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THE CHANGING ROLE OF TIME AND SOCIAL REALITY

Differently from Philosophy and Natural Science, time has always been an important component in Social Research as human cognition tells us that the world is constantly changing in one temporal direction guided by the arrow of time. However, social time does not stand on its own. It connects to what is happening in the natural world as well as human individual psychological time. Classical conceptions of Kant and Husserl help to address the problem from its very foundation. It may well be that irreversibility is an objective natural phenomenon not just a subjective impression of living creatures. We must adopt an interdisciplinary view on time. The acceleration of speed in communication may have less significance for our lives than is normally expected, i.e. in the case of taking legal decisions. The only change we are currently experiencing in the context of application of Information Communication Technology in many spheres of social life may just be that many things happen more quickly. However, there is no essential difference. Human cognition is not becoming just spatial and atemporal.

Key words: arrow of time, irreversibility, legal decisions, objective time, social time, subjective time.

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Уақыттың өзгермелі рөлі және әлеуметтік дүние

Философия және жаратылыстану ғылымдарындағыдай емес, уақыт әрқашан әлеуметтік зерттеулердің маңызды құрамдас бөлігі болды, себебі адам танымы дәлелдегендей, дүние үнемі бір ғана уақыт бағытында өзгеріп отырады және оны уақыт сызығы басқарады. Алайда әлеуметтік уақыт та өзгеріп отырады. Ол табиғат дүниесінде болып жатқан өзгерістермен, сонымен қатар, адамның жеке психологиялық уақытымен байланысты. Кант пен Гуссерльдің классикалық ұстанымдары осы мәселені оның түпкі негізінен бастап шешуге көмектеседі. Қайта оралмастық тірі мақұлықтар тудырған әсер ғана емес, объективті табиғи құбылыс болуы әбден мүмкін. Біз уақытты пәнаралық тұрғыдан қарастыруымыз қажет. Араласу жылдамдығы біздің өмірімізде әдетте күткендегіден азырақ маңызды болуы мүмкін, мысалы, заңға қатысты шешімдер қабылдаған кезде. Қазіргі қоғам өмірінің көптеген саласында ақпараттық-коммуникативтік технологияларды қолдану аясында біз кездесіп отырған жалғыз өзгеріс – көптеген нәрселердің жылдамырақ өтіп жатқанында ғана болуы мүмкін. Алайда айтарлықтай маңызды айырмашылық жоқ. Адам танымы өзгерді, оны жай ғана кеңістіктік және уақыттан тыс деп қарастыруға болмайды.

Түйін сөздер: уақыт сызығы, қайта оралмастық, заңға қатысты шешімдер, объективті уақыт, әлеуметтік уақыт, субъективті уақыт.

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Меняющаяся роль времени и социальная реальность

В отличие от философии и естественных наук, время всегда было важным компонентом социальных исследований, поскольку человеческое познание подтверждает, что мир постоянно меняется в одном временном направлении, управляемом стрелой времени. Однако социальное время тоже меняется. Оно связано с тем, что происходит в природном мире, а также с индивидуальным психологическим временем человека. Классические концепции Канта и Гуссерля помогают решить данную проблему с самого ее основания. Вполне возможно, что необратимость – это объективное природное явление, а не просто субъективное впечатление от живых существ. Мы должны принять междисциплинарный взгляд на время. Ускорение скорости в общении может иметь меньшее значение для нашей жизни, чем обычно ожидается, например, в случае принятия

юридических решений. Единственное изменение, которое мы сейчас переживаем в контексте применения информационно-коммуникационных технологий во многих сферах общественной жизни, может заключаться лишь в том, что многое происходит быстрее. Однако существенной разницы нет, человеческое познание становится не просто пространственным и вневременным.

Ключевые слова: стрела времени, необратимость, правовые решения, объективное время, социальное время, субъективное время.

Introduction

Today, in the age of globalisation, it is often believed that time does not have that much meaning in human life any longer as before. Everything, including for instance taking legal decisions, is becoming more fast. Application of superfast computers often leaves us with the impression that many events don't require any time at all to happen any longer. These processes definitely influence social reality to a great deal. However, considering human psychology, there is no full escape from temporality. Thus, the meaning of time in any kind of social life is obviously changing but still not disappearing. I shall take a closer look at this phenomenon below.

