THE OPTIMIZED ECONOMY MANIFESTO

Sylwester Fiet

An economic model based on the potential of science

The New Economics – The Optimized Economy

Introduction

Human activity can be called by various terms: economics, economy, behaviourism, herd logistics, etc. This is a secondary issue, essentially limited to semantics. What is at the heart of the issue is that, as intelligent beings, we are not condemned solely to spontaneous mechanisms (e.g. the free market), but we can (and do so with increasing success) create reality. Creation can be qualitatively different. It can be a strictly economic creation (understood as an intentional and planned action), which does not work out well for us as humanity, but it can also be a creation relating to the greatest natural attribute of humans, which is our cognitive functions, namely intelligence.
For this reason, however, it is better to call humans Homo sapiens instead of Homo oeconomicus.

It is the widespread development of education and investment in science in the broadest sense as fully intentional and planned actions that have brought exponential growth in civilisational development and prosperity to humanity. They have done so to a greater extent than the spontaneous free market process, without detracting anything from it. Moreover, man, being an intelligent being who acts consciously, is ultimately condemned to act intentionally to a greater extent than spontaneous processes, because intentionality, especially with technological development, can increasingly harm these processes (including the free market). Man is ultimately condemned to an almost fully technologised and created reality, which he will not only be able to, but above all have to, correct himself.

As we know very well, spontaneous processes do not like correction. It can paradoxically be said that man, thanks to his intentional nature, is increasingly distorting the free market, which is a spontaneous mechanism, and this is an irreversible process. Therefore, in the future, we will necessarily have less and less free market in the free market (in fact, this is already happening today) and more and more technologised creation. Rather, the free market as such will not annihilate, but will most likely become a marginal phenomenon.

The fact that economic processes are highly complex and emergent phenomena, difficult or impossible for humans to replicate, does not mean that we must be condemned to this process or to its duplication by, for example, artificial intelligence. Thanks to our cognitive abilities as beings with sufficiently highly developed intelligence, we are able to create substitute processes, often even better from the point of view of our utility than the source/natural processes.

Thanks to air transport, we are able to travel great distances at high speed. This was made possible by the aeroplane – the result of human cognitive abilities. Although the construction of the aeroplane's components responsible for the lifting force is a major simplification of the evolutionary work with which birds have been equipped, the human invention beats this evolutionary invention by its utility value (covering great distances in a relatively short time).

The complexity of economic processes, despite their simple idea of a flow of goods and services from the producer to the consumer, is largely due, among other things, to the complex system of supply chains. This is because the production of goods is currently still a multi-stage process, dependent on the cooperation of numerous actors specialising in the production of a relatively narrow range of products even within a single industry. The production of more complex goods, e.g. an aeroplane or a car, is often dispersed over a large geographical area and this inevitably causes major logistical challenges, also for the economy.

The point is that this does not have to be the case in the future, and that the increase in the universal manufacturing capacity of individual economic players, together with the advances in robotisation and automation, will significantly reduce the supply chain and free production processes from logistical nuisances. It should even be stated that the more modern the economy is, the more inherently less complex the organisational and logistical aspects become, which are the main cause of the complexity and emergent nature of its processes.

This is just one example of how previously considered unsolvable problems are becoming solvable thanks to the progress of science and human cognitive abilities. Using this analogy, at a high level of generality, one can conclude that these regularities apply to virtually all complex issues. The prerequisite for this is, of course, that not profit, but science in the broadest sense, with its optimum use thanks to intellectual potential, is placed at the centre.

If we look around carefully, we can see that most things, although obvious, are no longer natural to us – general living conditions e.g. housing (buildings instead of caves) or food (agricultural cultivation), the settlement of high latitudes, complex medical treatments, transport, high technology, computing, artificial intelligence and countless aspects related to the development of our civilisation. Along the way, we inevitably create new emergent processes even without being fully aware of them, often surpassing in complexity those that are a 'product' of nature. A good example of this is the aforementioned artificial intelligence, certain aspects of which, related to its learning, are a mystery to its creators themselves!

Extrapolating the above examples to economic issues, the effects will be similar. The conundrum is not a question of 'if' but 'when'. Keeping all things in proportion to the scale of the challenge of harnessing the economy (including globally) through our cognitive abilities using new technologies, it is clear that this is not some qualitative exception. It is more of a quantitative issue, the solution of which will simply require more time in proportion to the other challenges. Besides, an immanent feature of the structure of the human psyche is scepticism and a lack of imagination and faith in the capabilities of the human mind, which often surprises us, probably because of our limited knowledge of it. Man's historical and eternal desire to rise above the earth into the air, being a classic example of utopia through the ages, best illustrates this.

Contrary to various opinions based on the selfish gene and the principle guided by pure egoism, man as a very complex structure is also capable of altruistic behaviour in the emotional field, and not only at the individual level, but also at the herd level, moreover in a systemic manner. Examples of such social behaviour are the tax system or the awareness of the common good, and many other more or less abstract attitudes that have no counterparts in the natural world. Our level of development also makes it

possible to understand that the world is a very complex structure and that many of these systemic, altruistic behaviours are capable of producing an overall benefit in the long term.

Without the use of cognitive abilities, the economic processes themselves (or, if you prefer, the economics of human behaviour in general), in the context of civilisational development and well-being, would essentially be a zero-sum equation. We can see this in the example of all other species, which, deprived of our level of development and only retaining their own behaviourism, have not been able to improve their own well-being since the beginning of their existence for millions of years. They do not evolve in a functional sense as fast as humans, the exception in nature.

Therefore, we need an approach that is more focused on optimized and maximized use of the potential of our cognitive abilities, rather than focusing solely on strictly economic and economic solutions. The economy and economics cannot be an end in themselves, but one of the means leading to the goal, which should be the development of civilisation and human well-being in the broadest sense. Nothing is better suited to achieving this goal than our cognitive abilities and the broad engagement of science.

A key principle to understand about the economy is that although the free market is a natural and spontaneous phenomenon, it is not compatible with human nature. Man, although undoubtedly derived from nature, as a general rule, his behavior and the decisions he makes of all kinds, in statistical terms, stand in complete contrast to the rest of the species. Being an intelligent being, he is not guided by instincts, but takes intentional, i.e. unspontaneous actions. In the economic context, the consequences of such functioning are fundamental! This is the key to realizing one of the most significant, if not the most significant, cognitive error with regard to an economy founded on the free market paradigm.

This principle reads: **The natural asymmetric nature of human actions (intentionality), which stands in contrast to the linear nature of economic assumptions (predictability of the algorithms that govern these assumptions), including the free market, necessitates the need to apply control over certain economic processes in a coordinated manner (using technology, emerging through science, i.e. the highly developed cognitive functions of man), in order to reduce the undesirable inertia that characterises classical economics (unpredictability of the negative effects of, among other things, the free market).**

Capitalist, feudal or socialist/communist concepts are all more or less irrational and oppressive in their own way, and as such are emanations of the culture of different eras and human emotions. All these concepts, although strongly antagonised with each other, have one thing in common – they are first and foremost ends in themselves, focused on the distribution of the final element of the economy, which is the good produced, instead of using a holistic and consequently more efficient strategy. Therefore, a more fundamental change is needed than at the level of the production of goods and their distribution. What is needed is a change at the level of the strategy of producing these goods, focusing on the benefits of civilisation.

Man, as a rational being, possessing in nature the greatest asset necessary for the development of the well-being of his species, i.e. intelligence, both individually and socially, should primarily focus on the development of civilisation without the use of intermediate tools, wasting energy, time and resources. If we focus more exclusively on the distribution of wealth and individual gains, the more we will all lose out.
By failing to make optimal use of intellectual resources already at the level of the strategy of producing these goods – analysing their quality, general availability or the rationality of using the resources necessary for their production – we create developmental limitations for ourselves as a community.

