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TECHNOLOGICAL PLOTS OF GLOBAL DEVELOPMENT AS THE FOCUS OF LEGAL DOCTRINE

Currently, the legal science is becoming more and more susceptible to achievements of other fields of scientific knowledge, both natural and humanitarian.² Legal experts more and more often use notions and categories, results of research and methodological tools from other sciences (philosophy, sociology, psychology, physics, chemistry, etc.) in the process of doctrinal learning of phenomena and processes functioning and going on in the state and legal field. This allows to enrich methodology of legal research, expand its theoretical and empirical bases, see the studied subjects from different perspectives, and as a result get new data on the governing laws of their development and multiply doc-

trinal knowledge. Besides, this approach, overcoming strict borders of sector isolation and disintegration, gives an opportunity to develop new, inter-disciplinary areas in science.

One can comprehend legal phenomena in the today's world from different positions. An interesting picture is revealed when literary categories are used as tools (together with such well-known categories as "essence" and "phenomenon", "content" and "form", "matter", "space", "time") – "*plot*" and "*storyline*" (at the same time, they acquire a methodological meaning, i.e. they are used as a cognizing tool). In this case the course of events (*plot*), related to the stated by philosophers change of technological patterns of the society's life and humanity's transfer to a new type of civilization development, is viewed in the context of the main conflict (*storyline*) having social and humanitarian content that develops in the course of these events. This perspective again makes review of law urgent as well as its role and capabilities as the main means for resolving social conflicts and contradictions, overcoming them or reducing their acuteness.

Modern science explains the processes of world development, governed by the *poly-causality* (many-causes) principle. Due to that a number of factors are singled out having an impact on it and/or determining it, with civilization crises (environmental, anthropological, etc.), globalization and deglobalization processes, technological progress among them. The combination of factors is not static, the role and meaning of this or that factor changes with time.

Results of fundamental research give grounds for the conclusion that technological innovations having the decisive impact on the society, the main spheres of its life become the leading factor of societal and global development. They are rapidly expanded within a wide range (information and communication, nano, bio and cognitive technologies), and global societal transformations, responsible for the vector and trends in human civilization's evolution, determine intensive distribution.

New technologies change fields and method of production (and not only in case of food, material benefits but humans themselves as well), distribution, consumption, social communications and management, they expand the composition of social and legal interaction subjects, and as a consequence lead to:

- deformation of universal values and meanings of life (human, nature, activity, traditions and innovations, personality, rationality, power);
- change of social structure (online communities come to replace classes, social strata), "blurring" traditional institutions of the society (e.g. family);
- weakening social relations, "atomization" of individuals;
- dominance of relations connected with human capital formation in social life;
- transfer (that has already started but is not completed yet³) to new technological and economic patterns in the life of the society, new "socioeconomic formation".

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² Thus, ideas of philosophers on types of scientific rationality and scientific world picture, role of culture in human civilization's, state's and law's development, complex man-sized systems and governing laws of their development, the main contradictions of the modern age and change of values, new vectors, possible scenarios of civilization development, understanding of humans (with discovered opportunities to bring humans up to the machine level, and machines to the human level as a background), etc. found their way to the methodology of the legal science. Conclusions by economists, sociologists and psychologists on specific features of the today's society (post-industrial, digital, programmed), change of its structure (origination of social networks, new social strata, establishments of new and correction of established relations between social communities and their members), special features of will formation in it (distinguishing characteristics of modern man's thinking, individual and public consciousness, impact of modern information and communication technologies on worldview formation, mechanisms of individual and "common" will formation, mediation in the processes of will formation and declaration of intent in cyberspace), role of personal substance in law formation (changing in personality understanding, new individuals – nonhuman beings, various potential and actual capabilities of people, their associations and computer programs for participation in this process) turned out to be in high demand and sought-after. Fundamental notions from cultural studies, physics and even chemistry (complex self-regulating systems, phase change, algorithm, computer or program code, tradition) are more and more often seen in the categorical matrix of jurisprudence as operational notions.