Somewhat surprisingly, the great Ancient thinkers did not pay too much attention to time as a philosophical problem. Just on the very large scale of world cycles time appeared in the thinking of Heraclitus for instance. As we know, his belief was that the world is going through cycles that repeat themselves. A determinist world view on a large scale.

Still, we have Aristotle's definition of 'now' as a point of time that has no extension and that has a before and after (Aristotle, 1987). As I shall show below, the meaning of 'now' may play a significant role in making sense of instant legal decisions taking with the help of digital technology.

Time has been in the focus of philosophical discourse since St. Augustine's famous considerations trying to establish the nature of time, rather than since the Ancient thinkers. Is time a flow, a duration, a sequence of separate events or just a concept. What does it mean that sometimes we don't have enough time? What is this that we don't have when we are in a hurry? What is it that we sometimes have enough or plenty of it?

It is important to note that St. Augustine had both objective and subjective accounts of time. Objectively, time was the creation of God. There was no time before the act of creation took place. However, St. Augustine also has a subjective or psychological account of time. It is a phenomenon of human consciousness to him. Otherwise, what would be the point of asking all those questions above about the nature and essence of time? Memory occupies

the central position in the psychological treatment of time for St. Augustine. Augustine writes: "And in my memory too I meet myself – I recall myself, what I have done, when and where and in what state of mind I was when I did it [...] I can meditate as if they were present" (Augustine, 2006: 196). The past is an image in the memory, the present and the future will become such an image (Morrison, 1971: 602). The present cannot last forever because in that case we would not have the present but eternity (Augustine, 2006: 242-243). The past and future are in the mind. The past and future have a being until the past is remembered and the future is anticipated (Hernandez, 2016: 39). By all evidence, St. Augustine is under the influence of Aristotle's definition of 'now' while presenting his subjective account of time.

Today, we need not be limited in our thinking by the meditations of an old philosophical school but we can hardly contest the validity and significance of the Augustinian account of time. Most importantly, St. Augustine raised the issue of the relationship between the objective and subjective accounts of time that has not been conclusively resolved up to this day. Thus, the early Christian thinker managed to initiate a very important thread in philosophical thought that has not just theoretical value but a practical outcome as well. I shall address this issue below in the context of both natural and social science.

Time in Natural Science

Natural scientists have rather kept time away from their realm since the very beginning, the sketching of the method of modern science by Galileo. We know that from the perspective of human sense perception time is an irreversible flow. One of the most basic requirements in the methodology of exact natural science, however, is reproducibility of the experiments. Thus, there is no irreversibility, i.e. no irreversibility in classical or nonclassical science (quantum mechanics and relativity theories). The arrow of time is not an objective phenomenon from the point of view of the method of classical natural science. The latter was supposed to remain objective and value free. Everything subjective had

to stay outside of science by definition. Galileo achieved this quite successfully earning even the title of a criminal from Lewis Mumford in the 20th century (Mumford, 1970: 57). The crime of Galileo, according to Mumford, was exactly pushing everything subjective, everything that is close to individual human existence out of science. The irreversible flow of time is the very basis of individual human cognition. Therefore, definitely something very close and important to the everyday life, emotions and feelings of humans.

Ludwig Boltzmann developed interesting ideas of irreversible processes in nature in the 19th century (Sharp, Matschinsky, 2015). However, he abandoned them after long considerations and under pressure of heavy criticism from colleagues thinking that he had made a mistake somewhere in the interpretations of his research results. As a result of this unfortunate episode in the history of science that, by all evidence also contributed to Boltzmann's suicide, time and irreversibility stayed out of physics and chemistry until the second half of the 20th century. Fundamental changes occurred only while doing research in the context of thermodynamics (the law of entropy), Ilya Prigogine worked out the methodology of self-organisation and dissipative structures (see Prigogine, Nicolis, 1977, Prigogine, 1980, Prigogine, Stengers, 1984, Nicolis, Prigogine, 1989, Prigogine, Stengers, 1997, Prigogine, 2003). In Prigogine's approach to science and to the world, irreversibility obtains an objective character not in the divine (Augustinian) sense but as an inherent character of natural material processes. Unfortunately, this observation has not been fully recognized by natural scientists up to this day, because some of them still adhere to the idea of the God's eye point of view in the classical meaning of the term. Leo Näpinen and Peeter Mürsepp have explained the issue of objectivity of irreversibility in nature in quite in detail in their research. They write: „Many scientists still believe that some events are evolving in one direction only because the evolution in the opposite direction would have a very small probability but still possible. The conviction of Ilya Prigogine is different: only because some states are strictly forbidden and they cannot be discovered in nature and artificially prepared, to the states which are allowed, the probabilistic character can be ascribed“ (see Näpinen, Mürsepp, 2002). Prigogine's research shows that time symmetry (equality between past and future) does not really exist in nature. Time flows uniformly in one direction, towards the future, away from the past. This is an objective fact, not a subjective feeling of living creatures.

