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EDITORIAL

Dear Readers and Authors,

Indeed, digitalization is an inherent quality of the 21st century: diverse domains of social life revolt around the fast developing digital communication and media technologies and innovative solutions. Digital technologies have penetrated business and private life, have become a valuable means of communication (and COVID-19 pandemic proved it greatly), have changed the way we acquire and perceive information, the way we gain knowledge and solve set tasks. Both in private and public sector digital technologies are believed to enhance visibility, eliminate inefficiencies, encourage new ways of cooperation and interaction. Not only are digital technologies reshaping the traditional way of life, they are at the core of an ongoing digital transformation that is undoubtedly gaining momentum.

Digitalization is an evolving topic for discussion in society, academia, and eventually legal environment. Moreover, it challenges the legal sphere in many ways. Pervasive digitalization requires fast and effective solutions to the emerging problems as the use of digital technologies changes both business models and social interactions in every domain.

Such technologies as Blockchain, Artificial Intelligence (AI) move forward digital transformation. Still, there is a lack of legal regulation of such a technology. It does not mean that they operate outside law. It means that new digital technologies bring up new challenges not only for society and academia but also for legal practitioners, courts and legislators as to how to find best ways to apply the existing law, develop court practice, and facilitate faster legislative decisions in anticipating possible outcomes of digital technologies implementation.

As for blockchain technologies, they play a crucial role in changing business models and financial markets. Besides, as a growing "digital list of records," they may well be used in regulating and protecting spheres involving, for example, IP rights. AI technologies is one more vital element of a new digital reality. Yet to be developed to the level of a strong AI, AI technologies have already attracted attention outside the technological domain and joined the fray in raising discussions on ethical and legal issues. State governance is also actively implementing various AI technologies in

all the processes, which certainly requires particular consideration. Legal regulation of administrative procedures and processes, AI risk assessment, data protection are among the questions that are being widely discussed.

There are also such domains that are considered independent and rarely interrelated but they indeed have become intrinsically intertwined amid digitalization. Thus, new technologies create a new digital culture of law in the media space, fostering new approaches in forensic linguistic examination of various texts. AI and blockchain technologies lead to the development, distribution, gathering and storing of information presented in a new text format, in a form of a text created not by people but by a machine. Mediatization of law itself brings us to a new round of discussions: new digital legal reality requires new ways of tackling the means of legal consciousness development.

This Issue of the Journal covers all of the above-mentioned aspects in research articles, articles, comments and notes where our contributors offer a fresh outlook on the problems, raise new ones, consider the exisiting legislation and court practice, and suggest possible solutions to the most challenging tasks. We hope that the articles presented in this issue will benefit you in getting a new perspective of the challenges that digital technologies and digitalization bring and will be of help in grasping the full transformative potential of a digital mindset and strategy in the current legal domain.

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DIGITALIZATION IN LAW

Research Article

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Lex Registrum as a System of Regulation of Cross-Border Relations Aimed at Protection of Intellectual Property Implemented by Means of Blockchain Technology

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Abstract: The problem of legal regulation of cross-border private law relations in the field of intellectual property implemented through blockchain technologies requires thorough scrutiny on behalf of both legal theorists and practitioners. The use of blockchain technologies is relevant for both copyright and industrial property issues. A practical method to establish a technological basis for the protection of intellectual property rights that is used for their storing and for other purposes provides for implementation of so-called blockchain ledgers. At the same time, the main function of blockchain ledgers is to protect the rights of copyright holders and to provide them with an opportunity to use results of their intellectual activity simultaneously in several jurisdictions. In this respect, the use of distributed ledger technologies should be regulated by a system of rules established by the participants of legal relations within the framework of implementation of certain cross-border private law relations. This article considers, *inter alia*, *lex registrum* as a system of rules regulating relations under consideration.

Keywords: blockchain; intellectual property; *lex cryptography; lex registrum*; smart contract

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I. Introduction

Blockchain technologies, as one of the most relevant and advanced issues of our time, are subject to scrutiny in the context of different branches of law. In current cross-border relations, a tendency can be determined when the states tend to take leading positions in digital economy and encourage using modern technologies, including a blockchain (Shakhnazarov, 2021, p. 118). However, their use in the field of intellectual property protection seems to cause a number of problems, and blockchain can be implemented as a tool that will help to solve them.

At the present stage of the digital sphere development, blockchain can be used to protect intellectual property rights in an absolutely new decentralized way.

As for the legal regulation of the use of blockchain *per se* or in relation to a particular area of legal relations, we cannot but mention the lack of international instruments (both agreements and treaties) and any national regulation of the area under consideration in the majority of jurisdictions. General rules of the relevant legislation are often applied by analogy. At the same time, when regulating relations using blockchain technologies or technologies in general, it is necessary to take into account all sorts of circumstances and contingencies in order not to limit technological development and not to repeat errors that have already been committed with regard to the Internet regulation.

A specificity of blockchain technologies provides the customers with the possibility of self-regulation for certain legal relations using a stable and neutral regulatory framework. At the same time, the development of blockchain technologies, the possibility of their use in new areas will depend on the normative regulation in the state where the technology is implemented. Flexible approaches to such regulation seem to be the most appropriate, since the blockchain represents a variation of a distributed ledger that uses a sequence of blocks to achieve a reliable consensus in a distributed system in a way that is protected from any infringement of abuse.

Blockchain technology facilitates instant and remote implementation of a wide variety of legal relations, including relations that involve intellectual rights at the transboundary level. For the protection of intellectual property rights, blockchain ledgers can provide us with a practical method that allows copyright holders to protect intellectual property effectively and to use the result of their intellectual activity simultaneously in several countries (Shakhnazarov, 2019, pp. 121–148).

Thus, two issues contribute to the relevance of the research: 1) uncertainty of the legal nature and legal framework of cross-border relations arising with regard to protection of intellectual property using the blockchain technology; and 2) an unresolved issue of determining the rule of law governing such relations due to the fact that the blockchain infrastructure predetermines its regulatory impact on such a relation.

Blockchain is a technological architecture substantiating virtual currencies (cryptocurrencies) and other ledgers. The ledger created on the basis of blockchain technology records, stores and tracks

transactions protecting the data contained in the ledger. You cannot modify such records, nor can you delete them. The ledger uses such a security mechanism as cryptographic signatures of the participants of transactions that authenticate each transaction in the ledger. Cryptographic signatures are used when the transaction participants reach a decentralized consent, after which the transaction is added to the ledger as a new block in the chain of records (chain). The entire encrypted chain is visible to the participants, which makes transactions transparent with due regard to the confidentiality of personal data. (Patrick and Bana, 2017; Minina, 2018).

Blockchain is distributed in a peer-to-peer network. Such a distributed system can include a ledger of currencies, a ledger of information containing transaction data, rights, verification of any circumstances, personal data, *etc*. Blockchain serves as a platform on which the latest services and projects are created, legal relations are virtually implemented.

The Report on Legal Regulation of Blockchain Technologies prepared by the International Bar Association in 2017 deserves special attention in the context of efforts taken to develop and harmonize the blockchain technologies regulation (Patrick and Bana, 2017). The Report primarily associates blockchain technology with *Bitcoin*. Indeed, initially blockchain was created to issue and circulate *Bitcoin* — a virtual currency (cryptocurrency). Then, blockchain technologies were used to create other cryptocurrencies, as well as in other areas of similar relations. For example, a graphics processing unit *Turing* was developed for *Ethereum* to be used in smart contracts (as the main category used for automated transactions) and decentralized applications.

A s*mart contract* refers to the code that is executed automatically (except when built-in mechanisms prevent such execution). A smart contract is a computer protocol that automates the execution of contract terms. The doctrine highlights that it is a software mechanism of execution of the terms of the contract rather than a contract (agreement) *per se* (in classical sense of this legal concept) (Werbach and Cornell, 2017). Smart contracts are written on the basis of the code and can be used and executed at minimum cost. At the same time, a record concerning a certain transaction of a particular performance may be considered

as evidence of conclusion of a contract and mutual improvement of essential terms and conditions by the parties to the transaction. Thus, the mechanism in question allows physical and legal entities to make digital mutually agreed contracts with each other.

The inclusion of relevant information into the ledger can be complicated by a foreign element concerning both the holders of information (subjects of the transaction) as well as the objects of relationships in question and legal facts. The transaction is complicated by a foreign element in most cases when blockchain technologies are being used due to, first of all, the possibility of remote access and moderation of such technologies. Blockchain is seen in many areas as a destructive technology primarily in the context of leveling the state instruments. On the contrary, a number of scholars disagree with this classification arguing that blockchain will become the basis for all digital contracts, transactions and records that will be executed and stored in the future (Piper, 2017).

Despite the fact that blockchain technologies are at an early stage of their development, some states have already taken measures to regulate certain relations when blockchain technologies are used. Simultaneously with the fact that such jurisdictions can be described as progressive and convenient ones for the purpose of implementation of blockchain technologies, innovations and attraction of investment, there is a risk that such regulation would be premature. In the long term, development of regulatory and legal mechanisms aimed at regulating relations using blockchain technologies can have both positive and negative consequences. Technology development is inevitable. However, the legislative framework can constrain it and lead to frequent changes in legislation and application of a cumbersome but, at the same time, narrow legal approach (Finck, 2018, p. 679). The foreign doctrine notes that the terminology associated with blockchain remains uncertain and unregulated in various countries, which may lead to difficulties in implementing such technologies in relation to the application of the legislative framework (Walch, 2017).

Jurisdictions that seek to retain the former and attract new users of blockchain technologies without creation of mandatory legislation of general effect are increasingly applying the so-called sandboxing

method — a method of using an isolated controlled technological environment of implementation of relations using blockchain to prevent possible negative effects of traditional normative regulation. The so-called "regulatory sandbox" can be used as a tool for innovators to test a technology or business model and work with them in technological environment, which contingently (temporarily) exempts them from fulfilling legislative requirements exclusively within the framework of the relevant environment with its own regulation. This is essentially a safer environment for developers where they work with the software. However, in this isolated environment, such entities agree to operate their business model in a limited format, for example, with respect to a controlled number of customers and under supervision of supervisory bodies. This technology is intended to be useful to regulators and regulatory agencies by overcoming legal uncertainty. Thus, regulators can stimulate innovation and carry out experiments with the legal framework. This approach is mainly applied in the area of the use of technology in financial relations, *i.e.,* in FinTech sector,[1] and this is an example of how regulation can be adjusted to the constantly evolving technologies.