If we do not have a proper strategy, we become hostage to economic development, environmental degradation, the waste of precious natural resources or the production of goods with a deadline, because we have to produce and sell more and more in order to guarantee financial profit and employment. In the long run, this is a road to nowhere.

The overriding value should be the development of civilisation as a whole and its well-being, because this is simply rational and most profitable for everyone – most importantly, also in the long term. If we put the matter this way, it can be seen that all the three socio-economic orders mentioned are closer to each other than to a position that focuses on intellectual/scientific potential for the sake of the good and interest of all.

Economies focusing on the mere production of goods, their distribution and the profit from their sale, will necessarily not be committed to their easy availability, as this will clearly conflict with their purpose and interests.

As living beings and 'consumers' of oxygen, we are not interested in whether the air is capitalist, communist or feudal. For humans, the most important value is the very fact that it simply is. There is enough of it for everyone and, fortunately, none of the above-mentioned socio-economic orders need to involve themselves in its distribution. This state of affairs serves everyone, because we can exist peacefully. We do not have to pay to consume it as part of a capitalist business licensed to do so. Nor is it forbidden to breathe fully under ideological tyranny. And there are also no restrictions by virtue of servitude to a feudal who has usurped ownership of all natural goods.

Of course, air is an example of a good available in unlimited quantity, which is a gift to us from nature, but on the other hand it symbolises true, unconditional freedom.
This example is just a signpost for us in which direction we can and should go.
For short-term gains of dubious quality for our entire species, it is not worthwhile to move towards systems that primarily feed themselves.

It is in the interest of each of us as well as the community as a whole to use man's greatest asset – reason – in a coordinated, most efficient and optimal way.

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Chapter 1 – The Optimized Economy as an economic model

1.1 Three levels of the economy

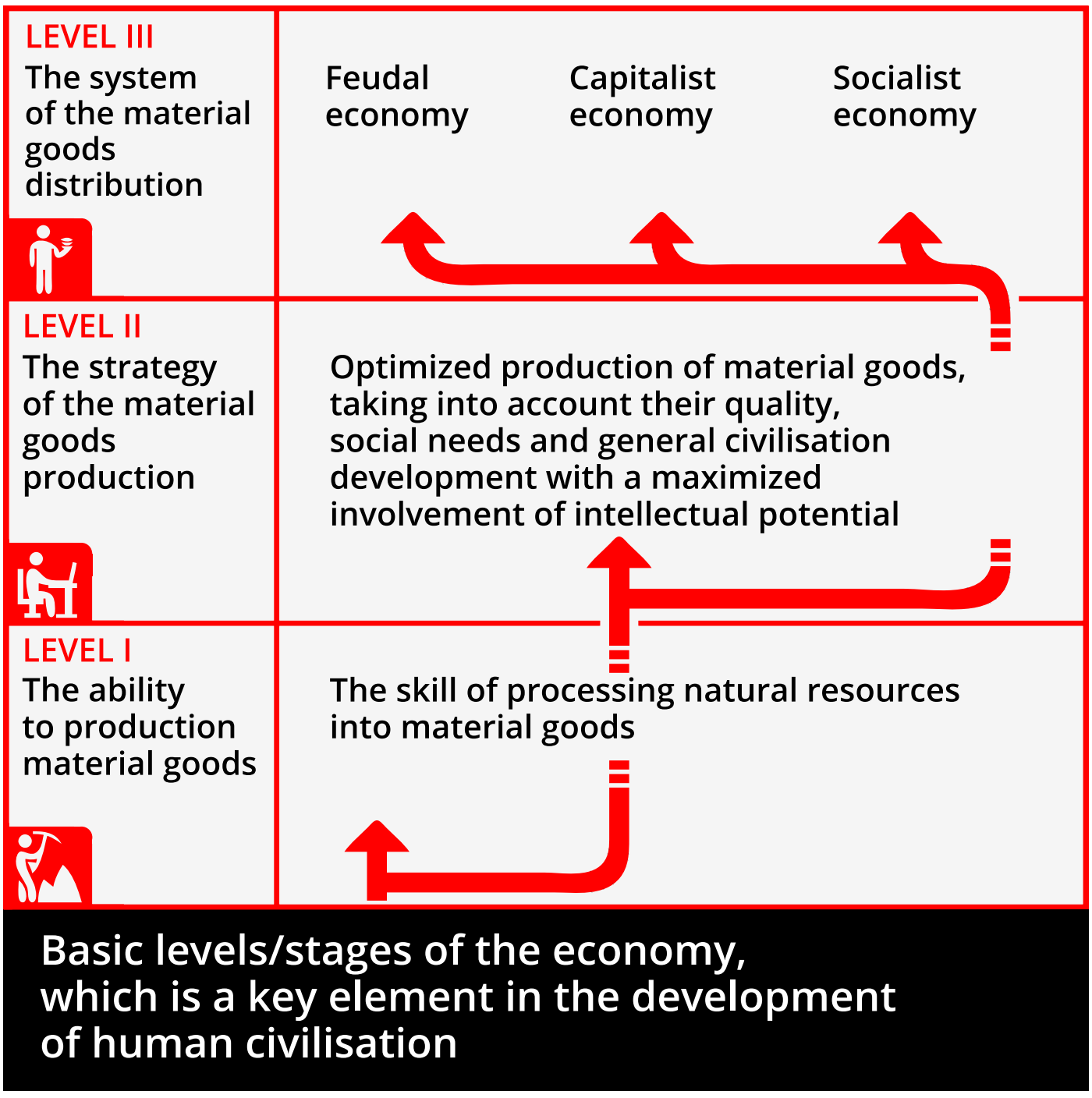
The economy, due to the fundamental role material goods play in human life, both individually and socially, is a key element of human civilisation.

The most important link in the economy is not the property relations, even though they are the ones that, for historical reasons and human nature, evoke the most emotion and thus focus the most attention on themselves, but the broader strategy of producing material goods.

Meanwhile, the economy over the course of history has become hostage to property relations and the associated numerous, ideologised disputes over economic systems (including private property versus state property) and economics as such, often becoming an irrational and inefficient means to an end, and sometimes even an end in itself, which should be the development of civilisation and the well-being of the human species.

It is an appropriate, i.e. optimized and thus effective strategy of producing goods based on intellectual potential, or more precisely on broadly understood science: research and development activities, new technologies and investments in these aspects – with a special role of the public sector in this respect, also in the context of creating new economic entities – and taking into account rationality, social needs, availability of natural resources, environmental conditions or, finally, the very quality of produced goods, that should be the main driving force and the key to achieving prosperity and civilisational success. It is at this level/stage of the economy (LEVEL II in the graphic below) that the greatest opportunities are found.

Graphic 1 – Three levels/stages of the economy



State involvement in such processes is important not only from the point of view of organisational and financial capacity, but also because of institutional, scientific and educational potential. However, it is important that such projects are carried out both by state actors at central and regional level and by private actors, as well as through cooperation and public-private partnerships.

More important than the forms of cooperation in the implementation of these projects is the development of an appropriate culture in society and sustainable and good standards for the symbiosis of economy and science, not focused solely on a quick return and short-term financial gain, but maximising the effectiveness in achieving the overall benefits of civilisation.

1.2 Examples of the use of science in the economy

The science-based economy is not an abstract project, but a proven method in, among others, South Korea, where a great leap in technology and civilisation has been achieved through the use of a number of innovative projects, implemented in the country's economy. Although the methods used in this case themselves can be debated, in principle, South Korea is a practical example, taking the right direction.