³ Transient state is characterized by 1) simultaneous presence of two technological and economic patterns – the one people are accustomed to, estab-

Thus, the technological plot of global development in the most general terms is human civilization and the society (as complex self-developing systems) as a result of technological breakthrough transferring to the qualitative changes stage – “phase change”¹, “civilization shift” (named macroshift by Ervin László²), which will be followed by establishment of a new type of society (socioeconomic formation) and civilization development vector.

Its special feature is that “exposition” and “introduction” (as elements of the plot) are already known and more or less understandable but scenarios for “development of the action”, its “climax” and especially “outcome” and “postposition” are not clear. They are very variable, not determined precisely and not predefined.

The contours of the new (future) society, its economic basis, social structure (notwithstanding numerous futurological forecasts) are not visible yet (even Institutes of the Russian Academy of Sciences still refrain from at least somewhat precise forecasts³). There are various suppositions, according to some of which “digital economy” will be the economic basis of the new society, and the society itself will acquire features of the one “programmed”. Besides, considerable changes are expected in its structure, social regulations, system of values, etc.⁴ However, it’s still difficult to judge their authenticity or believability. They are just probabilities as they should be. Only the time being a “prerequisite for the plot development” will allow to verify them.

The reasons of the present uncertainty are as following:

- first, the phase change consists of three stages – more or less clear outlines of the qualitatively new condition of the system can be only fixed at the third (last) stage, when the dominating scenario is already singled out of all competing scenarios, development of the system (society in our case) is already subjected to it and the point of no return has already been passed.⁵ Currently, according to assessments by scholars, the human society is at the first stage of phase change, when competing scenarios for further civilization and societal development are only starting to be formed. Because of that any forecasts are only fairly probable, variable and difficult to verify now;

- second, it’s difficult to forecast further augmentation and “behaviour” of certain technologies, their vector, scales as well as consequences for humans and the society. There is little authentic and sufficient information about that, and it is accessible to the initiated – a limited circle of experts who are not in a hurry to reveal it;

- third, contemporary forecasts are mostly based on the extrapolation method. Phase change is the point (if we use terms of other modern concepts, this is the technological

singularity⁶ point), beyond which extrapolation becomes absolutely senseless, as previously established trends, mechanisms, governing laws and programs are already not reproduced in the qualitatively new system’s state, and the system develops according to the new logic. This issue also complicates scientific prevision of the scenario for the future society development.

At the same time, establishment of constructivist ideas in science, postulating that the future is not so much theoretically forecasted as created practically step by step, directs to managing the going on processes, creation of new tools and adaptation of traditional tools to the changed environment. One of them is law, a feature of which is out-running reflection of the reality and construction of the social reality. Legal experts (and not only them) put their big hopes exactly on it, related to further adjustment and control over societal transformations, socioeconomic and technological progress that are going on.

Convergence of innovations forming the so-called big four “convergent” technologies, for which the NBIC abbreviation is used (nano, bio, information and communication, cognitive technologies) is a modern trend of technological development.

Convergence of technological innovations supposes that atoms, chains, DNA code, neurons and bytes will become interchangeable.⁷ This gives foundations to forecast that the omnipresent reality of nature and culture hybrids, quasi-objects, “borderline” objects or “subject-objects” that overstep barriers between culture and nature, actor and material⁸ will become products of technological practices and their convergence. Such kind of convergence (convergence at a “nanolevel”) gradually acquires features of the universal governing law of being and not only human but also complex man-sized systems, law in particular.