II. Methodology

Advanced technology cannot but cause significant changes in the essence of legal relations arising between actors involved in technology-related areas. However, the mechanisms of the legal regulation are still intended to provide predictability and continuity of relations dependent upon new technologies. The author carries out a thorough analysis of the approach regulating relations in question based on *lex mercatoria* and *lex cryptography*, dwells on advantages and disadvantages of both approaches. Based on the results of formal legal analysis of the existing methods of regulation, the author substantiates the necessity of introducing *lex registrum* as a new connecting factor providing for more efficient regulation of relations in question. Such a separate legal

[1] The sector of economy in which actors use technology and innovation to compete with traditional credit and financial institutions in the financial services market.

order is necessary for the purposes of fair regulation of cross-border relations arising with regard to intellectual property and complicated by technological peculiarities of their implementation. The formal legal method of research facilitates correct determination of the legal nature of cross-border relations aimed at protection of intellectual property and implemented with the help of blockchain technology. Thus, the regulation of relations is impossible without taking into account the influence of a technological component on their form and content. The technological component, in turn, has a priority, and actual regulatory value. The formal legal research of the regulatory value of technological environment allows the author to come to the conclusion about the formation of an independent separate legal order, namely, *lex registrum* that harmoniously and effectively regulates cross-border relations arising with regard to intellectual property due to its intangible legal nature. Also, *lex registrum* fits into the existing legal framework in most jurisdictions and meets international tendencies concerning protection of intellectual property.

III. Literature Review

In the doctrine of private international law, as well as in the science of intellectual property law, the legal order of *lex registrum* has not been analyzed and defined before. Self-regulation of cross-border relations regulated under private international law and implemented using blockchain technologies was the subject of research in the article written by Professors Wright and Filippi "Decentralized Blockchain Technology and the Rise of *Lex Cryptography*" (Wright and Filippi, 2015). However, the *lex cryptography* approach seems to be narrow, and it reduces the whole essence of the technology to the respect for confidentiality, to the turnover of crypto assets, that is, in fact, "a good" for the sake of which the technology in question is created. The rule of law cannot be established and developed around such a good, as well as around the concept of ensuring its confidentiality. In addition, cryptographic aspects of the problem of intellectual property rights protection are not the most important and primary topics due to the fact that they are reduced to payments for the right to use intellectual

property granted under license agreements or contracts of alienation of rights. The problems of self-regulation of relations concerning intellectual property protection with the use of blockchain technology has not been dealt with in individual works.

IV. Problems of National Application of Blockchain Technology Regulation

National practice of blockchain technology regulation contains cases of more certain legal regulation of various aspects of its application. Thus, in March 2017, Arizona's Corporate Blockchain Bill became law (USA). Under this Act signatures secured by blockchain technology and smart contracts are qualified as electronic signatures (computer-generated signatures) (Higgins, 2017).

The State of Vermont (USA) adopted rules according to which records in the blockchain ledger are considered as admissible evidence in courts (Higgins, 2016). Alternatively, France authorized the collection of debts recorded in blockchain registries[2] (Ngo, 2016).

Canadian experience of blockchain technology regulation is also interesting as it demonstrates a separate approach to virtual currencies (cryptocurrencies) that shows the peculiarities of blockchain implementation in civil relations, which can be used to regulate remittances made in ancillary areas in the transactions that involve intellectual property rights. Thus, in April 2018, the Ontario Securities Commission (OSC), one of the largest regulatory bodies in the country, announced that they had drafted the Rules for Regulation of Innovative Digital Currencies, and in February 2018 the first Bitcoin ETF project based on such derivatives — an exchange fund — was launched. The exchange fund is based on the use of bitcoin as an underlying asset when the fund buys the corresponding cryptocurrency, and then the fund sells its shares to the investors (Down, 2018).

Speaking about the Asian experience of blockchain regulation, we would like to mention the experience of Singapore. Unlike other

[2] Rapport au Président de la République relatif à l ordonnance No. 2016-520 of 28 April 2016 relative aux bons de caisse. (In Fr.). Available at: https://www.legifrance.gouv.fr/jo_pdf.do?id=JORFTEXT000032465510 [Accessed 30.02.2022].

South-East Asian countries that remain skeptical about overcoming blockchain risks, the Singapore Government, through the Central Bank and Monetary Authority of Singapore (MAS), has launched several programs to support blockchain technologies. Tax facilitation, regulatory automation and public financing facilitated Singapore's perception as the State attracting to its markets and jurisdiction startup projects that use blockchain technologies and are expecting to launch initial coin offering (ICO) and other virtual assets. Singapore has attempted an open approach to cryptocurrencies abandoning strict regulation and restrictions of blockchain technologies. At the same time, the Government of Singapore in early 2014 recognized Bitcoin as a commodity that can be purchased and recognized Bitcoin's purchasing power (*i.e.,* the ability for Bitcoin to purchase goods). Consequently, the Government of Singapore imposed corresponding taxation on Bitcoin. Therefore, the use of Bitcoin in trade turnover may entail its double taxation: first, the tax is paid on its acquisition, second, the tax is paid when Bitcoin is used to purchase goods).

Cryptocurrencies are known for being used for illegal purposes, *e.g.*, money laundering and terrorism financing, abusing the opportunities given by cryptocurrencies. Therefore, the Monetary Authority of Singapore supervises actions related to the use of cryptocurrencies in one way or another. At the same time, strict legal framework for the use of cryptocurrencies is not established. At the same time, the rules of currency regulation apply to all intermediaries trading in cryptocurrencies, as well as persons using cryptocurrencies.[3]

Russian Experience of Regulating Relations Implemented with the Use of Blockchain Technologies

As for the Russian experience of regulating relations implemented with the use of blockchain technologies, we note the absence in the Russian Federation of any special regulation of blockchain technologies as such. At the same time, there is a legal basis for regulating private property (proprietary items) and e-money.

[3] Monetary Authority of Singapore official website. http://www.mas.gov.sg/News-and-Publications/Speeches-and-Monetary-Policy-Statements/Speeches/2017/Singapore-FinTech-Journey-2.aspx [Accessed 30.10.2018].

Article 128 of the Civil Code of the Russian Federation classifies things, including money in cash and documentary securities, other property, including non-cash funds, non-documentary securities, property rights, results of works and rendering of services, protected results of intellectual activity and equivalent means of individualization (intellectual property), intangible goods as private property (proprietary items).

At the first consideration of the provisions of the Civil Code of the Russian Federation and according to the logic of the Russian law-maker, cryptocurrency realized on the basis of blockchain technologies may be recognized as *other property* within the meaning of the said above. Under paragraph 18 of Art. 3 of the Federal Law No. 161-FZ dated June 27, 2011 "On the National Payment System", "electronic money means monetary funds provided in advance by one party (funds provider) to another party that records information on the amount of funds provided without opening a bank account (obligor) for the purpose of fulfilling the pecuniary obligations of the funds provider to a third party and in respect of which the funds provider is entitled to send instructions only using electronic means of payment." Thus, in order to classify cryptocurrency as electronic money, it is mandatory to initially provide it with real money (Garashchuk, 2018).

The judicial practice in the Russian Federation concerning the issue of classifying cryptocurrency as objects of civil law is scarce and controversial. An illustrative example is the decision of the Ninth Arbitrazh Appellate Court in case No. A40-124668/2017 that by its Resolution No. 09AP-16416/2018 annulled the decision of the Arbitrazh Court of the City of Moscow in a bankruptcy case where the cryptocurrency was not recognized as a proprietary item and, consequently, was not included in the bankruptcy estate. The Ninth Arbitrazh Appellate Court, in fact, recognized the cryptocurrency to be included in the bankruptcy estate qualifying it as "other property" within the meaning of Article 128 of the Civil Code of the Russian Federation.

Judicial practice in relation to cryptocurrency in the Russian Federation relies not only on the analysis of the provisions of Art. 128 of the Civil Code of the Russian Federation, but also on Articles 140 (Money (Currency)), 141 (Currency Valuables), 317 (Currency of

Monetary Obligations) of the Civil Code of the Russian Federation and highlights that cryptocurrency is not a means of payment, money or a currency valuable (Belosludtsev, 2018).

In 2018, the Ministry of Finance of the Russian Federation developed a draft law on digital financial assets.[4] Under Art. 2 of the draft law, a digital financial asset is the property in electronic form created with the use of encryption (cryptographic) means.

The primary subject of this legislative initiative is to regulate relations arising in creation, issuance, storage and circulation of digital financial assets, as well as the exercise of rights and performance of duties under smart contracts. For this purpose, the concepts of "digital transaction," "digital record," "digital transaction registry," "digital record validation," "mining," "cryptocurrency," "token," "smart contract," *etc.*,[5] have been coined.

The draft law prohibits anonymous use of cryptocurrencies and acquisition of tokens (a type of digital financial asset issued by a legal entity or individual to raise financing and is recorded in the ledger of digital records) that are not recognized as a legal means of payment in the territory of the Russian Federation. In addition, it is proposed to control and monopolize the activities in the area of circulation of digital financial assets, which permits involvement of professional market participants in such activities. Digital financial assets circulation is possible as envisioned by the drafters of the draft law only through the operators of the exchange of digital financial assets.

Indeed, in the Russian doctrine, possible problems have already been determined, for example, "mass tokenization of proprietary items" as a result of which digital representation of such items in the form of a record in the blockchain (token) will take place. Civil law provides for an independent protectable right, and the further circulation of such an item is carried out through the disposal of the corresponding token (Savelyev, 2018). In total A. Savelyev dwells on three main problems: 1) possible

[4] Draft Federal Law on Digital Financial Assets. (In Russ.). Available at: https://www.minfin.ru/ru/document/?id_4=121810 [Accessed 22.04.2022].

[5] State Duma of the Russian Federation official site. The Draft Law on Digital Financial Assets was adopted in the first reading. (In Russ.). Available at: http://duma.gov.ru/news/27027/ [Accessed 22.04.2022].

displacement of the existing legal regimes of turnover of proprietary items by the legal regime of the token; 2) determination of the nature of emerging rights to tokens (proprietary rights, promissory rights, *etc.*) and adequate ways for their protection; 3) protection of privacy in the conditions of large-scale *tokenization* and *blockchainization* of law caused by the growth of metadata concerning transactions.

Nowadays, the regimes of implementation of relations regulated under civil law and the regimes of proprietary items circulation can be transformed due to the development of decentralized systems of exchange of information and, enforcement of rights and obligations of participants. Thus, territorial boundaries of States are being transcended, making it possible to speak about about the need to develop a new universal approach to relations regulated under civil law. Possible cross-border characterization of such relations is embedded in the technology itself in the context of new limits of the legal framework for the implementation of different cross-border private law relations.

