastern European region previously viewed as a buffer zone has become a gateway to the Eurasian continent.

This new period is also a 'New Renaissance', where the main question concerns the role of places. Technological progress has once again underlined the importance of geography. The 21st century is the century of knowledge and creativity, where unique ideas and innovations are the most important currencies, and the countries that do not possess enough knowledge will have no choice but to buy it, even though it will become dearer and dearer. This age builds on knowledge and fusions (the fusion of geographical places), and the emerging 'geofusions' become meeting spots in the age of networks.

In the new multipolar world of the 21st century, the new age of geofusion, data (big data) are the most important raw material, and knowledge, creativity and experience are services. New actors and their new fusional cooperations emerge, where the small become the large, as demonstrated by the start-up firms, start-up cities and start-up nations. The three vital keywords of the new world order are connectivity (interconnectedness), complexity and sustainability.

To understand the developments of this new age, new maps are needed. Maps are important! They constantly change and evolve, but their meaning and significance remains unchanged. Maps help us think in new ways, because if we look at the world from another perspective, a new vantage point can be established. Our new maps are network maps with lines, and there are meeting points in the hubs that show the powers and major centres of the 21st century.

Global civilisation is being replaced by a new 'geo-civilisation' prioritising the establishment of a harmonious world order along shared interests, based on transferring the principles of cooperation from the 1000-year-old Chinese ecological civilisation to the 21st century. This long-term Eurasian period is based on sustainable growth, in other words green technologies, green money, an ecological attitude and peaceful emergence.

One of the foundations of Chinese philosophy is the yin and yang principle. 21st-century geopolitics also strives for balance, based on the geopolitics of yin and yang, or a combination of the East and the West, the north and the south, hard and soft elements. This is an age of a long-term cooperation between China and the United States, a harmonious cooperation between core and peripheral regions, which can definitely bring new benefits to gateway regions (ASEAN countries, countries of Central Asia and Central and Eastern Europe as well as hubs) through the harmonious cooperation between global cities and nation states. The future will be long-term, sustainable and Eurasian, bringing success to countries that connect, strive for balance in finance and growth and have their own long-term vision, in which monetary policy, geopolitics and economic policy and the related national strategy are implemented in common ways.

In summary, the 12 most important theses for the new geopolitical and geo-economic world order of the 21st century are as follows:

64. We are living in a new geopolitical world order

We are living in a new world order, with new players, new cooperations, new battlegrounds and new myths being born. The centre of gravity of the global economy has clearly shifted towards the East. The 21st century will definitely

be a land-based age of Eurasia, marking the end of a 500-year Atlantic period. The most important regions and winners can be the Eurasian continent's gateway regions (ASEAN countries, Central Asian countries, Central and Eastern European countries, 17+1 countries), so former peripheral states will become the new centres.

65. This new geopolitical world order is multipolar

The new world order is multipolar, with new alliances forming along shared values.

66. Geography will be pivotal in the coming period

Geography does matter—in order to understand our features and the new, changing world order, we need to turn to geography again.

67. The age of geo-economics is up next

We are living in the age of geo economics, a fusion between social sciences, geography and economics, and an increasingly important new discipline besides geopolitics.

68. New technological age – We are living in the age of fusions and networks

We are living in the age of fusions and networks, and a new technological era. Data are the raw material of the 21st century, and experience is the service of the 21st century. Furthermore, security and a change in attitude regarding sustainability are becoming increasingly important.

69. Connectivity – Complexity and sustainability

The three vital keywords of the 21st century are connectivity (interconnectedness), complexity (comprehensive attitude) and sustainability.

70. We are living in an age of the New Renaissance

We are living in an age of the New Renaissance, where, just like in the age of the Renaissance, global city states and megaregions will play a very important role. Ancient, local knowledge is reborn, with all the wisdom about nature and shared traditions amassed over millennia. In terms of material development, quantitative growth will be replaced by qualitative growth.