Philosophers connect prospects of the following creations with convergent technologies development: 1) technoworlds, intelligent and self-developing, in which anthropogenic sphere in transhumanistic scope can be absorbed by them; 2) neuroworld providing withdrawal from contact with material reality into cyberworlds, threatening with dissociation of human subjectivity in cyberclones and avatars networks, with whom humans can cooperate, compete or be completely diluted in them. NBIC-technologies are intermediaries and the foundation of these two worlds and existing reality.⁹

⁶ The term of “singularity” was borrowed from mathematicians and astrophysicists who use it for description of black holes in space and in some Universe origination theories. The term of “singularity” was for the first time used with this meaning in the middle of the 20th century by John von Neumann (see: *Neumann J. von. Mathematical Foundations of Quantum Mechanics*. Princeton : Princeton Univ. Press, 1955). He used it as understood by mathematics and astrophysics – i.e. as the point beyond which extrapolation gives senseless results. Vernor Vinge, who is usually ascribed the authorship of this term, wrote about that (see: Vernor Vinge V. *The Coming Technological Singularity*, 1993). Raymond Kurzweil actively tried to find scientific foundations for singularity’s coming (*Kurzweil R. The Singularity is Near*. N. Y. : Viking Books, 2005). See also: *Panov A. D. Technical Singularity, Penrose Theorem on Artificial Intelligence and Quantum Nature of Consciousness // Metaphysics*, 2013. No 3 (9). P. 141–188.

⁷ *Bouchard R. BioSytemic Synthesis // Science and Technology Foresight Pilot Project, STFPP Research Report*. Ottawa, 2003. June. No 4.

⁸ *Davis E. TechGnosis: Myth, Magic and Mysticism in the Age of Information*. Yekaterinburg : Ultra. Culture, 2008.

⁹ V. I. Arshinov and V. G. Budanov also tell about the necessity of the third, eternal project, named “Return to Eden” by them. It is the basis of Christian (and not only), humanistic worldview. Here humans transform not nature and matter but themselves via spiritual cultural practices, going up to a whole, perfect individual, joining with Noosphere (See: *Arshinov V. I.,*

lished long ago, and the new one, being born under the impact of rapid development and penetration into all sectors of the society’s life, first of all, new information, communication and digital technologies; 2) gradual change of balance between them in the direction of the latter, intensified trend for replacement of one with the other.

¹ See: *Styopin V. S. Civilization and Culture*. St. Petersburg : SPbUHSS, 2011.

² *László E. Macroshift*. Moscow: Tídex Co, 2004. P. 16–21. Macroshift in Ervin László’s terms in bifurcation in the dynamics of the society’s, human civilization’s evolution in its quasi-wholeness.

³ See: *Promising Projects of the 21st Century: Constructing Contemporary Social Reality* / ed. G. V. Osipov. Vol. 1. Moscow : Veche, 2018.

⁴ See: *Khabrieva T. Ya. Justice in Sociohumanitarian Discourse of Global Societal Transformations // Economic Justice in the Far East*. 2018. No 2 (11). P. 17–23.

⁵ See: *Styopin V. S. Op. cit.*

These statements, conclusions and forecasts are principally important for the legal doctrine as they point to real and potential changes of the general scientific world landscape, which will entail change of worldviews formed by various sectors of scientific knowledge, including the legal science.

The legal doctrine perceives the factor of convergent technologies differentially. As a result of that, there is a “pattern” formed in jurisprudence according to which law meets (should meet) challenges of each kind of technologies development separately.¹ Currently, the digitalization (digital technologies) issue “leads” in juridical discourse, and not rare prevail over other aspects of changing the technological pattern of the society’s life, leaving legal problems of bio, nano and cognitive technologies development in the background (but not without attention).

Due to that, there are many technological plots found in the focus of the legal doctrine: digitalization; artificial improvement of humans; technologies for manipulation with public consciousness, etc. Respectively, a lot of various contradictions were found out, both seen in separate plotlines and typical for a whole group of plots.

Thus, contradictions were found out between the following in the process of doctrinal studies of digitalization:

- requirement for legal mediation in social relations, established in the course of digital technologies distribution and use, on the one hand, and their legal regulation, on the other hand;

- strategies for strict, comprehensive state regulation of respective relations and practical requirement for flexible regulators;

- target and object of regulation, on the one hand, and applied legal means and tools, on the other hand; etc.