In addition, it is advisable to carry out harmonious integration of digital assets into the system of proprietary items rather than to introduce restrictive measures in the area under consideration. Harmonious integration of digital assets will facilitate a systematic approach to the regulation of civil law relations that include relations implemented with the use of blockchain technologies.

V. The Use of Blockchain Technologies in Conjunction with Intellectual Property Rights

In a contemporary foreign doctrine, it is noted that among the areas of cross-border legal relations where blockchain technology can be applied, an important role is played by the area of intellectual property (Monteleone, 2018). Given the open nature of the Internet and the instant dissemination of information, it is often difficult for applicants or right holders of various intellectual property objects, to prove novelty, originality, authorship of intellectual property objects. This problem becomes particularly relevant in relation to the objects of copyright that are: (1) protected from the moment of creation; (2) protected without state registration, and (3) not included into the ledger of such rights at the state level.

With regard to industrial properties and patentable objects, the issues of novelty and inventiveness (non-obviousness), as well as the issue of determining what data becomes available at the time of filing can be resolved only with the help of additional technological means.

Blockchain in the indicated context may serve, for example, as the evidentiary basis of originality, novelty of the object of intellectual property and validation of initial ownership. It can allow creators of intellectual property objects to store their data (information about them) in a secured ledger. In the process of storing information about an intellectual property object in the blockchain ledger, it cannot be destroyed or changed (at least, without the purposeful use of special technical means).

It should also be mentioned that the system of registration of patent rights, inventions, trademarks, geographical indications, topologies of integrated circuits needs the use of a distributed ledger to a lesser degree, since, first, registration is carried out by the authorized state authorities, and, second, registration of patent rights and means of visual identity requires the participation of an expert to analize the criteria of protectability (Ruzakova and Grin, 2017, p. 509).

As a result of the use of blockchain technology, it is also possible to use a digital certificate of authenticity that provides for a safe and effective way to catalog (record) intangible objects and rights providing an undeniable record of the registration of intellectual property rights easily accessible from anywhere in the world (Lutz, 2018).

VI. The Use of Blockchain Technologies for the Protection of Certain Objects of Intellectual Property

The use of blockchain ledgers for the protection of intellectual property rights can be a practical method to allow competent holders to effectively protect and use results of their intellectual activities simultaneously in several countries. Copyright holders get the opportunity to create an evidentiary foundation in the blockchain ledger that confirms their personal non-property and exclusive rights by means of depositing them in electronic format and by their systematization. Besides, the blockchain ledger ensures that the process of putting

information about the proprietary item into the ledger and making moderated changes in such information (for example, about changing the right holder, concerning concluded license agreements, agreements between several right holders) will be properly recorded.

The idea of creating a ledger of licenses (granted rights of use) for intellectual property objects was realized even before the appearance of blockchain. For example, the Creative Commons System founded in 2001 and using the free license mechanism provided the possibility of using a set of standardized licenses and web-applications to assist right holders in granting the right to use their intellectual property objects free of charge for certain purposes to an unlimited number of persons or to transfer such objects to the public domain (Lutz, 2018).

Blockchain technologies are already being used for the implementation of similar projects. For example, *Mediachain* and *Ascribe* services offer photographers to make a record in the blockchain ledger by uploading digitally created photos into the ledger. If the images are uploaded by third parties in any segment of the Internet, the authors of the photographs by means of a ledger entry can prove that the original photos belong to them, since the ledger entry verifies the date when the image was uploaded to the blockchain ledger and authenticates the author of the image.

Taking into account the protection provisions of the 1886 Berne Convention for the Protection of Literary and Artistic Works, the use of such a technology can provide authors with an effective means of protection of their works simultaneously in many states. At the same time, there are such services, the functioning of which takes into account the requirements of national legislation. For example, *Binded* service allows to carry out, in fact, registration of an image in blockchain in compliance with the requirements of American legislation applied to the registration of copyright objects by the United States Copyright Office of the Library of Congress that is a fairly reliable "authoritative" procedure to prove the copyright of creators (copyright holders) of works.

An interesting example of the use of blockchain technologies for the protection of various intellectual property objects and, above all, industrial property objects used in production (know-how, patented objects) is represented by *Bernstein* startup from Munich. The project

offers the use of blockchain for intellectual rights management and protection. The right holders are given the opportunity to create a digital record for their patented technologies, trade secrets or know-how. A blockchain certificate issued when inventions, utility models, industrial designs are registered confirms the ownership, existence and integrity of a particular intellectual property object. The service allows the user to establish the fact of unauthoriesed use, to protect information that is not subject to disclosure or, on the contrary, to establish the fact of disclosure, since some States provide for a grace period, usually from 6 toll 12 months,[6] that serves as a guarantee for applicants who have disclosed their invention prior to filing a patent application. Such a disclosure would not be considered as discrediting the novelty of the invention. In the Russian Federation, for example, the grace period is 6 months under paragraph 3 of Art. 1350 of the Civil Code of the Russian Federation, and the burden of proof that circumstances by virtue of which disclosure of information did not prevent recognition of patentability of the invention took place, lies on the applicant.

The use of blockchain technology is also relevant in the context of the trademark protection system in cross-border relations. For example, The Blockchain Task Force of the Emerging Issues — New Emerging Issues Subcommittee of the International Trademark Association[7] — examines separately the issue of the potential significance of blockchain technology in the practice of trademark protection. It is noted that the designated distributed ledger technology can be effectively used to provide trademark owners with safe means of documented evidence of the first and continuous use of the relevant designation (Collen *et al.*, 2018).

In addition, blockchain technology can be used to counter the spread of counterfeit products. The distributed blockchain ledger that

[6] World Intellectual Property Organization official site. Available at: http://www.wipo.int/patents/ru/faq_patents.html [Accessed 30.03.2022]. The term of 12 months is applied in the USA, Japan, Singapore, *etc.*; Mewburn Ellis IP Firm website. Available at: http://mewburn.com/resource/grace-periods-for-disclosure-of-an-invention-before-applying-for-a-patent/ [Accessed 30.03.2022].

[7] International Trademark Association official website. Available at: https://www.inta.org/About/Pages/Overview.aspx [Accessed 30.03.2022].

coordinates related legal relations concerning the supply of goods between manufacturers, shippers, intermediaries and suppliers, is able to enforce the sale of original products delivered in a legitimate way with respect for all the rights of stakeholders, including intellectual rights to the end user. Customs authorities can use blockchain technology to verify the legitimacy of goods delivery to the territory and, accordingly, identify counterfeit goods.

Blockchain technology makes more available the evidence proving the existence of exclusive rights and their infringements in disputes associated with the relations between trademark rights and domain names, including disputes resolved under the Uniform Domain-Name Dispute-Resolution Policy (UDRP procedures) and other disputes involving domain names and resolved unde EU General Data Protection Regulation 2016/679 (GDPR procedures).

When blockchain technology is uded to protect trademarks, instead of one party keeping a record of all transactions that take place in the system, the blockchain network shares the task of recording these transactions between individuals fulfiling these transactions, and the technology under consideration ensures that all users store the copies of such records. As a result, the blockchain registry stores all recorded transactions in a public, temporary space protected from unauthorized access. Blockchain registry entries are exhaustive (*i.e.,* contain entries of each transaction in the history of this particular chain, and the more entries are added to the blockchain registry, the safer it becomes (Collen *et al.*, 2018). Due to the technology under consideration, procedures used for the alienation or transfer of the right to use a trademark and tracking new right holders have become simpler.

There are at least two potential ways to apply blockchain technology to protect trademark rights. First, it is the creation of records based on blockchain as a more reliable and secure system of keeping records of information to confirm the use of trademarks. Second, the information securely recorded in the records of the blockchain ledger serves as the verification or proof of the origin and legitimacy of the goods in the context of taking measures to counteract manufacturing and distribution of counterfeit goods that violate the rights of legitimate trademark holders.

In addition, blockchain technology serves as a system of effective evidentiary basis for trademark use in case of dispute over infringement of exclusive rights.

Reliable record timecodes cannot be changed by any party interested in the verification of first use, date of applying for registration, registration date, *etc*. The information regarding the source, authenticity, time of creation of an item cannot be deleted. State trademarks registries help provide trademarks with the state protection, but they resolve only the problems associated with the registration of trademarks and cannot serve as proof of the first use in cases wherein it is required by the legislation of the State of trademark protection.

Blockchain has a potential to solve various problems with which the right holder faces due to the actions of an infringer of the rights or third parties because the records of trademarks are protected and unreceptive to changes when blockchain technology is used.

Continuing the analysis of blockchain pragmatic functions in the field of trademark rights protection, it is also necessary to note the fact that the technology under consideration can effectively implement the tasks of trademarks' registration in the form of graphic designations and logos in the way similar to the mechanisms of protection of rights to art works, in particular — photographs, by means of blockchain ledgers.

According to Mark Kaufman, Co-Chair of the Council for the Use of Blockchain Technology for Intellectual Property operating within the Chamber of Digital Commerce,[8] the EUIPO highly appreciates the potential of blockchain and is already actively using it to secure and enforce intellectual property rights (Mertens, 2018).

However, if current conditions of development of national trademark legislation provide for the possibility of functioning of such alternative registration of trademark rights, the conflicts of trademark protection systems are possible (registration system, protection of unregistered trademark and the blockchain system of trademark protection). The use of blockchain technology seems appropriate both within the existing trademark registration system in a particular country and within the scope of possible protection of unregistered trademarks (with a different

[8] Association of companies that use and process blockchain technologies website. Available at: https://digitalchamber.org/about/ [Accessed 30.03.2022].

financial burden). Separate existence and use of blockchain trademark registration system can be assumed if we permit integration of all national trademark registration systems into one blockchain ledger (Monteleone, 2018), which will dramatically change the paradigm of territorial approach to the protection of trademarks and industrial property in general. This scenario for the development of international legal protection of trademarks appears to be feasible and logical only if the security is provided on a parity basis by all Member States participating in the system. However, political, financial issues (the necessity to pay duties, their amount, their distribution among States, the distribution of infrastructure loads) can pose serious obstacles to the ways to optimize the international legal protection of industrial property as a whole.

Blockchain technologies can be effectively used to record the transfer of rights to a particular object of industrial property. In cases when registration of the exclusive rights' transfer (transfer of the right of use under the license agreement or franchising agreement or transfer of rights in full under the contract on alienation of exclusive rights) is a mandatory requirement of the State where industrial property is protected, blockchain technology can serve as an effective, trustworthy, fast and efficient system of fixing relevant records.