Another very tangible and symptomatic example of the tangible benefits of directly applying scientific processes to the economy, permanently changing the standard of

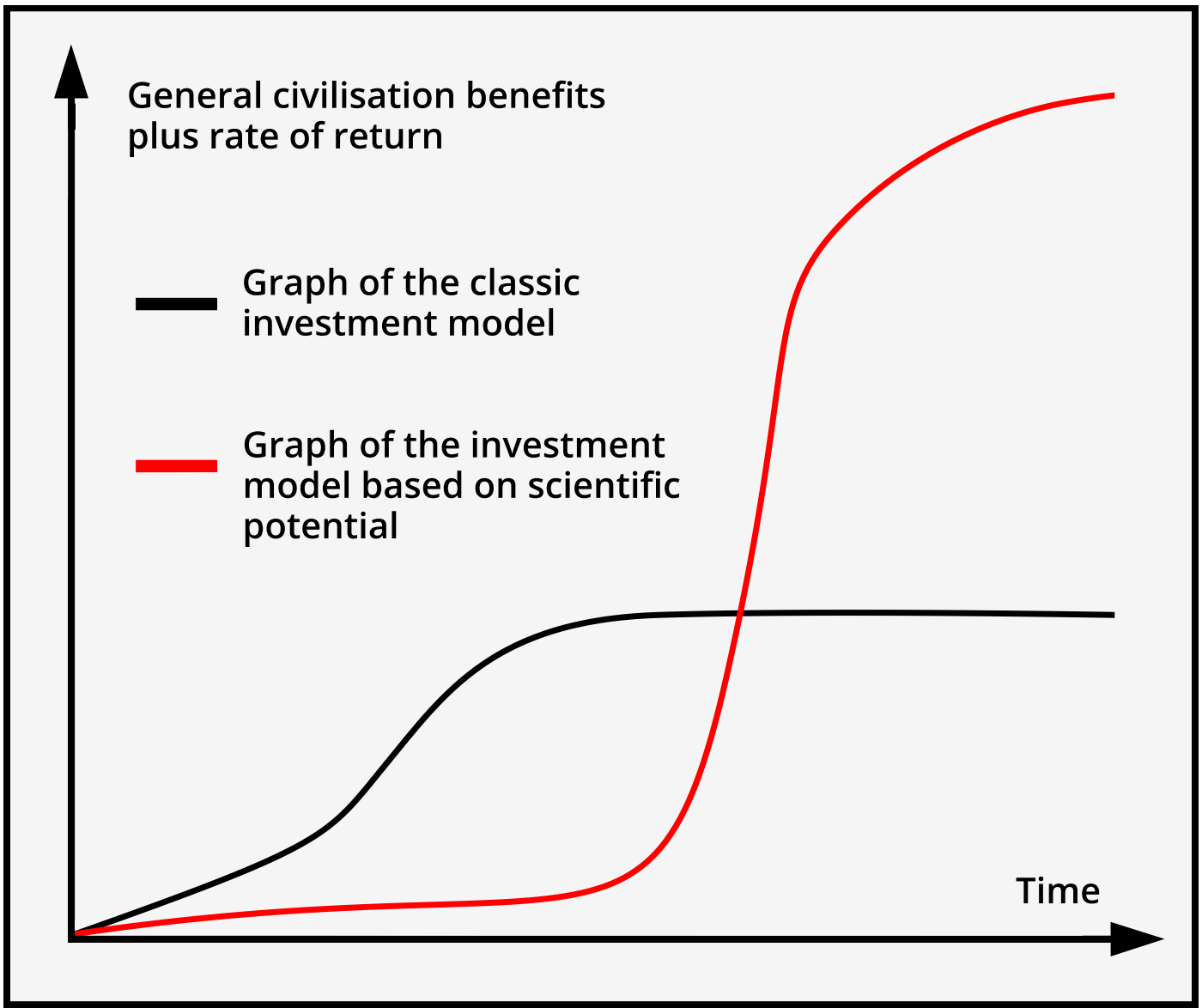
living of societies and every individual, was the Manhattan Project. This historic project had an enormous impact on the reality after the Second World War, giving the world global peace for many decades. Despite its partly destructive nature, it also contributed to a major technological leap in civil nuclear power and the energy sector as a whole, with an impact on the efficiency of the entire economy that is difficult to overestimate.

This example makes it perfectly clear that the economy alone is not the tool to guarantee the best pace of civilisational development, using market systems alone, despite the intellectual potential that man possesses which is necessary for this. Market mechanisms on their own are not capable of perceiving and, above all, realising undertakings with such potential. The free market process, for objective reasons and its natural limitations – including financial constraints – operates on the basis of a simple algorithm of the law of supply and demand. It is therefore characterised by its rather limited scope and the environment in which it operates. This phenomenon does not only apply to projects on such a large scale, but also to projects of greater complexity than those it handles on a daily basis.

The Apollo Programme, responsible for the landing of man on the moon, can be taken as another example, which resulted in the creation or modernisation of many technologies already in place and subsequently used in various industries.

The graphic below illustrates the advantage of economic investment using a scientific base over the classic model, which is geared solely towards a quick rate of return.

Graphic 2 – Comparison of two investment models



An indicative comparison of two investment models using graphs, showing the benefits achieved over time

1.3 Public sector involvement

Certainly, in constructing a science-based model, there is a need to strike the right balance between the fundamental issue of responsibility for the general good and the public sector and the economic freedom of the private sector, while maintaining cooperation and dialogue between all parties and social control over these processes in the spirit of democracy and respect for the human rights of the individual and society. There is also a need for systemic and comprehensive solutions to successively increase the involvement of science in the economy on a scale many times greater than is currently the case, as well as multidimensional public sector participation in this regard.

Public and private property operate in a dichotomy, complementing each other. They reflect well human nature, which needs different characteristics of activity, including at the behavioural level, where there is a balance between herd and individual activity. However, it is worth bearing in mind that in an increasingly complex world, ownership as such can take on a character beyond the classical models.

In addition to the competitive element, the collaborative element is equally important. It is optimal when the synthesis of all types of activities ultimately results not in their collision but in their synergy.

Contrary to intuition, in addition to strictly humanistic reasons, such a model also has a very tangible and practical justification. In the long term, it benefits everyone, because the world we live in is a system of interconnected vessels with a tendency to deepen all interdependencies, and new technologies and scientific achievements, spread globally and permanently improve living standards.

It should be borne in mind that economic freedom is a very important element in the context of the implementation of creative and scientific processes, giving freedom and independence of action. On the other hand, processes initiated by the public sector or public-private partnerships may guarantee increased competitiveness in achieving not only better financial results, but, above all, by forcing an increase in the standards and quality of the final results obtained, translating directly into civilisational development in its entire spectrum, and thus into the optimal development and well-being of the entire, human population.

Chapter 2 – Market mechanisms and human nature

2.1 Free market versus intentional action

An inherent, essential and natural part of the economy has almost always been the free market, in which goods are exchanged through voluntary transactions between interested parties.

There is also no doubt that this essentially simple algorithm based on the law of supply and demand has played a great role in the history of mankind and positively influenced the development of civilisation. The free market brings with it valuable values such as freedom, creativity, stimulation for entrepreneurship and many motivational factors. However, it is above all what people make it.

Like most natural mechanisms, it is burdened with a high degree of inertia. Its reactivity, especially in an environment of human behaviourism, based on very different laws to this simple algorithm, paradoxically makes its natural origin, no longer an advantage.

In order to realise the gravity of the implications of the elementary difference separating man from the rest of reality, even though he is an integral part of it, it suffices to observe man comparatively with the rest of the natural world and the phenomena or entire physical systems occurring in nature with particular reference to their fundamental division into behaviour.

Human intentional action is the key to understanding the whole issue, as it is the factor that can overturn all the assumptions and theoretical models of various mechanisms, including the free market.