71. New values are emerging – Nations will play an increasingly important role

A new way of thinking and new values are forming, with being close to nature becoming ever more important, along with families, harmony and sustainability. Global aspects are being replaced by national identity and local culture.

72. Towards geo-civilisation

Our world is headed from global civilisation towards a new, sustainable 'geo-civilisation'. Chinese researcher Ruan Wei assumes that the countries with a shared geographical locus form a natural geo-unit or a super 'geo-community' or 'geo-civilisation'. Spatial proximity is much more important than previously assumed, since it makes the alliance of different societies much more cost-effective and efficient, as it significantly boosts the flow of people, information, technology, capital and services. Precisely because of this, the shared geographical locus also represents a competitive edge, which makes it mutually beneficial for the participants. For the group of people living in temporal and spatial continuity, geo-civilisation assigns greater importance to geographical locus and the natural environment. It assumes close economic and political cooperation between the different areas, and it also entails the seeds of future political integration.

73. Our world is based on, and strives for, balance

The world is based on, and strives for, balance, which makes the ancient Chinese yin and yang principle especially important, as it exerts its effect while building on internal harmony. Balance refers to the balance between employment, growth and finance on the one hand, geopolitics, money and technology on the other hand, and the fusional balance between natural, social and economic sciences.

74. The ancient patterns are new

The ancient becomes the 'new'. In the age of technology, the breakthroughs will be achieved by the nations and hubs that can translate their ancient knowledge and traditions for the world of the 21st century. These will be the nations that are able to recreate the existing ancient knowledge based on long-term sustainability.

75. New maps are needed

We need to redraw our maps to understand the spatial changes and developments in the 21st century. The future is long-term, sustainable and Eurasian, with a world of connectivity and complexity, and with good solutions to the greatest challenge, namely global climate change, and to sustainability and economic growth.

This calls for new maps, new approaches, fusions with long term visions, because new economics, new functional geography and new sustainable technologies and models are needed.

Long-term sustainable and life-centred world order

Astrobiology has shown that the development of the conditions conducive to life is a 'cosmic imperative' in the entire universe, and humanity's place is in the universe. Hungarian biologist Ervin Bauer formulated the precise universal natural law of life independent from physics but expressed with physical quantities, which is called Bauer's principle. According to Bauer's principle, every living organism uses all its energy in every moment to increase its life energies necessary for action, or making its life conditions more favourable.

The conditions conducive to life arise based on the universal law of life energy that permeates the entire universe, the Earth and every human being. Thanks to Bauer's principle, these new disciplines have an explanation that facilitates significant progress in science. People's natural pursuit of happiness arises from the stimulation of the life instinct, which means that the more fully we explore and implement the cosmic law of life in our life instinct that encourages elevating everything that lives, the happier we become. In nature, development means the creation of conditions conducive to life. Universal human nature and the fact that we are sentient, intelligent living beings is a direct result of the cosmic development of life.

The cosmic life instinct urges people to ensure the welfare of human communities on Earth and the entire biosphere. The more in harmony we are with the life instinct urging us for action, elevating us and connecting us to the universe, the fuller lives we can lead. Humanity's life is embedded in communities, like cells form our organism, our individual lives are embedded in our families, nations, humanity, Gaia's life and cosmic life. The Gaia theory has recognised that the Earth is an integrated self-regulating system that keeps physical circumstances aligned with the conditions conducive to life, and the biosphere itself maintains the life conditions conducive to the ecosystem on Earth.

Water is a fundamental natural precondition for life on Earth. In the 21st century, water is becoming ever more important all around the world. Our ancestors did not strive to break free from nature or prevent and eliminate the threats of nature, instead they attempted to understand the reasons behind its functioning rather than merely applying a symptomatic treatment to the arising issues. They cooperated with na-

ture and endeavoured to use the changes in nature to benefit life with the help of humans. In floodplain water management, an ingenious equipment was used to not only thwart the threat of floods, inland water and drought, but also to make natural conditions much more favourable. The Carpathian Basin and Hungary, with the Great Plain at its heart, is a territory where both an overabundance of water, floods, and the lack of precipitation, droughts, represent a threat. The regulation of waterways helps using the abundance of water in times of water shortage.