Thus, blockchain technologies are already actively used in the world for the protection of intellectual property objects. Their use in relation to the protection of industrial property objects does not replace the state registration (in cases where it is mandatory), but serves as an additional mechanism of recording information and providing evidences of important circumstances, both in the implementation of state registration of an object and for its protection in further.

In global practice, there is also a reverse trend when companies try to use patents as tools to protect blockchain technologies, *i.e.,* to patent their blockchain technology. Thus, in the Russian Federation in 2017 a patent (RU 2639015) for the invention representing the system of tracking and quality control of products at all stages from production to sale was granted. Blockchain used in the invention implements the ability to save data about all operations the product is subject to, including the sale of products, in a distributed ledger. The ledger

records data about time, date, participants, type of each transaction, as well as information about the entire distributed information storage and processing system, all parts of which are constantly harmonized to maintain integrity and ensure accuracy of information.

Registration of patent rights on blockchain technologies is also gaining momentum in the world practice. Banks and financial institutions are among the leaders of patenting in this area, *e.g., Bank of America*, *MasterCard* international payment system, *IBM* — the world's largest manufacturer and supplier of hardware and software. For example, in November 2017 in the United States, Patent No. 9.830,593 obtained by *SS8 Networks Inc.* and covering the methods of identifying users using pseudonyms in transactions was issued (Lewin, 2018).

If we talk about the main patented objects, namely, inventions, blockchain technology, of course, should be new, industrially applicable and inventive. These criteria are applied in most countries, since they are harmonized in the TRIPS Agreement of 1994.

The fundamental technology of the distributed blockchain ledger in the United States was patented more than 20 years ago (U.S. Patent No. 4,309,569 of January 5, 1982), and, therefore, has no patent protection. Thus, the latest blockchain technologies (primarily technical solutions related to the method of processing, storage and transmission of information) are aimed at solving a specific production, technological task in a particular area of relations that are subject to patent protection.

Indeed, creation of a portfolio of patents for the protection of blockchain services is a long and expensive procedure. In view of this, the patent approach to protection of blockchain technology can become a real problem for the development of innovative business, especially for start-up projects. In certain cases, especially in the case of rapidly evolving technological innovations, the technology may become outdated before a patent is granted (Hess, 2018). Thus, the practice of protection of blockchain technologies by means of a mechanism of protection of trade secrets (know-how) has emerged. While various blockchain technologies used, for example, in cryptocurrencies *Bitcoin* and *Etherium*, use open source code, and therefore they cannot be protected by know-how, some companies develop private blockchain services that are focused on a closed list of individuals (with a limited ability to make changes to the

source code). Thus, "closed source" blockchain technology can be a subject of trade secret protection and constitute know-how if it meets the necessary criteria for the protectability of know-how.

In world practice, such criteria are formulated in almost identical way: information constituting know-how should be unknown to third parties; such information is valuable due to its non-public nature (actual or potential); the right holder should teke reasonable measures to protect the secrecy of information.[9] If it is necessary to protect blockchain technology by means of know-how protection modes, it is possible to make changes to the open-source blockchain technology software by changing the concept of the project on closed source, and protect the changed blockchain technology with the closed source code by means of know-how protection modes (Fields and Ullman, 2018).

As we can see, the link between blockchain technology and technological know-how can be very close. Alternatively, blockchain technology as such can be used as a special mode of ensuring elements of now-how protectability. Thus, the most difficult criterion of know-how protectability (from the listed above) refers to "reasonable measures taken by the right holder to preserve the secrecy of information." In fact, blockchain technology gives an opportunity to protect information in a privatenetwork by means of appropriate cryptography mechanisms, which enables the right holder of know-how to comply with the above requirement for its protection. Thus, blockchain technology can indeed be a measure by which it would be possible to enforce the regime of trade secrets for the purposes of protecting know-how in certain conditions of a private, closed network with limited access to the actual content of the information.

Indeed, in this case, blockchain technology can be seen as a safe environment for posting information in accordance with the principle "the right holder takes reasonable measures to preserve the secrecy of information." As encryption keys are necessary for access to blockchain registries, cases of unauthorized access to the blockchain registry are

[9] *See* paragraph 2 of Article 39 of the TRIPS Agreement; paragraph 1 of Article 2 of the Directive of the European Parliament and of the Council of the European Union "On protection of confidential know-how and business information (trade secrets) from illegal acquisition, use and disclosure" dated June 8, 2016 No. 2016/943; Art. 1465 of the Civil Code of the Russian Federation.

practically excluded due to the fact that a "hacker" will need to edit the data in each device of the blockchain network (Balbo, 2021).

Innovative business and startup projects already use the know-how protection mode to protect their blockchain technologies and *vice versa*. Fewer requirements are applied to the protection of know-how, the establishment of a trade secret regime that protects know-how is less time- and money-consuming (sometimes it does not incur any additional costs) and takes place in the shortest time. However, unlike patent rights that have certain criteria of protectability and are provided by State registration mechanisms, the protection of know-how is exposed to high risks. Thus, the disadvantage of know-how is that they are not protected from parallel developments or legitimate reproduction of the solution, method, product by competitors according to the existing model. The advantage of the patent approach to blockchain technology protection is the fact that they can significantly increase the cost of the company due to clear and accessible criteria of evaluation of the exclusive right to patented objects.

Thus, Birgit Clark identifies the following areas of application of blockchain and related technologies of the distributed ledger in the context of intellectual property: confirmation of authorship and origin, registration and clearing of IP rights; monitoring and tracking of distribution of (not)registered IP rights; providing evidence of actual and/or first use in trading and/or commercial activities; digital rights management (*e.g.,* on music sites); drafting and enforcement of IP agreements, licenses or implementation of exclusive distribution networks through smart contracts; and real time transfer of payments to IP holders (Clark, 2018). Blockchain can also be used to verify and confirm the origin when detecting and/or searching for counterfeit, stolen or imported goods through parallel importing (Clark, 2018).

In addition, the scientific literature emphasizes that the blockchain system can store not only information about the object of intellectual property and conditions of acquisition of rights to it, but also the object itself: a piece of music, a graphic image, a video, *etc.* (Dvoynikova, 2017).

At the same time, some scholars assume that such an object can be provided with a cryptographic "seal," which will allow the parties to the transaction to be confident in its authenticity (Akhmedov, 2017, p. 93).

Blockchain registries used for the protection of intellectual property rights can constitute a practical method that allows right-holders to protect effectively and use the results of their intellectual work in several countries at the same time. Copyright holders acquire an opportunity to create an evidential basis in the blockchain registry confirming their personal intangible, as well as exclusive, rights by depositing them in electronic form and putting them in order. In addition, the blockchain ledger ensures fixation (recording) of the process of recording the information about an intellectual property object and making moderated changes to such information (for example, concerning changing the right holder, concluded license agreements, agreements between several right holders, *etc.*).

VII. Main Challenges of the Legal Regulation of Blockchain Technologies in Cross-Border Relations

The use of blockchain technologies in cross-border relations simplifying and accelerating the interaction of participants of relations regulated under private law reasonably generates a conflict-of-laws issue. Indeed, the question arises about applicability of a typical conflict-of-laws connecting factor to relations implemented using blockchain technology. The very use of blockchain technology can complicate relations with a foreign element, for example, when participants from one state enter into relations with the use of a foreign blockchain service. In this case, the question arises about the possible independent special conflict-of-law regulation of relations with the use of blockchain technologies. The foreign doctrine has already allocated special law and order of *lex cryptography* (Wright and Filippi, 2015). It is noted that the possibility of decentralization of the method of storing data and information management can potentially reduce the role of one of the most important regulatory actors in the society, namely, a mediator. A blockchain technology allows us to develop new management systems with a more democratic decision-making process that involves all participants of the system. There are also decentralized (autonomous) organizations that can operate through a network of computers without any human intervention. Blockchain technology is aimed, thereby, at shifting the balance of regulation from centralized methods implemented

by the State towards decentralized relations carried out by the participants themselves in the field of communications implementing, in fact, self-regulation in various fields of communication, business, politics and law (Wright and Filippi, 2015).

VIII. *Lex Cryptography* as a Regulator of Relationships Involving Blockchain Technologies

A wide spreading of decentralized technologies will lead to the emergence and development of a new kind of law and order — *lex cryptography* — that assumes that relations implemented through technology are administered and regulated through self-executing smart contracts and decentralized (autonomous) organizations (Wright and Filippi, 2015). With the development of blockchain technology, public authorities engaged in centralized regulation may lose the ability to control and regulate activities of separate entities with the help of existing means. As a result, there is a growing need to develop mechanisms that effectively regulate blockchain technology, the activities of decentralized communities and organizations. Such regulation should be compared with the existing legal framework and other legal orders. In this context, the foreign doctrine compares self-regulation in the crypto sphere in the historical aspect to the already known and formed legal orders of lex mercatoria and lex informatica (Danaher, 2016). The concept of *lex mercatoria* as a set of trade usages (quasi-legal norms) evolved from the law of European merchants who expanded trade networks in the Middle Ages, and represents a "soft" international trade law formed by international organizations, a corporate community and often recognized and accepted by state legal systems. *Lex mercatoria* is not a source of law by itself, but states can authorize application of relevant rules by giving them the force of an authorized custom of trade that has already become a source of law. At the same time, even though it is not a source of law, *lex mercatoria* rules, when expressed by the parties to the relationship, can regulate contractual relations within the framework of freedom of expression and taking into account the principle of discretional nature (dispositivity) of civil law. The application of *lex mercatoria* to cross-border commercial relations is often carried out by

international commercial arbitration tribunals that consider disputes on the basis of certain principles and rules not authorized by a certain State (*i.e.*, the legislation of the Netherlands was one of the first to allow the parties to choose *lex mercatoria* as a governing law) (Panasenko, 2001). Thus, *lex cryptography* can be considered as a part of *lex mercatoria* in cases when commercial relations are realized by means of technology.

As far as *lex informatica* is concerned, it is a law and order close to the content of *lex cryptography* which represents a set of rules governing relations implemented in information and communication networks and, above all, on the Internet. The concept of *lex informatica* was born together with the development and popularization of the use of the Internet.

Internet users develop their own standards relying mainly on discretionary contractual methods of regulation, as well as licensing agreements with end users (when it comes to intellectual property rights). As the Internet is not localized in any particular State or national legal system, generally accepted norms often ignore or replace the legal norms of a State. The processes in question have led to the situation when national and international legal norms take into account the specifics of the relations implemented on the Internet and the provisions of lex informatica (Danaher, 2016).