Intentionality, which is characterised by a high degree of unpredictability and resistance to statistics, apart from human behaviour, is essentially a phenomenon that does not occur in nature. Ignoring this phenomenon of nature, if only from a

mathematical point of view, necessarily has to be fraught with consequences and often becomes a prime cause of subsequent misunderstandings. It can even be the source of a domino effect of many cognitive errors, among others, in fields dealing with economics.

The issues described here should not be combined and confused with the concept of entropy, which in nature balances ordered states. Economic processes and human interactions with them are local phenomena, characterised by very unrepresentative properties and relations with respect to a general account of the law of entropy, as well as the associated second law of thermodynamics.

Human behaviour based on intentional action is basically the opposite of the behaviour of other systems, which are characterised by spontaneity and lack of order, or the mere randomness of events. Furthermore, there are many downplayed but fundamental elements that distinguish human behaviour from the animal world, although certain similarities tempt us to make comparisons with it.

Somewhat simplistically, the animal world functions through instincts, which can be compared to more or less complex but reasonably predictable algorithms.
Human activity, on the other hand, is a conglomeration of many complex elements: logical thinking, highly structured actions, abstract thinking, complex emotions and intentional actions, characterised in their general trend by a high coefficient of unpredictability.

These are factors that are so radically different from the rest of organisms that, with their characteristics and consequences, they go far beyond strictly biological criteria, making their mark far more strongly than one might think, right down to the level of physical systems.

This is why humans evolve so quickly in their behaviour, unlike animals, in all spheres of life. The domain of the economy is no exception. Unlike the animal world, it is not based solely on natural law, but also operates in an environment of legislated law, which is unprecedented in the natural world and the behaviour of herd species.

This is important information, and tells us a lot about human nature, which has emancipated itself from the rest of nature to such an extent that it has produced something like its own operating system. This does not apply only to law, but to all human activity. Human nature turned out to be so complex that natural mechanisms were no longer sufficient and man was forced to produce a new framework for his species, encompassing his functioning in reality. Moreover, other natural mechanisms, including the free market, were able to function better precisely because of legislated law.

Since in the domain of law, the natural must have recognised the primacy of state law, by analogy, it is reasonable to argue that in the field of economic activity it must be similar. It turned out that the human environment, characterised by intentional behaviour, the reactive mechanism of the law of supply and demand can become a negative tool in the hands of a conscious being. Therefore, it must operate on the basis of legislated law, and therefore a mechanism devoid of reactive characteristics.

Consequently, the obvious conclusion should be that man must also strive to develop the economic mechanisms themselves with a degree of complexity in their structure and adequate standards to accommodate the high degree of complexity of the environment they are to serve.

In an increasingly complex yet globalised world, it is becoming clear that the economy is a system of interconnected vessels, interacting ever more strongly with each other, especially as it serves the closed environment that is our planet. It could be argued that it is beginning to interact with itself, as it naturally exhausts its diversity of ownership of individual economic players and new areas of market expansion. It also loses competitiveness.

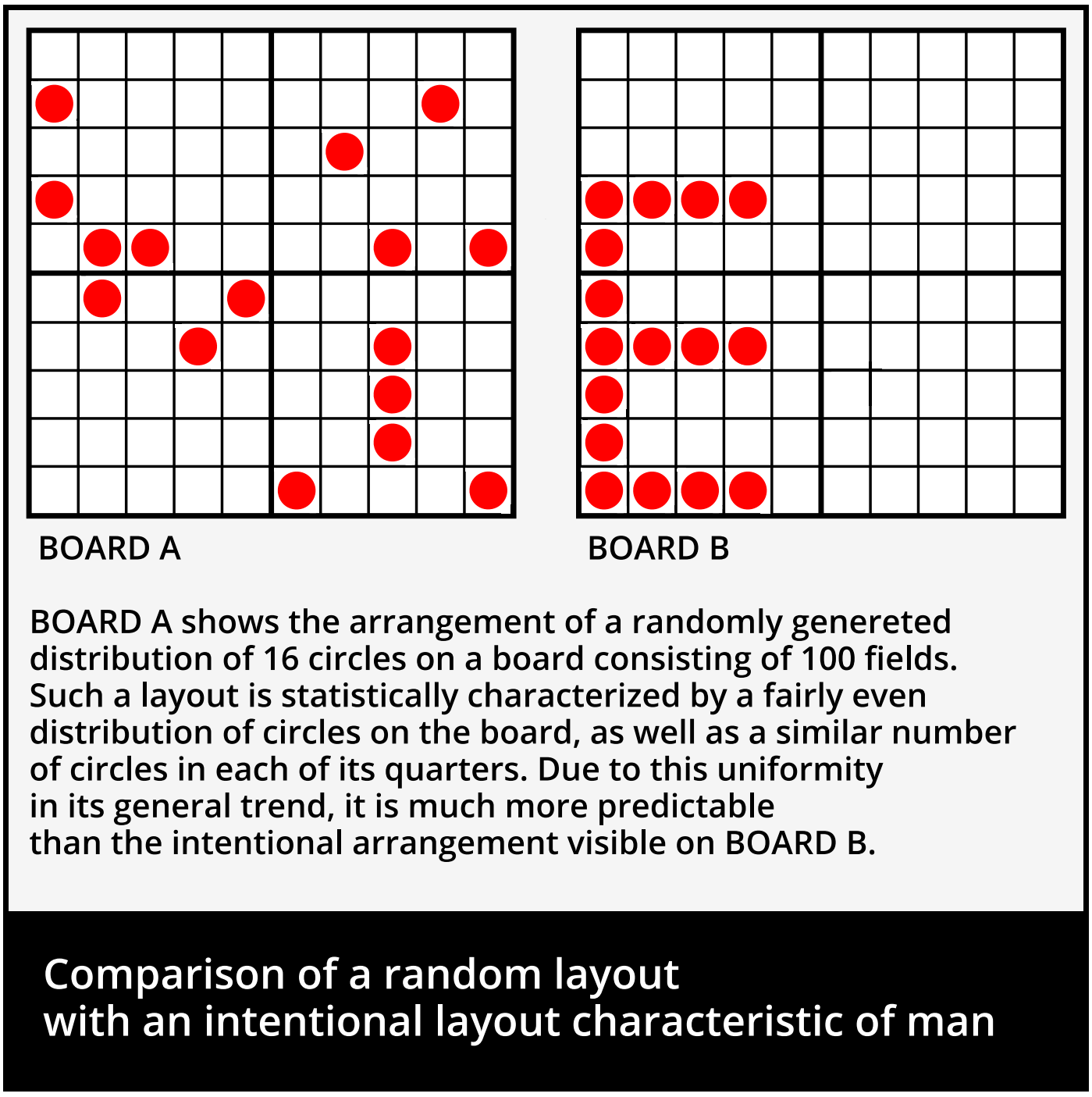
In addition to this, certain self-destructive processes can be observed, geared solely towards commercial objectives that have nothing to do with meeting social needs. Pressure is being exerted on the political class to delegitimise various aspects of our lives under the pretext of concern for people's health or environmental protection just to create space for new investments. Although pathological, this is at the same time a natural process of many actors following the principle of acting along the line of least resistance and economic cost. To some extent, in its structure, it resembles autoimmune diseases.

This phenomenon is further reinforced by the natural process, which has been going on for many decades and even generations, of the expansion of capital and the emergence of ever larger entities, up to the size of today's corporate giants. It is not difficult to see that what was once intended to serve competitiveness now paradoxically contributes to trends that monopolise the market. Another paradox is that what, thanks to the free market, was supposed to regulate itself automatically, had to be corrected with the help of, antitrust institutions, i.e. by state interventionism.

