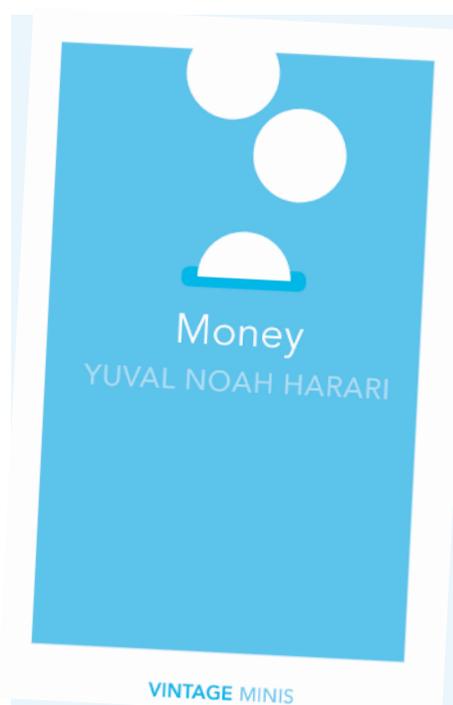


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Money

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MONEY IN HARARI'S HISTORICAL, PHILOSOPHICAL AND TECHNOLOGICAL APPROACH

Based on the two already-published works, *Sapiens* and *Homo Deus* by Yuval Noah Harari, the renown Israeli historian, a collection entitled *Money* has been published by publishing house Vintage, London. The collection includes the parts on money and the functioning of the economy from both books. Although Harari analyses money from a historical point of view, this book also considers temporal and cultural constraints and correlations, in contrast to the technically-oriented literature. It is especially needed in the middle of the Fourth Industrial Revolution that is currently in progress. This technological revolution has a huge impact on the functioning of the financial and economic

system, and ultimately, on society. In the light of historical experience, a more reliable conclusion can be drawn from our technical knowledge.

The appearance and spread of money

The first part of the collection is a retrospective historical summary about the appearance and spread of money. The author presents the functions of money: a measure of value, means of transaction, transformation and accumulation. The stages of the development of money and money substitutes, from barter to modern loans.

It might seem trivial, but the book and the financial system have the following definitive

axiom: trust served as a coverage for money throughout history. The financial system is based on trust. This trust is not something that grows suddenly, rather it took time to be built. During this process, its form was also gradually transformed.

In the beginning, only barter existed. Later, small communities living on gathering and agriculture formed self-sufficient economic units. Within the community, the role of money was played by a system based on mutual favours and barter. At the time, the specialisation of professions was uncommon. The aforementioned groups already started trading, but the significance and volume of trade were very low. The role of money was taken by barter and swapping. Once settlements started develop with continuously growing population, various specialised professions came into existence. Such professions required the exchangeability of the individual products for other products. Barter, which worked well earlier, became difficult, as relative prices had to be calculated in the case of product again and again, but even this method could not ensure the demand-supply balance. The solution could only be the spread of an intersubjective (existing only in the collective human mind) belief that is called money. Money is a fix reference point that can be used for all products. Initially, money types with intrinsic value became widespread. As far as its use was concerned, the instrument that functioned as money had value in itself. The barley money used by the Sumerians was a good example for this. Its intrinsic value was given by the fact that it was suitable for sowing.

As people's trust in the common belief grew and the number of transactions increased, demand for a new instrument that could function as money arose. This was the start of a significant breakthrough. The new money appeared first in the form of the Mesopotamian

shekel, which had no intrinsic value anymore and represented certain weight of silver (8.33 gr). The next step was the appearance of coins. At the time already, silver did not need to be weighed each time, it was enough to handle it according to the value indicated on it. This stage presumes stronger trust, principally in the issuer of the coin, who guarantees the quality and usability of the money.

Due to trade, certain coins spread extremely fast. In some respects, money can be considered as the most tangible appearance of human tolerance, the only human trust system which is capable of bridging cultural and religious distances, while not discriminating against anybody from the point of view of usability. Of course, money has a negative side, as well. On several occasions, morally troubling things which should not be subject to sale or purchase or not even to evaluation are measured in money.¹

The appearance and expansion of capitalism

The second larger part of the book deals with the evolvement and expansion of capitalism. capitalism is not only considered to be an economic system, but also as the ethical and philosophical trend of everyday life.

According to Harari, to understand the system of modern economy, one word should be kept in mind: growth. As long as people believe that the economic situation will be more favourable in the future, the system of modern economy works. The aforementioned belief in progress has proved to be a self-fulfilling prophesy over time. It works in the following way: if economic operators believe in a more favourable future, output and consumption will be higher, therefore there will be a point in lending. Once lending as a self-fulfilling prophecy starts, the source of

production is available, and when the things produced are sold, loans can be repaid from the money earned. If for some reasons there is no trust in a more favourable future economic situation and in growing production and consumption, lending does not make sense since surplus cannot be sold if output fails to increase, therefore loans cannot be paid back.