If we talk about the balance between *lex informatica* and *lex cryptography*, it is worth noting that these systems of law and order are similar to each other in light of principle of formation. The difference is that *lex informatica* is applied to regulate relations on the global decentralized market, for example, to regulate relations that, for example, are reduced to the publication on the Internet of the offer for sale or rendering a service, or regulation of relations under private law within the framework of the EBay universal electronic trading platform. *Lex cryptography*, in turn, instead of lists of buyers and sellers, goods and services, publishes smart contracts. A smart contract encodes all relevant identification and payment details, so the market itself serves only buyers and sellers[10] who form it within a certain technology using crypto assets.

[10] Lex Cryptography. *Bitcoinism blogspot*. Available at: http://bitcoinism.blogspot.com/2013/12/lex-cryptographia.html [Accessed 30.03.2022].

IX. *Lex Registrum* as a Rule of Law Regulating Cross-Border Relations Emerging in the context of Intellectual Property

The approach based on *lex cryptography* seems to be narrow and reduces the whole essence of the technology primarily to respect for confidentiality, to the turnover of crypto assets, *i.e.*, in fact, making it "a good" for the sake of which such technology is created. The rule of law cannot be established and developed around such a good and the concept of ensuring its confidentiality. Self-regulation, in our opinion, takes place through the functioning of a system of distributed ledgers aimed at regulating and streamlining a wide, open range of relations. Self-regulation of certain relations without applying state-supported mechanizms is possible only within the framework of activities carried out within the distributed ledger and through such a distributed ledger as blockchain. This self-regulatory system creates a ledger law and order that can be designated as *lex registrum*. The *lex registrum* legal order can be considered as a kind of *lex mercatoria* (when blockchain technology is used to implement commercial relations, in particular, by means of smart contracts). It is also a non-state legal order or an independent set of rules established within the distributed ledger and regulating the relations implemented in the distributed ledger. The functioning of such a legal order and its life cycle depend on the mechanisms of ensuring reliability, security of records done in the ledger, means of identifying the subjects of relations implemented through the ledger.

The mechanisms of the UNCITRAL Model Law on Electronic Transferable Records 2017 may be proposed as providing for effective "mechanisms of reliability." In the given context, the essential role of UNCITRAL in the formation of *lex registrum* can hardly be overestimated. As noted above, the Model Law also applies to cross-border relations exercised by means of electronic transferable records, in particular blockchain technologies. However, the Model Law does not contain specific provisions relating to cross-border relations with the use of electronic transferable records. Also, it does not include the actual conflict-of-laws rules that would regulate the choice of law applicable to cross-border relations with the use of electronic transferable records, in particular to the transactions carried out with the use of a distributed ledger.

Thus, cross-border relations regulated under private law and implemented through blockchain technology can and should at the present stage of its development be regulated by a system of rules established by the community of participants within the framework of implementation of certain cross-border relations regulated under private law provisions through blockchain technology. Common to all participants, the *lex registrum* rules contingently overcome operation of state legal norms, the choice of which would be carried out depending on the nature of a legal relation on the basis of relevant conflict of laws rules of the forum. The rules themselves are predetermined by the actors and are enforced by the technology itself.

At the same time, the question arises whether implementation of cross-border relations with the help of blockchain technology can be reduced to a violation of mandatory rules or contradict the public order of the State. Indeed, peremptory national norms of the State are indisputable. The mechanism of public order, public order clauses constitute the current mechanism of modern international private law of States. Courts in Russia define public order (in the absence of a normative definition) as "established by the State fundamental norms regulating economic and social structure of the society, the main foundations of the rule of law enshrined in the Constitution of the Russian Federation and the Federal legislation of the Russian Federation,"[11] the fundamental mandatory legal foundations (principles) of universal, special social and public significance constituting the basis for the construction of the economic, political and legal system of the State.[12]

At the same time, these mechanisms are employed in cases of application of the law of the relevant state to regulate private law relations. When cross-border relations are implemented through blockchain technology, they may affect the legal order of several States if the parties involved in such relations are individuals or legal entities

[11] Ruling of the Supreme Court of the Russian Federation No. 91-G08-6 dated August 19, 2008. (In Russ.). Available at: https://base.garant.ru/1791489/ [Accessed 30.03.2022].

[12] Information Letter of the Presidium of the Supreme Arbitrazh Court of the Russian Federation No. 156 dated February 26, 2013. (In Russ.). Available at: http://www.consultant.ru/document/cons_doc_LAW_144311/ [Accessed 30.03.2021].

from different States, if the relations in question affect the jurisdiction of several States (for example, if smart contracts are used to regulate property located in different states). Thus, in any case, cross-border private law relations implemented through blockchain technology will generate rights and obligations, have legal consequences under the law of the state chosen by the court as applicable. National courts, applying a particular national law chosen under general conflict of laws rules applicable to the relevant relations, can and should recognize *lex registrum* as the law governing private law relations, except cases when the use of blockchain thechnology contradictis the public order. The use of blockchain technology for the implementation of private law relations formed and recognized by the self-regulatory community of subjects of such relations should not contradict public order. However, if technology is used to implement relations that undermine relevant foundations of public order, such relations will not be recognized. An example of this approach to the issue under consideration, is the use and turnover of cryptocurrencies implemented through blockchain technology. In cases where the parties to the relationship consider and use the cryptocurrency, for example, as a means of payment not recognized as such under the law of the State such payment (legally effected under the legislation of another State) may be invalidated by a court applying foreign law on the basis of violation of public policy.

X. Conclusion

To sum up, *lex registrum* represents a case-by-case legal order that can be chosen by the participants of private law relations. The participants use blockchain to implement such relations and affect the development and qualitative change of the legal order under consideration on the basis of the principle of equality of participants. *Lex registrum* is not an absolutely universal legal order. The potentioal of blockchain technology has not yet been fully determined. In each particular case of blockchain technology implementation, depending on the groups of relations to which the technology is applied, special regulatory standards can be formed, *e.g.*, the legal order of intellectual property rights recording in the ledger, transfer of such rights, the

modes of the use and alteration of intellectual property, the legal order of the smart contract, payments in cryptocurrency, *etc.*

However, general conflict-of-laws rules applied by the forum to find a competent legal order taking into account the relevant intellectual property status of the relationship at this stage of development of blockchain technology regulation cannot be replaced with *lex registrum*. In this context, *lex registrum* only fits into the dispositive (discretionary, provisional) framework of *lex voluntatis*, as well as the law chosen on the basis of other connecting factors (*lex loci protectionis, lex originis*). At the same time, at this stage of technology development, it seems advisable to adhere to the principle of technological neutrality rather than to the technical characteristics of the blockchain technology itself (the place of creation of the blockchain technology, the country of the server, *etc.*). Technological charcteristics of blockchain should not affect the choice of law of the country having the most substantial connection.

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The Digital Life of Modern Corporations: Corporate Management Mechanisms and What the Future Holds

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Abstract: Digital transformation of the economy has redefined approaches to the issues of legal capacity, corporate governance and management of business processes. Traditional management mechanisms are no longer competitive unless used in conjunction with dynamically developing digital technologies. This article reviews the lifecycle of a "digital corporation" from the moment of its establishment (*i.e.*, from the moment it acquires legal capacity), the processes related to its governance and management (intra-corporate and intra-productive relations), as well as the documentation of the outcome of its business and production activities. We discuss the "digital footprint" left by corporations in public registers, a unified space of trust implemented as a digital interactive environment, "digital afterlife," and the adjustment of the legal capacity of corporations in view of the automation of their business processes. Furthermore, we provide several examples of digital management tools that are replacing traditional forms of management that rely solely on human cognition. We introduce three types of digital management: remote management (exercised by humans); smart management (based on algorithms designed by human engineers); and artificial intelligence (AI) management (that does not require human involvement). The article discusses the distinctive characteristics of each

of these types of management and their potential joint application. Legal risks associated with the use of digital technologies for the assessment and documentation of production and economic activities (e-accounting, cloud data, open-access information, public registers) are identified. The study relies on empirical economic, legal and technological data pertaining to the legal status of a modern mixed-capital business corporation. We present an overview of currently available IT solutions for digital corporation (e-corporation) management and modification of traditional management tools, and provide an assessment of the prospects for the future development of these technologies. We emphasize the role of law in the digitalization of the economy and offer approaches to legislative work aimed at the legal regulation of modern corporate management.

Keywords: digital transformation; corporation; digital corporation; corporate governance; digital management; smart management; online management; artificial intelligence

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Contents

I. Introduction

The impact that the development of information technologies and their introduction into the modern economy has on the transformation of the consciousness of digital society needs to be assessed (Laptev and Fedin, 2020, pp. 138–157). The legal framework for both the state regulation and the self-governance of domestic businesses requires continuous reevaluation. The desire of businesses to grow and to improve their competitiveness, the need to optimize operational cycles and processes, and to reduce transaction costs, *etc.*, have made the introduction of digital technologies into business processes inevitable. The sensitivity of the market to economic volatility, crises and other challenges of our time, as well as the need for efficient distribution of production and social costs, have been clearly demonstrated by A.D. Nekipelov (2020, pp. 37–46).

Corporate governance that relies on digital data and structured electronic information allows for the effective management of business processes. We believe that corporations can benefit from the use of digital technologies throughout their lifecycle and at each of the stages described by Adizes (2004). The term “digital corporation” is used herein with two different meanings, depending on the context. The first is a digital corporation that is a participant in economic relations (a business) whose management processes are carried out with the help

of automated digital technologies that render human intervention in corporate management virtually unnecessary. The second is a digital corporation that is a technologically uniform digital organism whose automated internal ecosystem provides for automated management of business processes.

It is important to understand that the very essence and nature of a corporate business entity is undergoing a transformation. The common understanding of a corporation as an association of persons (shareholders, participants) and the blending of capital (private equity funds) (Gafiyatov, 2007) may have to be revised once certain aspects of corporate management are delegated to digital algorithms and transformed into the digital code. As noted by Galbraith (2007), large corporations, acting through their members, exert considerable influence on the tastes of consumers. In contrast, digital corporations will not impose goods and services on their potential customers but will rather identify the true and objective needs of individuals and society as a whole by carrying out market research based on AI-assisted analyses of big data.