In spite of antitrust action, the market manifests a natural tendency towards the formation of large players and, in some industries, even cartels. With the help of legislation, more and more antitrust prohibitions can be created, but human creativity will be able to circumvent them in one way or another. These phenomena, in the human environment, are inevitable, because man, as a creature acting intentionally and consciously, and therefore acting actively, will always achieve an advantage over the simple and reactive algorithm of the law of supply and demand. These processes settle not so much at the economic, social or biological level, but at a more elementary level – at the level of physical layouts/systems that can be described in the language of mathematics.

The graphic below illustrates the difference between events occurring at random and intentional, human-specific action.

Graphic 3 – Comparison of two layouts



In a very similar way, intentional human action shapes processes related to the financial side of the economy and the ubiquitous paradigm of financial profit, mainly based on a quick rate of return.

Centuries ago, when the role of science and its impact on economic and civilisational development was severely limited, it was not as important as it is today. In modern times, the role of science in the economy began to grow rapidly. Over time, its impact on financial returns has clearly become significant.

2.2 The dissonance between classical economics and progress

As in many systems in which the goals of different elements of a larger whole sometimes cease to coincide, it has become apparent that, paradoxically, the development of science can stand in the way of the economy's central imperative of financial profit. Moreover, it can threaten entire industries. Thus, a turning point was reached where the economy began to live its own life. It gradually ceased to play its role as the main engine of civilisation, seeing science as a threatening competitor.

Since then, it is science that has become synonymous with development and a direct tool for obtaining human well-being in the broadest sense and the main means of achieving overall absolute benefits on a macro scale, i.e. so universal as to be relevant to the interests of every individual – new technologies, medicines, vaccines,

etc. Economics, on the other hand, has come to be primarily a source of providing relative benefits, i.e. mainly profits estimated in the relationship of a person or economic entity to other persons and entities – measured primarily by the criteria of financial gains.

Economic processes obviously continue to support the scientific ones, contributing to the overall development of civilisation, as long as they do not interfere with the former's main priority – financial profit. This is why a paradigm shift by replacing the economic imperative with the scientific one is so crucial.

Financial economics is a good example of how an economy left largely to spontaneous mechanisms starts to split internally into different factions, further creating internal structural contradictions and damaging processes. Not only socially, but also economically. We often hear criticism of financial economics, which has emancipated itself from economic processes to such an extent that it has become a new branch of the economy, even though it does not actually produce any goods itself. It gives the impression of being a cancer created by the organism on which it parasitizes.

However, along with the criticism, there is no in-depth reflection that this is in fact a natural process of the classical economic model, exploiting its inertial nature.
The comments usually amount to criticism of the ethical attitudes of other people or the political class, with an uncritical attitude towards the very nature of the model.
In part, this is probably a typical psychological regularity, characterised by people treating the status quo with sufficiently long tenure as a natural state.
Mechanisms operating long enough in the human environment become naturally axiomatised, becoming immune not only to their contestation but even to in-depth analysis.

Similar processes form throughout an economy heavily based on inertial mechanism. The whole system begins to function autonomously, subject to spontaneous processes, not necessarily always beneficial to man. What was supposed to be a source of many solutions for man becomes his trap and begins to be unfettered freedom for the system itself and the pathological phenomena that often accompany it.

Generated, socially harmful phenomena in free market processes most often become a challenge for state governments. In order to eliminate or offset them, central authorities are forced to implement various regulations, which in turn conflict with free market principles. This creates a negative feedback loop from which there is no good way out.

Any compromises in this area tend to become only ad hoc half-measures. There is no good synergy between one element and the other – the free market and regulation – because they are incompatible processes. The first element is a spontaneous and chaotic process, while the nature of the second is characterised by a high degree of orderliness. Worst of all, however, is the fact that the incompatibility, and often the dissimilarity of the objectives of the two, does not merely manifest itself in a lack of cooperation, but in a mutual collision.

Solutions that focus on the systemic use of scientific potential are those that will make a major contribution to the successive levelling out of the described conflict.
Over time, they can eliminate this disharmony, replacing these phenomena with their own processes with positive results for all. Scientific potential, by virtue of its universal nature, can combine creative and orderly elements.

The scientific element will make it possible to free oneself from the unstable nature of economic processes operating in a strongly inertial environment. It is not about permanent human control of all processes, but about the elementary agency of human activities related to development in the broadest sense, supported by stability, a rational degree of order and an increase in its efficiency.

Chapter 3 – Synthesis of economic and scientific activities

3.1 Historical stages of welfare creation

Since prehistoric times, man has engaged in various activities to improve his material situation and general well-being. In different eras, different activities functioned as main or accompanying activities, ranging from a hunter-gatherer society through agriculture, to an era in which trade flourished with the development of civilisation, to modern times with the Industrial Revolution and widespread industrialisation.
What they have in common is the extensive economy and management of natural resources.

Each of these eras has left its mark on human civilisation. Some did so less, others to a greater extent. Some activities have been replaced by others, and still others have remained with us to this day.

If we analyse today's times and look at human activity, its characteristics, habits, mental sphere, the priorities set to improve our well-being, etc., we can see that mentally we are strongly linked to the paradigms of commercial activity. We can therefore conclude that we are still strongly influenced by merchant culture, being more or less aware of this fact.

On the one hand, we are aware of the power of science, but on the other, we are more attached to mercantile solutions, as we have mainly been shaped by them.

Another common feature of the activities mentioned is their unreliability, transience, and the fact that they are being replaced by those of greater complexity and involvement of intellectual potential. We conclude that they do not represent universal solutions, but are merely the product of our intellect, representing a certain level at a certain time, just like the whole development of civilisation.

Just as at the time of the transition between the feudal system and free market capitalism, it was hard for many people to realise that there could be any better world order than the monarchy with its hierarchical structure, so today we fall into an analogous cognitive trap, axiomatically recognising one or another current model as non-alternative and being the best possible guarantor of prosperity and civilisational development.

Meanwhile, we are dealing with the opposite process, in which our cognitive functions play a central role. They are the source giving rise to different eras, social, economic and political orders and, most significantly, technological ones.

From historical examples, we can observe quite close correlations between openness to cognitive processes: educational, exploratory or related to the exchange of information between different cultural circles and faster civilisational development. It was, among other things, the great geographical discoveries at the end of the 15th century that provided a huge developmental impulse and a milestone towards the Renaissance and the flowering of many fields, including science, and then the Age of Enlightenment.

It is very difficult to imagine the social, philosophical, political, economic, scientific, technological and, above all, mental changes in the Age of Enlightenment without the influence of the Renaissance on the development of Europe. Furthermore, it is above all thanks to this cause-and-effect relationship that the idea of liberalism, free-market capitalism or the Industrial Revolution could have emerged. This cause-and-effect relationship is incomparably more important than the direct correlation between free market capitalism and the Industrial Revolution.

While the link between free market capitalism and the Industrial Revolution is natural, the more significant and necessary condition for the emergence of both and each separately was the fundamental intellectual change that had previously taken place in European society and the Western world as a whole.

The free market of the 18th and 19th centuries therefore did not arise in isolation from reality, but was a natural consequence of earlier processes.

Various forms of capitalism arose much earlier, as early as the 13th and 14th centuries in Italy and even in ancient times. However, they did not record such a development as the capitalism of the nineteenth century for various reasons, but above all because they lacked a sufficiently high technological level, which, thanks to the development of science, could only materialise five hundred years later in the form of the Industrial Revolution.

Therefore, the main cause and source of development in the broadest sense of the term and the methods for creating wealth should not be sought in such or such a different economic system, but in man's natural creative abilities and the creation of optimal conditions for their maximum possible use. Of course, models may differ in their effectiveness in unleashing human intellectual potential, but as a general rule, the source of progress remains the cognitive functions with which nature has endowed us through evolution.