The best interests of individuals are served if society wishes to establish environmental conditions that benefit natural communities and the flora and fauna. According to estimates, horticulture, which has long traditions in Hungary, produces six to eight times greater returns than fields sowed with grains, although it requires more manual labour.

As a result of the costly and artificial way of life in Western civilisation, an increasing share of the global population is afflicted by a surge in chronic physical and mental conditions, currently affecting 30–60% of the population. Avoiding a life-threatening physical, mental and intellectual degradation, translating into a healthcare and economic catastrophe for society, is an existential need. Economically advanced Western countries crossed the ecological limit around the 1970s. Due to the global rise in Western civilisation, life is becoming increasingly costly and artificial in an ever larger portion of the planet. 60–95% of the biosphere has been destroyed, with the life conditions of the rest deteriorating.

Long-term sustainable development rests on making our decision making system comprehensive. Philosophy professor Zhihe Wang, the director of the Institute for Postmodern Development of China, and his colleagues believe that the solution is a similarly profound transformation: ‘ecological civilisation requires […] a fundamental transformation of world view, values and lifestyle’.

In order to ensure the long term sustainable development of our nations and societies, decision-making systems, conceptual frameworks and value systems are needed where life, the nation and nature are the key values, and where material advancement is in harmony with physical, mental and intellectual development, the quality of life of individuals and society as well as the ecosystem on Earth.

This decision making system is ensured by a comprehensive world view encompassing the material world, life and the sphere of intellect. The most crucial question of long term sustainable development is whether our decision making system is consistent with reality, our life instinct as well as our desire to have a happy and meaningful life at the level of individuals, families, society and nature. It is vital that the dominant world view of our society be compatible with reality, the universal life instinct in general and the welfare our families, nations and humanity.

Fixing our decisions calls for fixing our world view. Long term sustainable development can only be achieved with a world view that helps our decisions change and improve the living conditions of interconnected communities. In the comprehensive world view, the principles of matter, life and intellect are the three main realities, with all three bound together by the life principle, making it the most crucial of the three. The three ontological categories of matter, life and intellect are related to physical, mental and intellectual well-being, which together comprise the quality of life. Life's fundamentally communal system of interdependences underpins the value system aimed at continuously improving and developing the quality of life at the level of individuals, families, nations, humanity and the planet.

The comprehensive world view sees the nation as a natural community, the natural place of which is between family and humanity within the cosmic system of nested communities. The comprehensive world view urges us to lead a healthy life and elevate our life, connecting us all with our life instinct and the Great Whole, which can therefore be referred to as the healthy world view.

The principal natural duty of humanity is to improve the environmental conditions for all natural communities, irrespective of their characteristics. A society built on the healthy world view benefits all stakeholders: individuals, families, nations, humanity, our environment and the communities living in the Carpathian Basin.

Long term sustainable growth builds on the trio of balance, growth and sustainability, and the trichotomy of people, society and nature. A healthy society sustainable in the long term and capable of continuous renewal and development can only be achieved through the healthy world view.

76. Long-term sustainable development rests on making decisions that apply to the real world

The key to long term sustainable development is the coordination of our decision-making system with sustainability, universal life, nature and the natural basis for society.

77. Long-term sustainable development rests on having a comprehensive world view

The key to long-term sustainable development is to feel at home in the world, just like in a good family, be familiar with the rules as well as with the main principles of nature's 'household', and to fulfil our duties arising from that.