Economic literature devoted to prospective models of digital corporate management offers well-reasoned predictions of what technology trends and tools from the list compiled by Gartner[1] will become the prerequisites for surviving in the marketplace. Among them there are intelligent apps powered by AI models and deep neural networks, real-time services employing virtual assistants, industrial and household internet-of-things devices, augmented reality applications relying on 3D technologies, dynamic modeling of physical objects using sensor simulation, distributed ledgers, conversational systems that serve as an interface between individuals and production processes, *etc*. These technologies aim at improving the quality of customer service, transforming operational processes and optimizing business models (Bruskin and Kitova, 2017). Following the introduction of digital technologies into corporate relations, the institution of property

[1] Top 10 Strategic Technology Trends for 2017 (2016), *Gartner*. Available at https://www.gartner.com/doc/3471559 [Accessed 01.11.2020].

and the mechanisms for managing corporate capital have also started undergoing a transformation (Loseva, Tazikhina, and Fedotova, 2020).

The use of information technologies undoubtedly improves business analytics. According to Bruskin (2016), technology helps to address the following analytical challenges: how to achieve the best result in the presence of certain limitations; what will happen in the near future; how to model the effects of interaction between several factors and assess their combined effect on the outcome; and what happened in the past. A wide range of possible applications of distributed ledger technology (blockchain) and smart contracts in corporate practice, *e.g.*, for accounting of securities and voting at general meetings of a corporation, are reviewed by Chekhovskaya (2018). Among the problematic aspects of the digital transformation of corporate management, Huseynov and Inozemtsev (2018) list the use of outdated, atavistic approaches that contrast with the dynamic digitalization of the economy, the inadequacy of the existing, "old-school" methodological tools, the compatibility issues that hamper the joint use of traditional and modern techniques and methods, as well as the vagueness and probabilistic nature of digital forecasting.

This article describes new opportunities for corporate management emerging with the digital transformation of the Russian economy. It also presents the approaches to mediating the economic and legal consequences of introducing digital technologies into traditional corporate management.

II. The Legal Capacity and the Digital Legal Personality of a Corporation

II.1. The "Digital Footprint" of a Company in Public Registers

The establishment of a business, the beginning of its lifecycle and the onset of its production activities and business operations are associated with the acquisition by it of a legal personality (legal status), *i.e.*, the ability to participate in entrepreneurial and other economic relations (Laptev, 1969; Tolstoy, 1959).

In corporate practice, the legal personality of an organization is certified by the legal fact that the information about its establishment — as a result of creating a new corporation or reorganizing an existing one — has been entered into the Unified State Register of Legal Entities by the tax authority (Article 51 of the Civil Code of the Russian Federation). The Unified State Register of Legal Entities upholds the principle of "public credibility," sometimes also referred to as the "registration principle," according to which a counterparty or a business partner of a company is presumed not to know anything about the potential inaccuracies or misrepresentations of the information about this company contained in the Unified State Register of Legal Entities. This presumption is further clarified by the Supreme Court of the Russian Federation (paragraph 22 of the Resolution of the Plenum of the Supreme Court of the Russian Federation No. 25 dated June 23, 2015 "On the Application by the Courts of Certain Provisions of Section I of Part One of the Civil Code of the Russian Federation").

A corporation must disclose relevant material facts using the web service of the Center for the Disclosure of Corporate Information[2] maintained by Interfax. The facts that are subject to public disclosure include corporate transactions, securities issues, payment of income, performance of obligations, and decisions of the governing bodies of the issuer (corporation). The special legal capacity of corporations that work in construction and in surveying and design is recorded in the public registers hosted on the websites of the National Association of Builders[3] and the National Association of Surveyors and Design Engineers,[4] respectively. Such corporations may only carry out certain business on condition that the information about their membership of self-regulatory organizations is contained in the abovementioned registers. For the counterparties of a business, it is also important that up-to-date information about its admission to entrepreneurial activities is publicly disclosed in a digital register (online confirmation).

[2] Available at: https://e-disclosure.ru/. (In Russ.).

[3] Available at: https://nostroy.ru/. (In Russ.).

[4] Available at: http://nopriz.ru/. (In Russ.).

II.2. A Unified Space of Trust

A unified space of trust is a digital environment that ensures the recognition of an electronic signature of a business on documents certifying all types of economic and legal relations. The creation of a unified space of trust is the goal that unites states on all continents since the market for the majority of goods and services is transnational in its nature. The formation of the digital space of trust on the Eurasian continent began at the end of the 20th century with the European Union (Directive 1999/93/EC of the European Parliament and of the Council of December 13, 1999 on a Community Framework for Electronic Signatures). In Russia, the unified space of trust started to form a little over a decade ago, and the approaches to its creation were reflected in the Roadmap for the Development of Mechanisms for the Provision of State and Municipal Services in Electronic Form (Order of the Government of the Russian Federation No. 2516-r dated December 25, 2013) and in the "Information Society" National Program of the Russian Federation (Resolution of the Government of the Russian Federation No. 313 dated April 15, 2014). Within the Eurasian Economic Union, the cross-border space of trust is regulated by the Protocol on Information and Communication Technologies and Information Exchange (Appendix No. 3 to the Agreement on the Eurasian Economic Union of May 29, 2014).

In Russia, the procurement of goods and services for the needs of the government and companies with the state participation is carried out through the federal contract system that was introduced almost a decade ago (Federal Laws No. 44-FZ dated April 5, 2013 "On the Contract System for the Procurement of Goods, Works and Services for State and Municipal Needs" and No. 223-FZ dated July 18, 2011 "On the Procurement of Goods, Works and Services by Certain Types of Legal Entities"), specifically via online platforms such as RTS-Tender[5], the National Electronic Platform (formerly the MICEX Electronic Trading Platform[6]), the Unified Electronic Trading Platform,[7] *etc*. According

[5] Available at: http://rts-tender.ru/. (In Russ.).

[6] Available at: www.etp-ets.ru. (In Russ.).

[7] Available at: https://www.roseltorg.ru. (In Russ.).

to the Unified Procurement Information System,[8] goods and services purchased on digital platforms through the federal contract system account for a substantial share of GDP.

II.3. The Digital Afterlife of a Corporation

The digital afterlife of *a corporation* is the exercise of its legal capacity that exceeds the lifespan of its members. Modern information technologies provide for the automatic (algorithmic) implementation of economic policies, production activities and business operations. This supports the claim that corporations possess "digital immortality," since they can continue to exercise their legal capacity regardless of who their current members (shareholders) are until this capacity is overruled by a computer program. Information technologies have enabled market participants to conclude transactions (contracts) remotely by signing them electronically (Article 160 of the Civil Code of the Russian Federation) and to settle them automatically with the help of smart contracts (paragraph 2 of Article 309 of the Civil Code of the Russian Federation). The development of a legislative mechanism for putting companies into "sleep," or "digital conservation," mode is economically important for businesses. Under existing legal structures, as a legal entity, a corporation cannot suspend its activities and has to carry them out continuously, documenting all business operations in its accounting and tax statements (including reporting on zero gains and performance in previous periods of operation).

Currently, a corporation has three legal options to mediate the effects of economic fluctuations, all of which are described in the Civil Code of the Russian Federation (Articles 57, 61, 65 and 64.2): (1) reorganization, *e.g.*, through a split-off or a spin-off, and subsequent sale of part of the business (*i.e.*, of a newly established company); (2) liquidation; (3) bankruptcy or administrative exclusion of the defunct legal entity from the Unified State Register of Legal Entities at the initiative of the tax authority. The recent turmoil in the global economy provoked by various crises, including environmental disasters

[8] Available at: https://zakupki.gov.ru/. (In Russ.).

and epidemiological outbreaks, makes one consider the potential of digital conservation of businesses, not only in economic terms, but also from the legal perspective. Economists and legal scholars should be able to develop regulations enabling corporations to digitally "freeze" their logistical resources and other assets (*e.g.*, by way of entrusting their assets for safekeeping or to a trustee).

II.4. Change (Adjustment) of Legal Capacity according to Market Conditions

Artificial intelligence can guide the direction of a company's business on the basis of big data analysis. One of the significant advantages of AI systems is the ability to perform parallel analysis of information with a person to develop recommendations and improve the effectiveness of decisions made by independently analyzing more data and more correlations than a person can analyze. The data subject to such analysis could include global market statistics, consumer demand, inflation rates, opportunity costs, *etc.*

III. Managing a Corporation as a Digital Organism: Economic and Legal Aspects

Traditional models of corporate management — core (outsider, insider) and specialized (directive, beneficial, "impersonal,", *etc.*) — have specific components (Guriev *et al.*, 2004; Afanasieva *et al.*, 2015; Laptev, 2020). It appears that in the foreseeable future, digital technology may be able to significantly reduce time and transaction costs associated with corporate management procedures. The introduction of these new approaches would ensure the development of the investment climate and improve the standards of corporate governance, including those listed in the Corporate Governance Code, recommended for public corporations by the Bank of Russia in its Letter No. 06-52/2463 dated April 10, 2014.

The components that may potentially be included in corporate management models following digital transformation are listed in Tables 1 and 2.

Table 1

Remote management	• e-signatures; • videoconferencing; • biometric identification of management; • international language ("multi-language"); • LegalTech
Smart management	• corporate management (intra-productive procedures); • corporate governance (intra-productive procedures, conclusion and performance of contracts)
AI-management	• problem analysis and search for solutions; • "digitizing" the brains of participants in corporate relations; • extracting representations of human thought

The basic difference between the three types of corporate management listed above is the level of human involvement in managerial decision-making, as well as the degree of automation of management routines (Laptev and Feyzrakhmanova, 2021; Laptev, Chucha and Feyzrakhmanova, 2022). We believe that in the future all of the described digital tools for corporate management will interact with each other through technological means.

Table 2

Remote management	application of tools enabling a human individual (*e.g.*, a shareholder, a CEO, a member of the board of directors of a corporation) to participate in making and enforcing managerial decisions remotely
Smart management	application of tools ensuring automated management of a corporation guided by a set of predetermined algorithms, which does not require human involvement but provides for continued algorithmic modifications
AI-management	managerial decision-making is carried out by artificial intelligence, which does not rely on preset algorithms and does not require human involvement (cyber business companion)

Software programs developed by 1C, Megaplan and other companies may facilitate the application of the described corporate management tools. These programs can be either installed locally on a company's computers or be hosted on a cloud storage service, such as Dropbox, OneDrive, Google Drive, iCloud, *etc*.

III.1. Remote Management of a Corporation

III.1.1. Electronic Signatures

An electronic document signed with a qualified electronic signature is typically recognized as equivalent to a paper document certified with a handwritten signature. E-signatures can be used to certify any relations, with the exception of certain categories of document, which the law mandates must be stored exclusively on paper records (Article 6 of Federal Law No. 63-FZ dated April 6, 2011 "On Electronic Signatures").