Merchant culture was so firmly entrenched in human consciousness that even the rival economic systems of the 20th century – capitalism and socialism/communism – despite their many differences, were strongly influenced by it, basing their doctrines on the production of goods without much reflection on the exploitation of natural resources, environmental or social factors or the overall strategy of their production in the context of optimising civilisational development. In the case of communist states, the role of merchant/trader was played by their authoritarian central authorities.

As a species, however, we tend to overestimate the status quo, which we have often mischaracterised throughout history as the end state, or even the perfect state.

The reason for this is probably a lack of sufficient cognitive capacity and anticipation beyond our own era. Although, when viewed from a statistical point of view and historical experience, the belief in the uniqueness of one's own era and the universality of the characteristics of the various elements within it is unlikely and very naïve.

Of course, new solutions are not always the right ones. Examples from history in the form of communism or fascism best demonstrate this. However, the nature of pathological cases reveals its face quite quickly. Fascism, as a caricature of the state and republicanism, and communism, as a caricature of community, social solidarity and constructive socialist demands, appeared already in their beginnings as phenomena of suspicion and horror. Their bloody totalitarianisms, brutally combating all expressions of freedom, became the ultimate confirmation of this.

3.2 The key role of intellectual capacity

The only element, distinguished by universal characteristics, that we can observe in these processes is the human intellect. It is the human cognitive function that is the true engine of progress, which nothing else has been able to replace so far, and certainly not this simple algorithm of the law of supply and demand. Lessons from history should be learned, no less, nowadays, science should be our natural choice as a means of achieving our goals, especially as the existing ones in the form of the classical economy are increasingly starting to fail and generate negativity.

Naturally, pathological economic mechanisms have an impact on very practical aspects affecting each of us: the use of cheaper components for products such as cars at the expense of human safety, the planned mass ageing of products by most manufacturers, price collusion, or the mass production of unhealthy, highly processed food. These examples are just a drop in the ocean of all phenomena in the market. These are not extreme cases, but rules applied by economic operators.

There are many examples of pathological behaviour in the market that are derived from human actions, but which the free market alone cannot prevent. It is possible to envisage a situation where several powerful players in the market, who should theoretically be competing with each other, will in reality be more inclined towards tacit cooperation or at least mutual neutrality.

This is because these players are human beings – conscious, intentional beings, limited by their own behaviourism – who make calculations. They may come to the conclusion that, from a certain point onwards, it will be more comfortable for them to maintain their position in the market, and that an assurance action is more beneficial, providing a sense of stability and security as opposed to risky competition and the uncertainty that comes with it.

The entry of new players into the market in such a situation more often ends in theoretical considerations than in practice. Examples are sometimes given of powerful new companies in the IT industry, among others, which until recently were insignificant players. At the same time, it is forgotten that the IT domain is a relatively young industry and has already been dominated by a few, which only confirms the general trend towards monopolisation in the market.

Large economic players exploiting their position and power in the market are also becoming a threat to freedom and democracy more broadly.

One can be critical of this state of affairs, or one can look at it realistically and conclude that it is an immanent and natural feature of the market, occurring according to the principle that if it is possible to achieve a superior goal through the path of least resistance, this is the path that will be taken. It is possible to defend and explain such processes with arguments of economic viability, or even social benefits, associated with the labour market. However, this will always just be a defence of the irrational status quo while ignoring the attempt to apply any alternative.

It is always the case that major changes bring side effects and accompanying social unrest, but we cannot stop the inevitable processes, led by the robotisation and automation of many industries. It would even be detrimental to do so. On the other hand, avoiding solving problems in advance, which will happen anyway, is all the more irrational.

Such phenomena on a broader scale result in the economy taking two steps forward and one step backwards in the context of civilisation. The point is that all steps should be steps taken forward.

If a comparison is made between a model in which an entity makes an investment with a greater commitment to scientific potential in the development of, for example, medicine, rather than an investment geared towards a quick rate of return, it will most often become apparent that the former investment model will be more favourable to the entity in the long term. The credibility of the entity will also become an important factor. The price will be a longer time to wait for the final result, but the bonus of using scientific solutions will bring disproportionately greater economic, but also civilisational benefits compared to the classical model.

The values derived from such a model, also on a wider scale, will prove to be disproportionately greater for all than in the traditional model, the more they are implemented en masse and in many domains simultaneously. The scientific factor is many times a more effective means of arriving at more advanced and satisfying solutions and overall well-being in all aspects of our lives than the traditional model, which aims almost exclusively at financial gain.

The economic model supported by scientific achievements is so effective that it will ultimately prove to be more beneficial even to wealthy individuals, as the increased quality of human existence on a macro scale will surpass that achieved by classical methods and financial engineering by the large market players.

It is not difficult to imagine many examples of this type, where, for example, a newly developed cure for a hitherto incurable disease, the general level of medicine, new technologies to facilitate a comfortable life, or the production of healthy food and a general increase in quality of life using a science-supported model, will be incomparably more important to these people than the financial fortunes gained with which goods can be acquired, but of limited capacity and quality.

The quick rate of return and the culture associated with the classic model, the mental issues and the business decisions taken, although short-sighted, may seem more attractive and safer for business ventures. Much, therefore, depends on the successive implementation of comprehensive systemic solutions, statutory legal regulations – e.g. liberalisation of patent law – social issues, while activation, motivation and support mechanisms from the public sector at all levels.

Multidimensional cooperation at the international level, while respecting the sovereign decisions of all political actors, is also desirable.

There is a need for serious public sector participation in these processes, both from the scientific and logistical base, as well as from the many complex economic activities linking many industries. Finally, a lot of information, organisational and also educational work is needed on the culture of exploiting scientific potential and the many sociological aspects in this area.

When creating an adequate research base, particular care should be taken to create motivational factors. In addition to various financial aspects such as offers of preferential loans for this type of activity or taxation of large economic entities, attractive conditions must be created for better quality and faster career development of scientific personnel.

The activity of the public sector, in cooperation with private entities, should become a very important factor in the form of competitiveness in relation to the rest of the market in the production of goods and services in the context of their civilisational values, and not only commercial ones. Over time, science-based projects will, thanks to their efficiency, also start to compensate for the investment costs associated with the slower rate of return and the problems inherent in processes at an early stage of their development, compared to the classic model.