78. The universal natural law of life is the elevation of universal life

Hungarian-born Ervin Bauer, who established the science of life, showed that life has a universal natural law, which urges every living being to use its free energy to elevate life at all times. This universal law of life aimed at elevating the quality of life affects us in the form of the life instinct. This comprehensive and life-centred science provides a sound and exact basis and a healthy world view for making decisions leading to a comprehensive quality of life.

79. The individual logic of material goods and the community logic of life and intellect

Material goods, money and power are excludable goods: we lose what we give to someone else. Feelings, thoughts and cultural goods are of a public nature. When they are shared, we are also enriched by being connected to the community.

80. Material development has hit the limit, while the soul and intellect have no limits

There are natural limits to the quantitative growth of material development, whereas the comprehensive world view opens up unlimited horizons for mental and intellectual development. The human intellect should be used for fostering universal life and making decisions that help elevate life based on comprehensive correlations in every situation.

81. The greatest resource of long-term sustainable development is people's creative power

The greatest resource of long-term healthy development is people's unlimited creative power.

82. The greatest resource of people's creative power is the comprehensive world view

The more versatile and profound our world view, the richer and greater our creative power. The world view encompassing the material world, life and the sphere of intellect is the most effective way to harness the full potential of human creativity.

83. A life-centred, community-centred and nature-centred decision-making system is necessary

Human life comes from, and can be maintained in, communities. Sustainability requires a life-centred, community-centred and nature-centred decision-making system that can also be used under comprehensive conditions.

84. Our most basic decisions are made in the context of nature

Our most basic decisions are made in the context that comprises the three main facets of universal nature, namely the world of matter, the world of feelings and the world of intellect. We all have a personal interest in improving our overall quality of life, this is our natural life goal.

85. The essence of sustainability is to elevate the overall quality of life in our communities

The essence of sustainability is to elevate the overall quality of life in our communities, families, nations, humanity and the ecosystem of Earth, using it as a basis for our individual and social lives and decisions. As formulated by Charles Birch and John B. Cobb, Jr., the greatest power in the world is the power that comes from faith in Life and the ideas this faith brings.

86. We need to ensure the full health of our nation, home, society and natural environment

The purpose of long-term sustainable development is to ensure the full health of our nation, home, society and natural environment, improve their quality of life, encourage and promote activities that give and improve life and achieve a society based on an active love of life. Whatever is good for the health of the natural environment and improves the life and water supply of the flora and fauna and the cleanliness of the atmosphere, rivers, seas and oceans, soil conditions, that should also improve people's quality of life.

87. The common reason behind environmental and social harm is materialism

The common reason behind environmental and social harm is that the materialistic attitude has separated people from the forces that form the basis of our lives: life instinct, Nature's causal system encompassing the life of all ecosystems, interdependence, the respect for life and living organisms as well as human compassion.

88. The serious consequences of materialism include the narrowing scope of mental and intellectual capacity and alienation

In materialistic terms, we are experiencing the greatest welfare ever. However, the serious consequences of materialism are exemplified by the growing environmental harm and social ailments such as anxiety, depres-

sion, alienation, behavioural problems, the proliferation of chronic physical, mental and intellectual conditions and the hollowing out of life. It is time to improve the mental and intellectual quality of life.

89. Materialism was fostered by the exceptional success of the first science, the science of inanimate matter

The unlimited growth of material production only became society's main aim in the modern age. The principal goal of society and the course of world history was changed by the New Philosophy, the materialistic world view of science, which laid the foundations of the scientific revolution, practically crowding out the soul and the intellect. In order to make the feelings, thinking and decision-making of society healthier, human life and consciousness need to find their place in the universe.

90. The main consequence of materialism is the false image of our well-being and happiness

The main consequence of materialism is the false image of our well-being and happiness. The so called 'standard of living' does not mean happiness, as it measures our financial position rather than the quality of life. In fact, happiness is provided by the high quality of all our feelings.