Many plotlines combined into one in the modern environment due to development of convergent technologies, and a more large-scale contradiction develops within the framework of this one plotline, proceeding from the fact that technological innovations are deprived of social and humanitarian content to a large extent. This contradiction is in essence reduced to strictly technical and scientific aspect. It is extremely important to keep this issue in mind to understand the “storyline” and special features of that qualitatively new situation in which humanity, society and its systems found themselves.

This issue orientates to integral perception of technological plots, narrowed down in this case to convergent technologies development. Reality metamorphoses taking place actualize and aggravate philosophical problems of law, serve as a prerequisite for reinterpretation of its essence, role and meaning in the life of the modern society, bring about some questions, first of all referred to consequences of technological progress for humans, legal reality and le-

gal being of law. Some scholars even speak about new law being born – “law of the second modernity”.²

In this connection, it’s urgent to raise the following questions:

- 1) what are law’s capabilities today for adjustment and regulation of new technologies’ development processes and brought about by them societal transformations?

- 2) will law preserve its role in public life and to what extent will it mediate social relations in the new model of the society’s arrangement?

- 3) what will happen to the idea of law, its content and form in future when the latest technologies become a common attribute of human life?

- 4) what strategies and tactics suit best for adaptation of law to the new environment?

In our opinion, the authority of law, its role and importance are still great, notwithstanding the above-mentioned negative phenomena. It can be stated that there is no alternative for law as a universal social regulator. It is not seen in the far-off perspective either. Convergent technologies work for strengthening the idea of law. They are the factor, objectively and many times enhancing the role and importance of law in the life of every individual and the society, enhancing their authority. Law is the social regulator that allows to protect individuals not only from physical violence and illegal state enforcement, but also technological violence, uniting effects of convergent technologies’ action.³

In essence, law acquires a new mission – preservation of humans as biological species and provision of peaceful co-existence, harmonious communication of people and “subjects-objects” (hybrids) created and socialized as a result of application of convergent technologies (genetically modified individuals, robots-agents, digital beings, etc.). Other social regulators (morals, religion) are hardly able to solve this task as robots, digital beings, no matter how they were programmed and what information they are equipped with, are incapable to think in the system of human values, generate them and use as an orientation point, measure and scales of behaviour. Experts say that even artificial intelligence is unable to do that.⁴

Thus, a question arises as to choice of strategy for legal mediation of establishing relations.

Reacting to changes taking place, states intensify legal regulation of dynamically developing social relations, associated with multiplying and use of new technologies. New solutions and social regulation models are researched simultaneously, providing for increase of the role of extralegal regulators, construction of original mechanisms of their interaction with law, strengthening ties of legal norms and culture of a certain society.

And this problem has already gone beyond strictly philosophical, legal and theoretical issues. The process of a new social regulation model’s formation is fixed by empirical research. Correlation of law, morals and religion is changed in this model, “transborder” mode of their action on the “con-

Budanov V. G. The Paradigm of Complexity and Sociohumanitarian Projections of Convergent Technologies // *Philosophical Issues*. 2016. No 1. P. 59–70).

¹ At the same time, the legal science still does not see any principal difference between the processes of law interaction with NBIC-technologies and other technological innovations, for example, such as constitutional transformation technologies (with disturbing impact on law, playing significant role in the society’s organization but not entailing changes in the human evolution vector and human civilization). The author paid attention to this issue in her speeches and published papers calling to refuse from one-sided approach to studies of the technological factor’s impact on law (see in detail: *Khabrieva T. Ya.* Law Challenged by Digital Reality // *Russian Law Journal*. 2018. No 9. P. 5–16).

² *Zorkin V. D.* Law in the Digital World. Thoughts on the Sidelines of the St. Petersburg International Legal Forum. URL: <https://rg.ru/2018/05/29/zorkin-zadacha-gosudarstva-priznavat-i-zashchishchat-cifrovye-pravagrazhdan.html>.