Prigogine's results achieved in the context of research in chemistry and physics have invaluable general repercussions. It became clear that we need not make a strict difference between natural and social science. Although subject to laws, natural science is a science of events as well. However, some difference between studying nature and human beings, creatures possessing free will, still remains.

Jan-Kyrre Berg Olsen presents very interesting observations on the objectivity of time in his dissertation written in 2002. According to Olsen, objectivity of time has two different meanings that have to be distinguished from each other. First, objectivity can be understood as the representation of something real. Second, objectivity can be a representation of what is an abstract idealization of non-empirical elements. Thus, the second type of objectivity rests on the exclusion of subjectivity (Olsen, 2002: 275). Olsen goes on to argue that we are getting two perspectives on the nature of time. We have sciences that operate with the concept of objective time and we have 'the thing in itself', the reality of time (Olsen, 2002: 275). In a way, the contemporary philosophical analysis of time comes to the same conclusion that there is both objective and subjective time as St. Augustine's considerations did. Just God has been replaced by Nature.

At the same time, the whole methodology of natural science is undergoing a fundamental change. In the new circumstances, we have to drop the requirement for the reproducibility of the experiments. The role of the scientific experiment is changing (Mürsepp, 2013). There is just the 'now', i.e. just the ongoing experiment is real. The researcher cannot get back to the previous one as well as cannot reach for possible future ones.

This kind of methodological change is most visible in the case of chemistry (see Mürsepp, 2016). Strictly speaking, everything is unique and does not repeat itself. This is what we can observe in the process of producing new chemical stuff. Of course, some general patterns concerning some processes are still detectable, like turbulences in water look similar. However, the world is objectively irreversible. We are guided by the arrow of time. There is perhaps even more than one but they have to 'work in cooperation' (see Hawking, 1988). First, there is the thermodynamic arrow of time. This is the fundamental guarantor of irreversibility in nature. Then there is the psychological arrow of time. As we know already, this is the subjective feeling every one of us has that time flows just in one direction. We cannot have yesterday's breakfast again tomorrow morning. However,

we can also observe that the two first arrows of Hawking nicely complement each other. According to Hawking, there is still the cosmological arrow of time. It represents the expanding nature of the Universe and therefore works in conjunction with the thermodynamic arrow. The cosmological arrow is Hawking's contribution to the whole picture. It creates the foundation for humans for being able to observe the thermodynamic and psychological arrows at all.

Obviously, the observed changes in the methodology of science also affect the ways we obtain scientific knowledge and how we can differentiate it from non-scientific one (see Mürsepp, 2011). However, this is not the topic for the current analysis.

Time in Social Science

The role of time has been quite different in social research. Here the factor of time could never possibly be neglected. Irreversibility of the flow of social time has always been accounted for. In natural science, the researcher has to figure out what is objectively there in reality. Constructivists have a different viewpoint here but I cannot possibly address the realism vs constructivism debate in this analysis.

Humans cannot change the laws of nature, although they can have quite different perspective on them, if we consider the constructivist approach for instance. More than that, one can even legitimately claim that the laws of physics lie (Cartwright, 1983).

Obviously, it is a different situation when we study society. Here, the very aim of research often is how to make society a better functioning system. Such an aim obviously presumes the capacity of humans to change the state of affairs concerning social issues. For instance, despite our position concerning the approach to natural law (in the legal sense) by the great thinkers in history, it is in our capacity to change the legal order of society. This is a wonderful window of opportunity but at the same time burdens humans with a heavy load of responsibility as well.