91. The main precondition for achieving well-being and happiness is to use a life-centred way of thinking

The main precondition for achieving well-being and happiness is to strive improve the quality of all our feelings and thoughts. Our decisions are profoundly influenced by our feelings and values, together with our way of thinking, in other words how we interpret life and the world. Our life's journey can be improved only with a life-centred way of thinking.

92. A precondition for the development towards a healthy society is to enhance the overall quality of life

A precondition for the development towards a healthy society is a force motivating everyone that is at least as strong as the effect of the benefits arising from owning material goods. This fundamental force that is vital for every human can only be the development of the physical, mental, intellectual, individual, community and universal quality of health. It rests on improving the appreciation for universal life, increasing awareness about the mutual interdependence of the comprehensive, individual, community and universal aspect of the quality of life, making our way of thinking comprehensively healthy and completing the materialistic way of thinking to become life-centred.

93. A basic task and main aim of life is living a truly satisfying and meaningful life

A basic task and main aim of life is tackling the challenges of the world in the long run, and living a truly satisfying and meaningful life.

94. The precondition for a truly satisfying and meaningful life

Development that ensures a truly satisfying and meaningful life requires a comprehensive interpretation and assessment of the world in line with reality, and being aware of the overall healthy world view. The comprehensive world view is life-centred and nature-centred at the same time, striking a healthy balance between the worlds of matter, consciousness and the soul.

95. The precondition for fixing our decision-making

Two ways of thinking dominate our decisions. One is an instinctive, intuitive skill perceiving life and the world in their entirety, while the other is rational thinking able to appropriately consider important details. Making our world view more conscious and comprehensively healthier paves the way for a rational way of thinking suitable for life and the world in their entirety.

BC4LS

BUDAPEST CENTRE FOR LONG-TERM SUSTAINABILITY

We can ensure a sustainable future not only by using less material and consuming less energy to achieve growth, but also by transforming our thinking and by placing economic growth on new foundations. This idea and mission has led to the creation of the concept of the Budapest Centre for Long-term Sustainability (BC4LS), established by the John von Neumann University and Pallas Athéné Domus Meriti Foundation's.

The BC4LS is a simultaneous virtual and physical knowledge centre, whose principal objective is to reflect on one of the greatest challenges of our age, namely long-term sustainability, to position Budapest and Hungary in international cultural life, and to create and operate a global intellectual field of force.

The Centre's objective is to achieve excellence in sustainability and its focus points (green economy, finance, sustainable development and innovation, green society, sustainable natural resources, mergers) by taking into account interdisciplinary viewpoints. Its research programmes offer an opportunity for the international research community for online or personal exchange of experiences, for the promotion of research activities, for conducting excellent research projects, and for channeling them into the Hungarian academia.

Members, ambassadors and researchers of the BC4LS are foreign and domestic experts dealing with long-term sustainability as well as scientific members of the academia. The global nature of the initiative is also demonstrated by the fact that the Centre welcomes participants to its programmes from all over the world.

A key objective of the Centre is to initiate international dialogues on the issue of long-term sustainability, to organise professional events, research programmes and competitions, to operate platforms based on the sharing of good practices, to prepare publications, and to promote excellent research and professional ac-

tivities, thereby placing economic growth on new foundations and transforming thinking about the sustainable future.

The Budapest Centre for Long-term Sustainability (BC4LS) is pleased to announce its special Research Programme in six research areas in connection with sustainability to highly accomplished senior and promising scholars seeking to spend shorter or longer period, with physical or online presence in an interdisciplinary intellectual community. We would like to encourage our Researchers to explore new frontiers in social sciences both in terms of the disciplines covered and methodologies deployed. To create an inspiring environment for academic experimentation and novel research, we welcome visiting scholars from an extensive range of disciplines related to our primary areas of research.

Climate change. Long-term sustainable banking system. Social injustice. These are just only three of the great sustainability problems of our time. The aims of the Programme are to build a professional global HUB, commitment to long-term sustainability and to explore sustainable solutions for the common future of the Earth.

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