In corporate practice, an electronic signature can be used to certify the following documents:

— notice of a general meeting of shareholders (participants);

— notice to a shareholder of a non-public joint-stock company about the intention to sell shares to a third party;

— notice to a company's creditors about its reorganization, liquidation or reduction of its charter capital;

— notice to a company from its shareholder about the conclusion of a shareholders' agreement;

— notice to a public company from a person who, through a shareholders' agreement, acquired the right, independently or jointly with his/her affiliate(s), to directly or indirectly dispose of more than 5, 10, 15, 20, 25, 30, 50 or 75 percent of the outstanding voting common shares of the public company, *etc*.

Issuing documents electronically reduces cost and time burdens associated with legal communication (paragraph 63 of the Resolution of the Plenum of the Supreme Court of the Russian Federation No. 25 dated June 23, 2015 "On the Application by the Courts of Certain Provisions of Section I of Part One of the Civil Code of the Russian Federation").

III.1.2. Videoconferencing

Videoconferencing technology presents an opportunity for holding staff meetings, boardroom meetings, and general meetings of shareholders remotely (online meetings). The need for the legal regulation of remote general meetings of joint-stock companies is emphasized in the draft law on the amendments to Federal Law No. 208-FZ dated December 26,

1995 "On Joint-Stock Companies."[9] It aims to provide for the possibility of holding general meetings of shareholders by means of their remote joint presence for discussing agenda items and voting thereon. The use of information and communication technologies would allow all shareholders to participate in the general meeting remotely, without having to be physically present at the meeting venue (the meeting venue is not determined).

Videoconferencing can be an effective tool for holding the following meetings and sessions:

— general meetings of shareholders (corporate participants);

— meetings of the board of directors;

— meetings of the collective executive body (management board, directorate);

— meetings of the governors of the parent and subsidiary companies;

— other intra-corporate meetings and sessions.

III.1.3. Biometric Identification of Corporate Managers

Companies in large integrated production and business complexes (holding groups) that have many employees and have to deal with high staff turnover and periodic rotation of management need to resort to facial recognition systems in order to verify the identity of individuals that participate in their remote (online) meetings and sessions. In other words, facial recognition is required to establish the fact of the expression of will of a person endowed with managerial competencies.

The relevance of this issue is emphasized in the April 13, 2020 "Information on Specific Aspects of Regulation of Corporate Relations in 2020" Announcement of the Bank of Russia, which extended the deadlines for activities requiring the involvement of a significant number of employees of public joint-stock companies or their interaction with

[9] Prepared by the Ministry of Economic Development of the Russian Federation, project ID: 02/04/09-20/00107789, "On Introducing Amendments to the Federal Law "On Joint-Stock Companies" with regard to Allowing General Meetings of Shareholders to Be Held by Means of Remote Joint Presence for the Purpose of Discussing Agenda Items and Making Decisions on Matters Put to a Vote, with the Aid of Information and Communication Technologies, without Determining the Meeting Venue". (In Russ.). Available at: https://regulation.gov.ru [Accessed 01.12.2020].

external counterparties (including the adjustment of the status of public companies that do not meet the requirements set out in paragraph 1 of Article 66.3 of the Civil Code of the Russian Federation, and the establishment of internal auditing systems in public companies) to January 1, 2021 in order to curb the spread of the COVID-19 virus and to mitigate the economic consequences of the pandemic.

Personal biometric data represent information that reflects biological and/or physiological characteristics of individuals, making it possible to identify them (Article 11 of Federal Law No. 152-FZ dated July 27, 2006 "On Personal Data"). The specific procedure for processing photos, videos, fingerprints and other information classified as personal biometric data is clarified by the Federal Service for Supervision of Communications, Information Technology and Mass Media (Roskomnadzor).[10] It has been reported that the prototypes of electronic passports of Russian citizens developed by Rostelecom, Goznak and the Voskhod Scientific Research Institute provide for the inclusion of biometric data (Kaliukov and Posypkina, 2020). Extending such identity verification practices to corporate procedures appears beneficial.

III.1.4. International Language

Business activities of large corporations often span multiple countries. Companies that operate on all continents, such as DHL and Shell, need to communicate with their business counterparties in a variety of languages. One indispensable tool for breaking the language barrier is specialized software that can automatically translate the speech of company employees and members of corporate bodies into an appropriate language, for example, during corporate events, such as regular and extraordinary shareholders' meetings, boardroom meetings and all kinds of workshops.

[10] Roskomnadzor explains the Issues of Attributing Photo, Video Images, Fingerprint Data to Biometric Personal Data and the Features of their Processing (2013). *Roskomnadzor Department for the Far Eastern Federal District*. (In Russ.). Available at: https://25.rkn.gov.ru/news/news54167.htm [Accessed 20.12.2020].

III.1.5. LegalTech

Computer-assisted professional legal work is a new business trend. Corporations establish legal departments, the job of which is to guarantee their normal functioning and to ensure corporate compliance. In this respect, the role of the corporate secretary of a company, professional standards for whom were approved by the Order of the Russian Ministry of Labor No. 711n dated November 20, 2018, are of particular importance. According to these standards, the main tasks of the corporate secretary include increasing the efficiency of corporate governance and improving the investment attractiveness of the company in the interests of its participants.

In practice, LegalTech can facilitate the following organizational functions of the corporate secretary:

— ensuring public disclosure and provision of information on the activities of the corporation at the request of shareholders and other persons;

— organizing annual and extraordinary general meetings of the company's shareholders;

— organizing meetings of the collective bodies of the company;

— protecting the rights and interests of the company's shareholders (participants);

— improving the efficiency of corporate governance.

LegalTech tools can be successfully applied in conjunction with artificial intelligence, which we will discuss in the following sections.

III.2. Smart Management of a Corporation

Internal corporate processes can be classified into two major types:

— corporate management;

— corporate governance.

Each of these two activities is associated with unique challenges that require a tailored approach. Information technologies that automate decision-making processes are capable of not only reducing the associated time burdens, but also helping one adopt the optimal, most efficient decision out of a vast number of options by considering

a host of factors. At present, software companies, such as BoardMaps and ITI Capital, provide smart solutions that can factor in market sensitivities, legislative regulations and other variables.

III.2.1. Corporate Management (Intra-Corporate Procedures)

Businesses (joint-stock and limited-liability companies) have their own internal legal provisions, regulatory treaties and corporate customs, including:

— the corporate charter;

— statutes governing the corporate bodies (general meeting of shareholders, board of directors, management board, *etc.*);

— provisions on personal data and commercial confidentiality;

— corporate contracts (shareholders' agreements and agreements on the exercise of the rights of company members);

— the code of corporate governance (code of corporate ethics), *etc.*

The listed sources regulating corporate relations, along with the legislation on corporations, prescribe a specific code of conduct for their participants, depending on the circumstances. The introduction of smart management systems, whose algorithms would thoroughly consider the above-described legislative regulations, could significantly facilitate the corporate decision-making process.

III.2.2. Corporate Governance (Intra-Productive Procedures, Conclusion and Performance of Contracts)

Smart management tools can help a company choose the best course of action by automating the decisions of its governors based on the analysis of past experiences and the prediction of future events, *e.g.*, as part of agile coaching. Smart governance can be successfully applied when addressing the following tasks:

— distributing competencies among contract holders (company employees);

— creating effective teams within a company;

— training and adapting to market dynamics;

— establishing and modifying internal workplace regulations;

— enforcing labor protection policies and monitoring their compliance, *etc.*

III.3. Corporate Management Exercised by Artificial Intelligence (AI-Management)

Artificial intelligence, capable of independently making managerial decisions without human supervision, represents one of the most promising technologies for management. The concerns of researchers and users regarding the pace at which AI is infiltrating all areas of life are unable to stop the rapid development of this technology. Faster processing times, the lack of susceptibility to an emotional bias, and the ability to evaluate a multiplicity of factors (*e.g.*, those derived from big data analyses) on-the-fly put the AI-management tools at the forefront and leave other tools unable to compete with them. The hype around AI is further exacerbated by the fact that the market of traditional management tools has long been saturated, and the economy needs a new source of demand.

III.3.1. Analyzing Problems and Finding Solutions: Digital Twins

In order to ensure normal growth and minimize business risks, companies need to analyze the business models they adopt (Tretyak and Klimanov, 2016). Big data represent a wealth of unstructured information that can be leveraged to inform the decisions of corporate managers and, more broadly, to shape the economic policy of a company as a whole.

AI is capable of creating a "digital twin" of an organization, which can be used to model the dynamics of its production and economic processes. It appears that the predictive power of AI can be most efficiently applied to tackle the following tasks:

— establishing and predicting the prices of goods;

— estimating the staffing needs of a company;

— distributing competencies among participants in corporate relations and corporate entities;

— investing in the development of future products;

— intradepartmental logistics, *etc*.

III.3.2. Digitizing the Brains of Participants in Intra-Corporate Relations

The possibility of uploading the cognition of a company's participant (its CEO, shareholder or member of the board of directors) into a computer today sounds like an obscure and distant future. Yet such a future would provide for the possibility of managing corporations by means of "digital thoughts." This would imply extracting from the human brain not only its problem-solving strategies but also cognitive styles, personal preferences and business ideas regarding corporate governance. In other words, this would involve uploading the unique "mental code" of an individual (shareholder, member of the board of directors, manager, *etc.*) into the digital management system of a corporation.

Scientific studies of the cognitive system of a worm have culminated in the digitization of its entire nervous system, consisting of 302 neurons. Digitizing the human brain, which consists of tens of billions of neurons, is obviously a much more painstaking process. However, it seems that it is only a matter of time before the creation of a digital blueprint of the human brain could be accomplished in minutes. Note that the Summit supercomputer developed by IBM has 9,216 22-core processors, or about 70 trillion transistors (essentially, "digital neurons"). In this context, the recent experimental studies of "transistor neurons" that can precisely emulate biological nervous tissues look particularly promising (Chen *et al.*, 2017). The digitization of the human brain would result in the "digital immortality" of human cognition that would continue as long as its digital blueprint exists on a magnetic medium or in cloud storage (*e.g.*, corporate cloud storage).

The digital transformation of the economy is a gradual process. It started with the *digitization* of documents and business processes, continued with the modification of business models through the introduction of information technologies (*digitalization*), and currently represents a digital business strategy (*digital transformation*) (Savić, 2019). At the next stage the creation of digital blueprints of human cognitive systems would certainly be of interest and would find application for designing business management models.