³ See: *Khabrieva T. Ya.* Projections of Convergent Technologies in Law Development // *Transformation of Law Paradigm in Humanity’s Civilization Development: Reports by Members of the RAS* / ed. A. N. Savenkov. Moscow : Institute of State and Law of the RAS, 2019. P. 145.

⁴ *Ibid.*

tact line” is transformed, mutual penetration in each other’s subjects deepens. This process is accompanied by “moralization of law”, establishment of a new regulator – the so-called legal ethics, spreading of which was initiated by international legal acts.¹

Philosophical comprehension of this phenomenon in the context of law ontology leads to the conclusion that the law moralization process is a special form of expanding borders of the legal regulation sector, imitating expansion of morals into law that provides its intrusion into private life of people and social relations beyond the limits of legal space² (this can be demonstrated with today’s strategies for opposing corruption as an example).

Analyzing this practice, experts state that the object of regulation and applied to it legal means and tools are often incompatible and the state uses old approaches and patterns for adjustment of principally new relations, and they are ill-suited for that.

Philosophers name “breach of mentality” of not only generations but also various social communities as one of the important reasons of such a state of affairs, pointing to the fact that legislators because of the “mind format” are not always capable to understand the logic and mechanisms of creation and functioning processes in case of digital technologies, plunging social relations into digital matrix, legal behaviour of people integrated into the new reality. Respectively, it’s difficult in their opinion to expect adequate and effective legal solutions.

The state should demonstrate flexibility in this environment, combining adjustment of the already existing legal institutions, correction of their function with development and testing of principally new legal models and tools.³ Flexible strategy predetermines some tactical decisions. It can be forecasted that in the near future the importance of causal regulation will increase, regulatory act creation and mechanism of court decisions implementation into legislation will be especially in demand.⁴

Basic ideas and values providing evolution of law are reviewed in the process of reality metamorphoses comprehension. Due to that legal experts commensurate ideas of individualism and collectivism in the context of issues of providing social justice and legal identity, think about models of their synthesis, construct optimal models for legal regulation, capable to provide accord in the society.⁵

At the same time, civilization transformations bring about struggle and coordination of the ideas of humanism and transhumanism to the foreground. Probably, growth points of new legal values should be looked for exactly here. Until they are found, understanding of law as the universal norm for equality of all should stay its basis, as it has been since the Renaissance, Reformation and Enlightenment that formed the idea of law as a rational picture of the world, in which various social forces are balanced in a democratic way.⁶

¹ Khabrieva T. Ya., Gabov A. V., Kapustin A. Ya., Chernogor N. N. Conflict of Interests: Nature, Warning, Social Regulation // Journal of Foreign Legislation and Comparative Law. 2018. No 3. P. 3–12.

² See: Khabrieva T. Ya. Projections of Convergent Technologies in Law Development. P. 144.

³ See: Khabrieva T. Ya. Law Challenged by Digital Reality // Russian Law Journal. 2018. No 9. P. 5–16.

⁴ See: Khabrieva T. Ya. Justice in Sociohumanitarian Discourse of Global Societal Transformations // Economic Justice in the Far East. P. 21.

⁵ See: Zorkin V. D. Justice Is the Imperative of Civilization of Law // Rossiyskaya Gazeta (Russian newspaper). 2018. October 9.

⁶ V. S. Styopin’s speech at the plenary meeting of the XIII International School-Workshop of Young Legal Scholars “Law in the Environment of Digital Reality” (Moscow, Institute of Legislation and Comparative Law, June 06, 2018). Quoted by: Zaloilo M. V., Shulyatyev I. A. Law in the Environment of Digital Reality (review of the XIII International School-Workshop of Young Legal Scholars) // Journal of Foreign Legislation and Comparative Law. 2018. No 4 (71). P. 171–187.