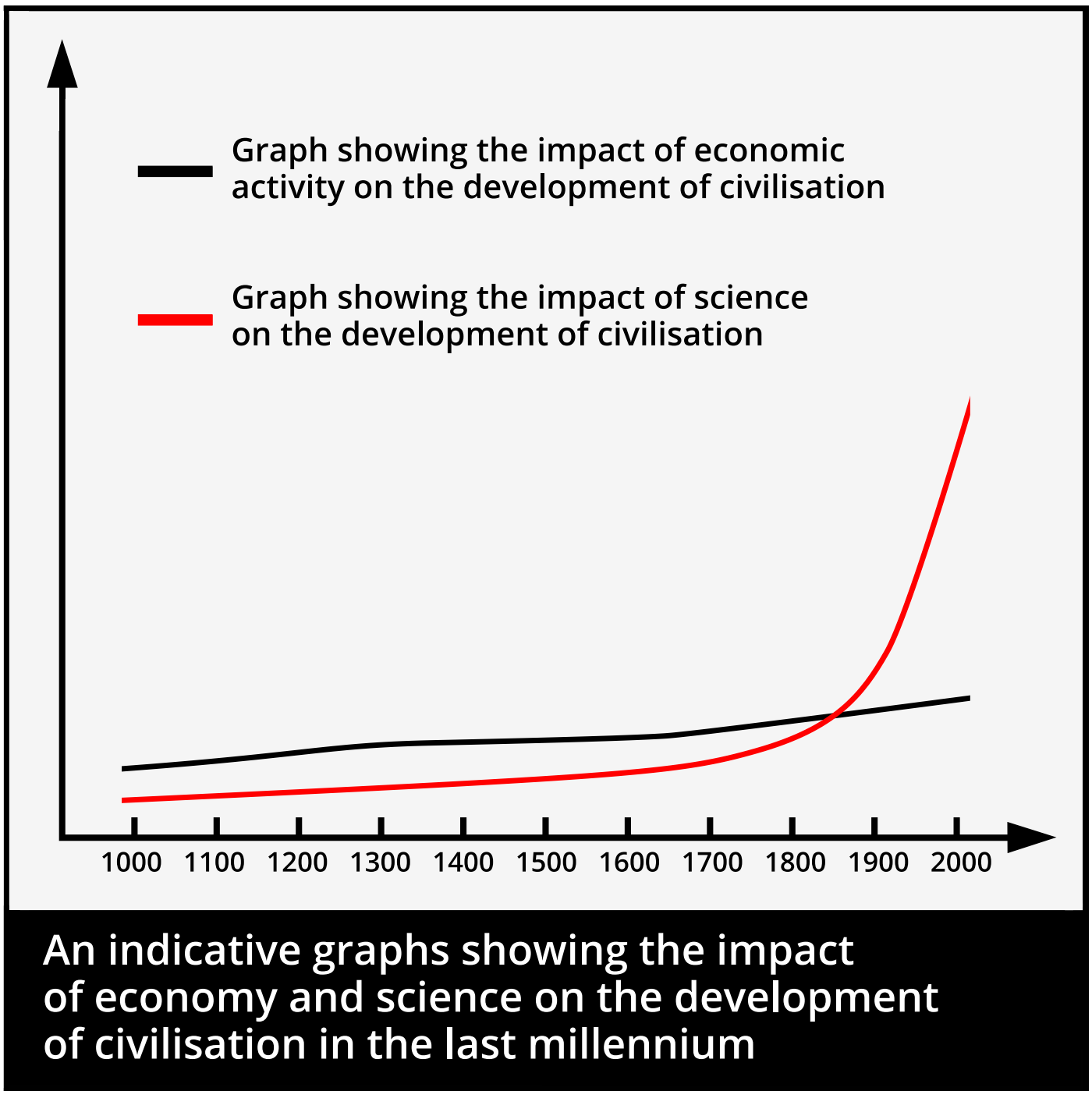
With the right organisation and synergies between the various economic activities and the scientific base, these ventures will be able to positively address the financing of their own ongoing development at an increasingly rapid pace.

In very many cases, it is not so much the specific amount of investment that matters as the methodology used. It is very important to make optimum use of the creative factor, and not just the reproductive one, at man's disposal, and to replace quantity with quality in action. It is, after all, reason that is the greatest attribute of our species, not coincidentally called Homo Sapiens by ourselves, which should oblige humanity all the more strongly to use it effectively.

Such a model will better benefit both the individual and the public, across the spectrum of quality of life. This is supported by the rationality implicit in the effectiveness of scientific solutions and the stability implicit in the more structured nature of this model.

The graphic below indicatively shows how, over the centuries, science, thanks to man's natural cognitive functions, in addition to strictly economic activities, has gained increasing influence on the development of civilisation over the last millennium.

Graphic 4 – Impact of economy and science on the development of civilisation



An indicative graphs showing the impact of economy and science on the development of civilisation in the last millennium

3.3 Cognitive errors in assessing the status quo

The production of added value in economic processes gives a sense of continuous progress, overshadowing the powerful human capabilities that can already be achieved through creative processes, which are not being given good enough conditions to realise their full potential. An economy based on maximising this potential and applying systemic solutions to it will create an entirely new quality.

One of the problems standing in the way of seeing these possibilities is limited human perception. Man's lifespan is so relatively short that he does not notice processes that are happening all the time. At least not to the extent they deserve, misjudging many mechanisms as unchangeable and universal, as if they were linear.

Usually, human attention is attracted to single elements that belong to a larger whole. If they are locally beneficial, they are unlikely to provide the impetus for a deeper analysis of their nature or synthesis. On the contrary, they will reinforce habits and reinforce the belief that there are no better alternatives to them.

One can compare this situation to the problem associated with observing the curvature of the Earth. No one pays any attention to such a fact, especially as it is imperceptible on the scale on which we operate. Nonetheless, we are aware of how

important it is as a factor that makes our existence possible at all. Human perception resembles a situation with two straight lines and a minimum angle between them, which locally will be of no interest.

This state of affairs will produce a false sense of consistency between theoretical assumptions and practice. However, this is only until the consequences associated with the global scale begin to make themselves strongly felt. An analogous situation applies to human perception, habits and illusions associated with classical economic processes. In this case, the realisation of significant inconsistencies can be quite a long process.

Meanwhile, the processes regarding the capabilities of the world of science, are not only occurring at a rapid pace, but are progressing exponentially, increasing their still untapped value.

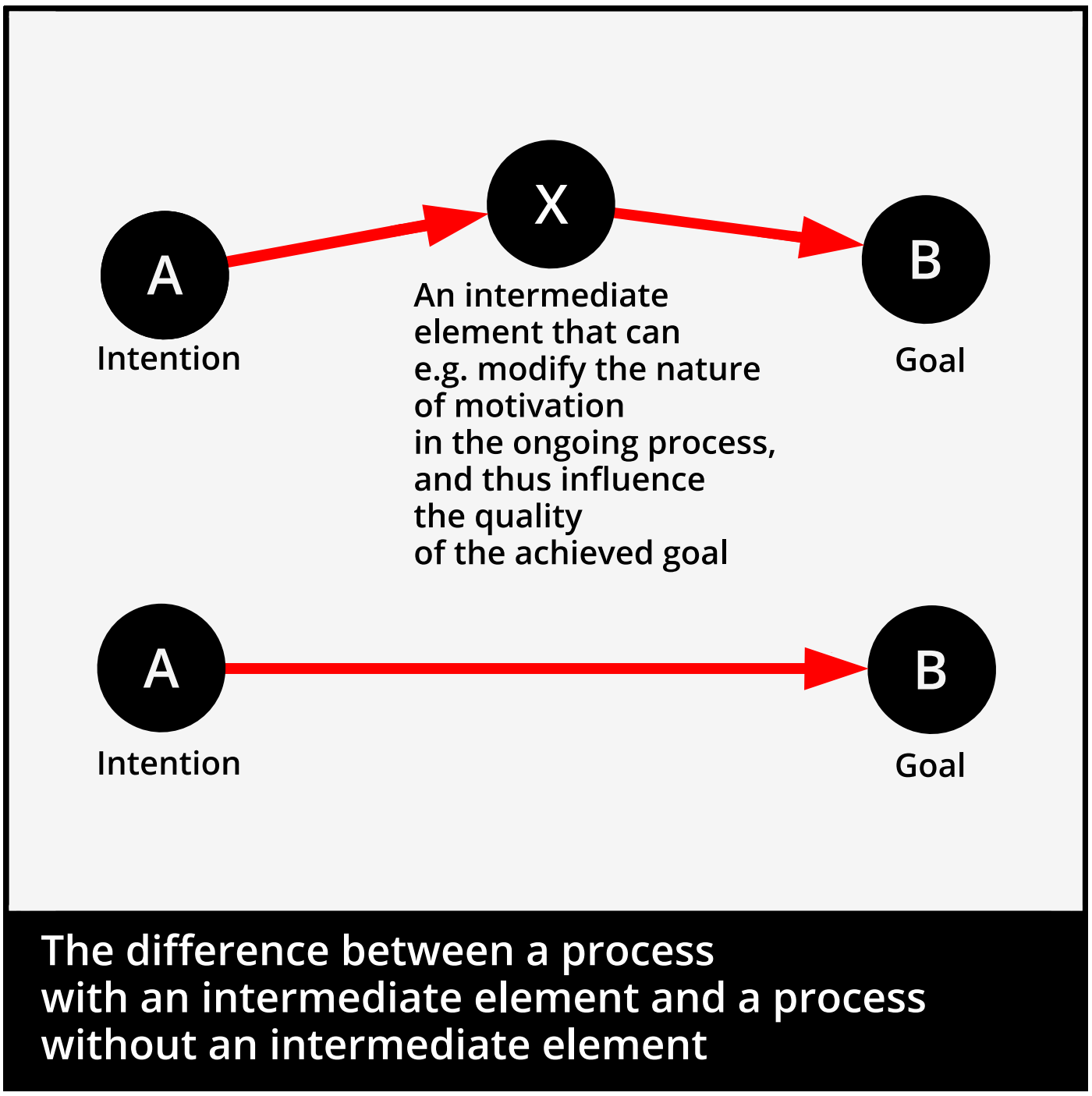
The vast majority of the negative processes that emerged in the economy were the inevitable order of things and, contrary to popular opinion, it turned out that the overriding objective of the economy was never really the achievement of general well-being for the population as a whole, but the financial profit of a specific entity, preferably with a quick rate of return. The goal of achieving general prosperity was and still is necessarily only an accompanying objective.