From the perspective of the problem of time, the foundation of the treatment of time in society lies on the conception of social time. There is a large number of studies of social time available. It is not possible to give an exhaustive overview of the topic in the frames of this article. There is a classic paper by Pitirim Sorokin and Robert Merton where the fundamental understanding of social time has been spelled out (Sorokin, Merton, 1937). Sorokin and

Merton emphasize that social time is not continuous but can be interrupted by critical dates. However, even the most critical dates cannot turn time back. It would be better to say that the critical dates slow the flow of time down. Thus, we can claim that a typical feature of social time compared to physical time is its periodicity. Sorokin and Merton explain: "The search for social periodicities based upon the unquestioned adoption of astronomical criterions of time may have been largely unsuccessful precisely because social phenomena involved 'symbolic' rather than 'empirical' equalities and inequalities; social processes which at present seem to lack periodicities in terms of astronomical measures may be found to be quite periodic in character in terms of social time" (Sorokin, 1937: 626). Nevertheless, the periodicity of social time does not stop its flow not to speak about turning back.

As a good more recent insight into the structure and meaning of social time, see for instance (Lewis, Weigert, 1981). Lewis and Weigert build their approach on the paper by Sorokin and Merton calling the work of the latter a groundbreaking article (Merton, 1981: 432). Lewis and Weigert themselves concentrate on the levels of social structure. They claim that each of these levels has its own forms of social time: at the individual, "self-time"; at the group level, "interaction time and "institutional time"; at the societal-cultural level, "cyclic time" (the day, week and seasons) (Lewis, 1981: 434).

For the purpose of the current analysis, however, social time is a supporting basis rather than an object of the analysis itself. As a brief general overview, the reader could also consider looking into the conference paper by Aleksandr V. Maslikhin (1998).

In legal issues that form the very basic framework for society, time plays at least a twofold role. There are both reversibility and irreversibility present in a way. Social time flows irreversibly and cannot be stopped or turned back of course. However, legal decisions can be reversed and laws cancelled. Still, all that is done in the environment guided by the irreversible arrow of time and therefore, the preceding situation cannot be fully restored ever. Passing the 'now' has turned the future into the past that is not accessible any longer. In the end, irreversibility still prevails.

There is even a third dimension here. The time needed for taking decisions and implementing them. It has been considerable so far. Currently, the situation is changing. As the result of applying digital technology in the process of taking legal decisions for instance, the latter dimension is close to becoming obsolete. Decisions can be taken

instantly, without any delay, at least seemingly so. Still, some time will be needed for enforcing the new regulations, as actors in social reality, the human beings, cannot adjust their minds instantly. Digital technology cannot free humans fully from time dependence until humans remain biological creatures. More than that, even the issue of taking the decisions may not be as straight forward as it seems. Information technology is a human creation. Therefore, it was created in the context of typical human limitations of time perception. For a deeper insight, we have to remind ourselves about Immanuel Kant's considerations of space and time as the *a priori* forms of human cognition.

Kant and Husserl – Connection Made

Apriorism of time and space is the foundation of Kant's critical philosophy (Kant, 2004), the core of his Copernican revolution. As we know, according to Kant humans cannot perceive anything that is not organised spatially and temporally. Therefore, ontologically speaking, we cannot get rid of temporality ever because it is embedded in our consciousness by birth. We would not be human beings and perhaps even living creatures without such an organisation of our cognitive capacities. An obvious conclusion from this would be that we are bound to temporality whatever we do. This does not necessarily mean, however, that we cannot cut much shorter the temporal intervals that we need for implementing relevant procedures.

Kant has an interesting notion of psychological time. It may seem that the notion is based on the dualism of the body and mind and divides the physical world from the mental one. However, this is not necessarily the case. The roots of the psychological time are in physical reality. Actually, the existence of physical reality introduces time. Mind would be timeless without the body. This is the reason why Kant does not believe that psychology can ever be an experimental science.

There is another interesting notion, that of ontological time. The term 'ontology' seemingly steers us away from the social and mental spheres. However, as it was just mentioned, we cannot have the mental, not to speak about the social, world without the physical one. We humans deal with everything, from science to everyday issues, inside the physical framework. From the philosophical perspective, we are both ontological and phenomenological beings. We live in the Lifeworld (*Lebenswelt*) (Carr, Husserl, 1989). The Husserlian term as well as his whole approach is very much

in place here. Still, it may be that the Husserlian method is not sufficient. It is believed to deal with consciousness but leave nature aside (Sanguineti, 1998: 4). However, Husserl himself attempted to put the two together. To deal with the human Lifeworld in its entirety. For Husserl, the primary meaning of the Lifeworld is 'the world of everyday experience' or the 'pregiven' surrounding world (Moran, 2011). Consciousness is prevailing in the *Lebenswelt* but nature is not absent. The world has to be out there to provide the 'material' for experience. Lifeworld would not even exist without nature. However, Lifeworld is not the idealised world of natural sciences. It is free from the objective treatment of space and time as measurable endless quantities but rather includes a limit.