Throughout history up until the end of the 15th century, it was generally believed that individual well-being could only be improved to the detriment of others, the per capita value of productivity could not change, which means that no matter how we cut up the “pie”, all we can do is redistribute the pieces, but we cannot increase the size of it. The income of an economy can only be increased if it takes from others, or increases the number of its subjects or perhaps utilises new areas. However, all this does not lead to increasing efficiency, therefore the per capita income does not change. If the process described above is true, with a few exceptions, it is not worth lending, as borrowers will not have enough money to repay loans. Of course, a military conquest can serve as a collateral, but when a state acquires goods from the other, it only changes the distribution, but not the amount of the total income. This kind of approach was proven false with the development and interconnection of technology and sciences.

If productivity can be increased, the per capita income, that is the “pie” can grow, as well. Economic operators can become richer without detriment to others. Of course, this process took place gradually, by going through several beliefs which can be called smaller milestones. This cultural change provided the background for the evolvement of modern capitalism. Here are some examples for the beliefs which make investments, lending, and through them growth possible: democratic systems, legal certainty, joint stock companies, capitalist thinking.

As opposed to earlier periods, another important “improvement” was one of the main ideas of capitalism: on the one hand, economic operators mutually depend on each other, therefore the success of one economic operator is positively affected by the success of the other. On the other hand, instead of accumulating a fortune, profit should be turned into capital, which means that it should be reinvested. The two above-mentioned views became widespread, while a new philosophical approach was built on them.

To sum up: the basic idea that people will live better and better in the future, brought about the start of lending and the spread of the capitalist ideology, which led to the establishment of several institutions that had been unconceivable earlier. The “intertwining” of science, capitalism and politics was the pinnacle of the process. The capitalist system enables the financing of discoveries and research projects on a large scale, as a result, there will really be a larger amount of stock available in the future. The state as a regulator guarantees the security of investments, sets the “rules of the game”, supervises their observance or, if required, enforces them. At this point, cultural elements, such as the form of government and legal certainty, contribute more to the economic performance of the country than natural resources. The author also presents the downside of capitalism, arising from the unrestricted character of free markets. An example for this is the Atlantic slave trade, which did not evolve due to some kind of racist ideology, but as a consequence of cold calculation driven greediness.

The appearance and spread of robotisation

The last and final part focuses on the future instead of the past. The 21st century may

bring about significant changes owing to technological and scientific development. Several values of the liberal administrative and philosophical system prevailing in the 20th century may be threatened. Due to the modernisation of warfare and manufacturing, crowds of people will become redundant because they will be replaced by robots and machines. This may undermine the “alliance” of capitalism and liberalism as economy will rely much less on human resources. In the 20th century, the ideology of liberalism claimed that we do not have to choose between ethics and economy, as the protection of human rights and the spread of fundamental freedoms constitute such a great motivational force that is vital for economic growth.

However, in the 21st century, as consciousness and intelligence separated, the economic power attributed to people is threatened. Up until now, only individuals with a conscious mind were capable of performing more complex tasks, such as driving a car or making a medical diagnosis, etc. This has now changed. Which is more important: consciousness or intelligence? Until recently, this question could only be discussed from a philosophical point of view, but today, it is now an actual economic and political issue. For armies and companies, intelligence seems to be a necessary condition, while consciousness seems to be only optional. Jobs require a specific specialised task to be performed, and no other abilities and skills matter. For example, a taxi driver might be more “complex” than the software of a self-driving car, as the driver has a lot of other abilities and skills. At the same time, in the course of their work, taxi drivers need only a limited number of such abilities, in which the software is much better. In the future, some jobs will be automated or robotised, which might result in unprecedented unemployment and the development of an economically