Although, in such cases, a large percentage of the population may still be convinced otherwise and, through the power of habit and suggestion, go through a kind of process of denial, eventually, sooner or later, a logical fact must reach people's consciousness: **the path between the intention (the goal set) and the attainment of a goal of the best possible quality, is the more efficient and shorter the fewer intermediate elements there are on it.**

This universal principle also applies to all economic processes, concerning, among other things, the entire process of material goods/products. In the classical economic model, this intermediate element is burdened with an overriding objective in the form of financial profit, which may or may not be strictly correlated with the optimal achievement of the objective. Moreover, it may even be in conflict with it.

Ideally, there should be no intermediate elements at all, as illustrated in the graphic below.

Graphic 5 – Process with and without intermediate element



The difference between a process with an intermediate element and a process without an intermediate element

The more and more tools – economic actors – man has at his disposal, the remedial mechanisms naturally attributed to the free market become more and more limited. This is why, centuries ago and even a few decades ago, it was possible to overlook various risks. Although the mechanism of the free market is immutable, it operates in a permanently changing human environment, which is gaining an ever-increasing advantage over this mechanism at an exponential rate.

The crux of the issue, then, lies not in the free market as such, but in the unwillingness to accept that this mechanism is increasingly unable to live up to its role in the surrounding reality. As with the abacus in the computer age, the problem lies not in the inaccuracy of this tool, but in its lack of functionality and efficiency.

Interventionism, on the other hand, has acquired a bad name, whereas in reality it is nothing more than an intentional human action which, depending on the context, can be either a positive or negative phenomenon or simply neutral. And as such, in isolation from other human actions, it does not constitute a concrete mechanism or system.

3.4 Conclusions and objectives to be pursued

As conscious beings with a sense of responsibility for ourselves and our species as a whole, we are largely, or even mostly, condemned to intentional actions, which require the development of a range of optimized and effectively functioning processes, proceedings and behaviours, including in the economic domain. Not only those directly derived from our intellect, but also from scientific and technological advances, such as artificial intelligence. There is also a need to implement solutions of an interdisciplinary nature, not only for the individual, but also for entire groups of economic actors, complementing each other and cooperating under the auspices of a single management.

Due to the nature of such a model, it is impossible to speak of any specific key on which it would be based. It will certainly not be a specific mechanism/algorithm, but, as in the case of statute law, an elaborated whole set of legal, social, sociological or motivational aspects, exploiting the creative nature of man, constantly subject to adjustments, taking into account the changing nature of the human environment over time.

Negative motivation schemes are quite ineffective. This is evidenced by shameful and inhumane examples from ancient and modern history using slave systems. Schemes based on purely reproductive activity are also less effective than creative activity, since in the case of the latter we have a strong correlation with an anthropological factor, specific to humans, related to the cognitive functions to which we owe our evolutionary success in general.

In this field, human beings are particularly and naturally active, even in the absence of additional motivational factors. Reinforcement with additional motivation by creating appropriate conditions for the use of these activities, especially among intellectually outstanding but also average individuals, will contribute all the more to greater achievements in the scientific field, and thus to the emergence of new technologies and a more efficient economy.

Many ideas that mankind had previously rejected as unrealistic or for mental reasons, cultural prejudices or habits, were put into practice after a while anyway. Often out of compulsion rather than goodwill. This is how we approached, among other things, the concept of universal education, including women's education or, finally, a system of governance based on democracy. As a consequence, these proved not only viable, but indispensable.

It is no different today, when we are increasingly condemned to make concrete decisions, not leaving things to their own devices, if only in the context of acquiring new energy sources. The natural resources we possess are not part of a theoretical model with infinite parameters, but their quantity is defined by specific numbers.

Their depletion will sooner or later force us to take specific, targeted action, before economic operators decide to use other resources, cheaper to obtain, but not necessarily beneficial or profitable in the long term from the point of view of the consumer, or with a negative impact on the environment and humans themselves.

The economy and its closely related quality and lifestyle also have a huge impact not only on the individual, but on society as a whole. The consequences of this in turn have a great impact on a myriad of social phenomena. One of these is the consequences for the demographic structure. Market mechanisms often have

disastrous and irreversible effects on many of these aspects, but solving the problems they generate is most often left to the intervention of the authorities.

It is common to trivialise and shallow these issues, shifting various problems to the next generation. Social problems induce difficulties with the economic situation, thus closing the cycle of consequences caused by the spontaneous nature of classical market processes.

The more we deal with economic mechanisms of an inertial nature, such as the classical economic model, the more it is impossible to predict and estimate all their real costs.

A strange paradox therefore occurs. In a world dominated by reckoning with economic costs at every turn, no account is taken of the calculation of gains and losses brought about by the very use of such an economic criterion. This is often argued on the basis of the lack of such possibilities, which only confirms the lack of justification for the belief that there is no alternative to this state of affairs, even though, in fact, we all increasingly recognise the growing limitations and declining efficiency of the classical model.

Such a belief, as in most cases, stems from a psychological factor and the strength of attachment to the status quo. This is one of the classic examples of form over substance and habit over rationality.

Problems of this type are increasing exponentially in a globalised world.
Already today, free market processes alone cannot handle our reality, and the area of their possibilities is shrinking drastically. To all this must be added the protectionist economic policies of various countries and the disturbing phenomena associated with the announced attempts by authoritarian states to implement grand projects not only in the economic domain, but also in the scientific domain, which do not in any way take into account social or financial costs.

As a result, human decision-making with an element of science will have to successively displace free market processes as spontaneous and become the mainstream model. In such a reality, there will also be a place for the free market as a complementary element, functioning in synergy with the future mainstream model. It is no less important to be aware that the role of science will become dominant in the most crucial and strategic sectors of the economy, including major areas of social life.

We need to realise that many of the problems we create ourselves, by virtue of our intellectual level and conscious action, are so highly complex that, in order to solve them, a simple algorithm, e.g. a free market one, is not enough, but it is precisely our intentional action, representing the same level of complexity, which will be able to meet such challenges, that is required.

The sooner we initiate these necessary processes, the sooner we will reap their positive fruits in the form of a more efficient material and immaterial development of our civilisation for the overall benefit of all mankind.

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THE OPTIMIZED ECONOMY MANIFESTO

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