As creatures living the Lifeworld that is not a stationary construction, we are bound to temporality in both our actions and our perception.

Conclusions – Where are we Today?

In the reality of human life, we have limits in two directions. We don't live eternally. Therefore, our experience cannot be extended into infinity. The same applies the extension towards the minimum. Human cognitive capacity does not enable us to perceive the duration of very small intervals. They become instantaneous. Therefore, the effect of cutting time intervals shorter has a psychological limit.

In addition to the conceptual part, time is normally considered a flow, a duration. However, there is a hidden question here, what is the basis of this duration. How can one claim that there is a duration as such at all and a duration of what it is? The answer to this query can be found while pondering, what is the meaning of the utterance: I don't have enough time. The phrase would be meaningless without specifying, I don't have enough time for what? I must have an activity in mind that normally requires an amount of time that can be estimated. An activity, however, means changing the world. Change is hidden in the concept of duration. There cannot be duration without any change occurring. The opposite is true as well. No change occurs instantly in this world. Immanuel Kant was right about this. Human perception is spatio-temporal. There is no way of getting rid of this, unless Kant was completely wrong. Another option is that our world is seemingly spatio-temporal but this is not its real nature. However, here we have a typical rescue in philosophy, applied by Gottlob Frege and many other thinkers. If the essence of the real reality and

of the seeming reality cause no difference to our actions and even into our general understanding of the world then why consider the seeming side at all? If the moon and my imagination of the moon don't differ, why consider my imagination at all.

The considerations above have a direct meaning to the procedure of taking legal decisions. The procedure can be cut much shorter with the help of digital technology. However, temporality does not disappear completely until human agents continue participating in the process. As this will be the case perhaps forever, there is still *Lebenswelt*. Human beings involved in the process need the spatio-temporal environment for retaining their capacity of perception and activity. There is a good question now, whether the growing speed of taking legal decisions changes anything else at all except for just speeding up the decision making. However, if just the latter will be the case, it still changes the scene and quite significantly so. Let's take a closer look.

The speed of social change is growing rapidly these days, in the era of globalisation. All walks of social life need to react to this speeding up, legislature included. It has always been the case that from time to time some laws are becoming obsolete. Today, there are obvious signs showing that this is happening more and more frequently. This puts at risk the ability of the legal system to respond efficiently to the expectations of the population. There is a real social conflict hidden here. Since the days of Heraclitus the legal basis of society has been the guarantee of stability. There is the famous fragment by the early thinker from Ephesus saying that one must protect the laws of a city as fiercely as the city walls. This does not mean that the laws have to be the same forever but building up the legal system cannot be any quicker than building

the walls. However, these days this comparison can still hold and not necessarily slow down any developments at the same time. It does not take a long time to build a wall any longer if a big hospital can be built in two weeks. Establishing a new legal act in any democratic society, however, can hardly be done in two weeks. So the dictum of Heraclitus still holds.

Taking legal decisions does not necessarily mean introducing new legal acts of course. Deciding about the legal correctness of minor incidents should be possible to speed up without major fundamental changes in the whole system. Still, by all evidence, at some point there will be a conflict between the inert legislature and vibrant decision taking. The former will prevent the latter from becoming more efficient.

The situation that was just described brings about another issue in the context of applying new technology in legal issues. Social change appears to be so quick that law making has to obtain a predictive measure. It is not enough to have law fulfilling the retrospectively regulating role in society, the basis for punishment. Law has to be predictive. This is perhaps the main challenge we have in the context of applying the newest technology in law and decision taking.

There has always been and will always be political pressure for quick updating of legislation. In the new digital social reality, it is easier to deal with this pressure than ever before. However, an eye has to be kept on constitutional guarantees. They should never be overlooked.

Acknowledgement

This work was supported by the Estonian Research Council grant PRG462.

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