“superfluous” social class. This assumption may be criticised as being unnecessarily exaggerated because, as the industrial revolution proved, the disappearance of previous professions does not mean the disappearance of jobs since jobs are only transformed and new tasks come into existence. This was true as long as people were not replaceable by machines due to the human cognitive abilities, and machines could only be used for facilitating physical work. However, nowadays, algorithms and artificial intelligence can also carry out cognitive tasks in a much better quality than human workers, in a split second. Artificial intelligence is still lagging behind humans if we consider all of the abilities. On the other hand, as far as modern jobs are concerned, such abilities are needed only to a limited extent, therefore humans cannot keep up with artificial intelligence. The specialisation of the individual work processes is another important thing that facilitates the spread of automation/robotisation. For example, it would be very difficult to replace a prehistoric hunter/gatherer with a robot. For such a machine would need to complete several very different tasks, which might be a challenge impossible to cope with. Today, professions are more specific, though take much longer to learn, than earlier. However, such specialised jobs are easier to automate. As people are made redundant in the labour market by algorithms and machines, power and wealth may be concentrated in the hands of a thin layer of elite. One of the big questions and challenges of the future is where will people work after the automation of most jobs? One of the common ideas is that dealing with arts will always be the task of people. However, a Californian professor proved it wrong by writing a computer programme that can also compose music on its own. This programme can not only imitate the style of composers, but it can compose its own pieces. So it can easily happen that people will not

simply become unemployed, but it will also be impossible to give them work. As we do not know what kind of jobs will be in demand in the long run, it will be very difficult to adjust education to future changes. It is more likely that the traditional life cycle, according to which the period of studying is followed by the period of work, will cease to exist. We must prepare for continuous change instead, where life-long learning and training will be needed.

Another important liberal idea is individualism that believes people to be not only valuable, but also to be able to decide what is good and bad for them. The problem with this is that in the future, masses will be needed instead of individuals. Every human may be viewed as an algorithm. In order to understand ourselves, we do not necessarily need to turn to philosophy or religion. If a huge amount of biometric data is collected about us, in the future an algorithm can be used to analyse them to an extent that it can tell us who we are and what we want, and also what we need to do to achieve it. We can also consult the algorithm before taking life-changing decisions on relationships, career building and changing our habits. Though in turn, people will have to give up being individuals who have the right to decide freely what kind of things are useful, beautiful and good for them. Instead, they will become part of a global network in which the narrative self will not have any role. Of course, in such an imaginary system, voting will not be necessary, as the algorithm will be able to represent individuals better than the individuals themselves. In the elections, the algorithm will not vote on the basis of actual mood, imagination or the narrative self, rather on the basis of real interest and feelings embodying biochemical data. As a result, the most important human resources of the 21st century will be personal data. In many cases,

we submit our personal data free of charge to tech companies, such as Facebook, while in return, we receive funny videos or an e-mail account.

These changes are not primarily brought about by programmers and “nerds”. Biologists play the most important role, as they were the one who have discovered that organic creatures are actually algorithms. This discovery removed the wall separating organic and inorganic creatures. However disquieting the processes discussed above may seem, millions of people are willing to lose their individuality and sacrifice their personal data by living a significant part of their lives online. In this situation, individuality seems to disappear not because of a strong external attack, but rather due to a much more dangerous slow internal degradation. Nowadays, many big companies offer customised services, breaking down individuality to a mass of biochemical data. As a result, nothing remains from individuality, but religious imagination.

The development of technology might further increase social inequalities. At a certain level, liberalism managed to solve the problem of inequality by raising the experiences of individuals to the same level of importance and assigning identical value to them. In the elections, the votes of rich and poor people have the same weight. However, in the future, there may be differences not only in terms of property, but also as far as biological characteristics. If that happens, will the liberal model still work? The great medical discoveries of the 20th century aimed to eradicate diseases. In this sense, they served the public good by identifying a healthy physical and psychological state that everyone should be entitled to and allowed to reach. At the same time, in the future, the focus may shift to the improvement of health, which is not an egalitarian, rather an elitist project. A good example for this is the development of

super memory and the acquisition of above-average intelligence. The shift of focus from the absolute towards the relative may become a very serious source of conflict, as due to its character, it does not aim to create equality. People are more sensitive to comparing themselves to people above them, which means that we tend to compare ourselves to those who are in a better situation. As since there will be not only financial, but also biological differences, the role of the subordinated becomes obvious. The development of societies will probably not need masses in military or economic sense, which may pose an extremely serious disadvantage for poorer social layers living mainly in developing countries.

There are theoretical and practical conclusions to be drawn in connection with Harari's book, with changes seen in economics added: as a consequence of the

2008 crisis, the thorough understanding and reconsideration of the fundamentals of finance became inevitable. For example, the appearance and spread of cryptocurrencies meant a new challenge for financial decision-makers and regulators. At the same time, this technical innovation is insignificant compared to the challenges of the technological revolution forecast by Harari. Based on historical experience, money and finances have contributed to political and economic stability, therefore they cannot and should not be torn out of social context.

In order to understand the historical experience related to and the social aspect of the problem, Harari's approach might be a good starting point.

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NOTE

- ¹ For detailed information on moral dilemmas related to finances and sale/purchase see: Michael J. Sandel (2012): *What Money Can't Buy: The Moral Limits of Markets*.