III.3.3. Decoding Representations of Human Thought

The power of the human mind (human thought) is in its ability to create a picture of the world and to determine a plan of action. Man is able to control his mind and strategically plan his activities. Throughout the course of its life, a business corporation has to make numerous decisions on its management, which first form in the minds of human decision-makers before their will is expressed and translated into reality. Medical imaging studies have demonstrated that the neural representations of human thoughts can be decoded, for example, with the aid of magnetic resonance imaging (Baldassano *et al*., 2016).

Certain corporate management decisions cannot be delegated to AI or smart management systems. Such decisions must be taken exclusively by human individuals. This necessity is dictated, firstly, by the uniquely human ability to subjectively assess a particular situation at a particular time and, secondly, by the fact that AI is currently exempt from any legal liability for its decisions (*e.g*., only individuals and legal entities can be held liable for property-related and administrative offenses).

In summary, participants in intra-corporate relations can convey their managerial decisions (their thoughts) remotely. Such digital management systems can be modeled on the Internet of Things, where the necessary human mental representations are accumulated until a "digital managerial decision" can be reached.

IV. Corporate Compliance and Documenting the Outcome of Production and Economic Activities

The outcomes of the production and economic activities of corporations are documented in multiple electronic databases maintained by various government agencies and non-governmental organizations, specifically:

— the Transparent Business web service[11] maintained by the Federal Tax Service of Russia, which consolidates information from the Unified State Register of Legal Entities, the Unified State Register of Individual Entrepreneurs, the Register of Disqualified Persons, the

[11] Available at: https://pb.nalog.ru/index.html. (In Russ.).

Unified Register of Small and Medium-Sized Business Entities, the State Register of Accredited Affiliated Enterprises, representative offices of foreign legal entities, *etc.*;

— the Center for the Disclosure of Corporate Information web service[12] maintained by Interfax, which contains information pertaining to material facts concerning issuers that is subject to mandatory disclosure;

— the Receipt Verification web service and smartphone application maintained by the Federal Tax Service of Russia, which consolidates information on authentic receipts;

— the Stamp Verification web service[13] and the Anti-Counterfeit Alco smartphone application maintained by the Federal Service for the Alcohol Market Regulation, which consolidate information related to special federal stamps and excise stickers placed on alcoholic beverages;

— the Register of Self-Regulatory Organizations and the Register of Members of Self-Regulatory Organizations information portals[14] maintained by the National Association of Builders, which contain information on membership in self-regulatory organizations;

— other e-services.

The listed digital information in essence represents structured big data, which may form the basis for corporate compliance, helping corporations to conform to requirements and laws.

Digital data accumulated through each of these web services are stored on the autonomous servers of the relevant government agencies and non-governmental organizations, which are not integrated.

The introduction of the Unified System of Inter-Agency Electronic Interaction, designed and implemented as an electronic document management system, became one of the first steps towards the integration of these big data sets into a single system. The framework for the Establishment and Implementation of the National Data Management System adopted by Order of the Government of the Russian Federation No. 1189-r dated June 3, 2019 aims at reducing the amount of statistical

[12] Available at: https://www.e-disclosure.ru. (In Russ.).

[13] Available at: https://public.fsrar.ru/checkmark. (In Russ.).

[14] Available at: http://reestr.nostroy.ru/. (In Russ.).

and tax reporting submitted by corporations, thanks to document digitization and the availability of the Unified System of Inter-Agency Electronic Interaction that has enabled one-stop access to the databases of multiple federal executive authorities. It has been proposed to create a single data cloud that would accumulate all information about the activities of corporations. The infrastructure of such a data cloud should rely on transparent data architecture that would be accessible to the competent government authorities on condition, of course, that the confidentiality of the information contained within it would be preserved.

Digital corporate compliance helps assess the corporation's resistance to economic failures and its ability to adapt to changes in the market situation, as well as to regulatory developments in the country's economy as a whole. Currently, corporations may submit their accounting statements through the GosUslugi Public Services Portal.[15] Yet, the scientific community has long been discussing the possibility of delegating the accounting competencies of human individuals (accountants) to AI (Pankov and Kozhukhov, 2020) as part of the overall trend for the gradual disappearance of certain occupations that deal with information that can be processed without human involvement.

At present most digital information is concentrated in the hands of the state and the constituent entities of the Russian Federation. This includes information on real estate (land plots and buildings) owned by corporations (the Unified State Register of Real Estate, which is maintained by the Federal Service for State Registration, Cadastre and Cartography), on the founders of legal entities and the owners of shares in the authorized capitals of companies (the Unified State Register of Legal Entities, which is maintained by the Federal Tax Service of Russia), and on registered vehicles (the State Inspection for Road Traffic Safety database). Certain information is stored by non-state organizations, such as self-regulatory organizations (information on the members of self-regulatory organizations) and registrars (information on the holders of issuers' shares). Digital accounting that does not require human involvement and automated documentation of business

[15] Available at: https://www.gosuslugi.ru/. (In Russ.).

operations significantly reduces the transaction costs that affect the costs of production, and allows companies to invest the savings in the development of their business.

V. Conclusion

The above overview of trends in the digitalization of the operations and management of modern corporations attests to the active introduction of information technologies into the economy. The lifecycle of a *digital corporation*, supported by the said technologies, can be indefinite. Automation of management, production and economic activities removes the expiration date of traditional businesses. Information technologies can help companies adjust their business model and improve the efficiency of business processes on a continuous basis. The described model of digital management of modern corporations suggests that a number of human competences and occupations, such as that of an accountant, auditor and corporate secretary, will become obsolete in the near future.

Digitalization of corporate management is bound to increase business profitability and improve competitiveness. We believe that in the nearest future science will have to tackle the issues of assessing the implications of the introduction of digital technologies, determining technical, economic and legal prerequisites for their implementation, and identifying their limits. Another important issue to address in light of digital transformation is the necessity to upgrade professional competencies of employees to make them able to work with state-of-the-art technologies.

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DIGITALIZATION IN LAW

Research Article

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Transformation of Legal Reality under the Impact of Digitalization

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Abstract: The article examines the processes of digitalization of law, their causes, sources, driving forces, real and foreseeable consequences from a social constructivist perspective. Local experiences in the design and implementation of digitalization of criminal proceedings are described in detail, and expert assessments of the early successes and difficulties of digitalization in the sphere of rulemaking, law enforcement and law implementation in general are given. A counterpoint to the analysis of the processes of change in the legal reality, which takes place under the impact of its digitalization, is the hypothesis expressed in the literature about possible transformation of law into another social regulator or the birth of some hybrid form, which would include only certain elements of legal regulation. The article comments on the debate about the significance of digitalization for the essence of law as a social regulator. It considers the arguments of those who believe that the changes will lead to a radical transformation and the arguments of those who see these changes as merely technical details of law enforcement, not affecting its essence. Separate consideration is given to practical cases such as the project aimed at digitalization of criminal proceedings in the UK as well as experiments in digital, virtual and augmented reality in the US (digital environment "META," "virtual reality," "reality+," *etc.*). The philosophical and legal theoretical concepts of digitalization of law in

the context of projects of total virtualization of reality and digitalization of social practices are critically analyzed.

Keywords: digitalization; regulator; legal reality; virtual reality; digital reality; construction of reality

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Contents

I. Introduction

The aim of the study was to investigate the explicit and implicit impact of digitalization of individual law enforcement practices on the legal reality as a whole. In choosing and justifying the methodology best suited to the task, the authors proceeded from the understanding of the latter as a special type of rational-reflexive consciousness, aimed at assessing the appropriateness of individual methods and the possibility to combine them into a unified system. A peculiarity of the methodological

strategy of this research can be seen as a break with the traditional matrix of scientific method, which combines philosophical, general scientific and specific scientific legal methods into a rigid subordinated system. In line with the canons of the classics, philosophy is expected to proclaim general principles, such as the principle of systematicity or historicism, followed by their adaptation and actual transformation into a series of prohibitions and prescriptions meaningful at the level of legal theory and relevant practice. The now almost universal requirement of interdisciplinarity is realized in the work through the coordination of philosophical and scientific methods, each of which is defined according to the logic and pragmatics of the research, although it does not conflict with all the other methods individually or the entire configuration built up by them. In examining the various options for constructing reality, the authors have turned to the methods of sociology of knowledge and social phenomenology; the analysis of particular aspects of the impact of digitalization has updated many of the basic ideas of the systemic approach. Comparative legal methods, historical legal methods, as well as discourse analysis of special literature and content analysis of documents were used to study the changes that have already taken place and those that are just emerging in the regulatory framework and law-enforcement practices.

II. Transformation of Law in a Digitalized Environment: Forecasts and Reality

In 2018, Taliya Ya. Khabrieva predicted several options for the interaction between law and digital reality, one of which suggests "the transformation of law into a different social regulator allowing for the emergence of software code or some hybrid form" (Khabrieva, 2018, p. 16).

What can this regulator be if it inherently has social (which includes law) as well as technical components? According to classical ideas about the regulation of human behavior, it is customary to distinguish between two main types of regulators: technical and social. Theorists usually consider technical regulators to be traffic rules, construction standards, instructions for operating technical devices and machinery,

etc. Although control over compliance with technical norms is often regulated through administrative and even criminal law and other normative legal acts, and the process of regulated activity is often collective in nature, there is nothing social in the content of such norms. It is generally accepted that these norms regulate human interaction with the outside world, be it things, "man-made" technical devices or "non-man-made" natural phenomena.

Social regulators differ from technical regulators in the very fact that they contain, at the level of content, the whole variety of relations between people. These have always included law, custom, morality and religion. Modern scholars also note the increasing role of "normative arrays" resulting from "self-regulation" of various communities of people united by a common interest, professional activity or shared use of modern digital technologies (social networks, platforms, *etc*.) (Khabrieva, 2021, p. 7). Sustainable practices are also becoming a regulator, among them not only business customs, explicitly recognized as a source of law, but also sustainable practices emerging in people's online communication, in international business practices, in other autonomous entities, which scholars refer to as "non-state law" (Mazhorina, 2018).

The idea of the emergence of a new, "other" social regulator is more interesting because we can already say that it will combine social norms with technical ones. Of course, such "encounters" of technical and social norms have already taken place in history — the development and exploitation of technical devices have occupied an increasingly important role in human and social life in the process of civilizational development. But it is only today, as humanity moves from isolated and fragmented interactions with technology literally into a digital reality, that the norms governing this immersion will be both technical and social (Taplin, 2005).

III. Discussions on the Implications of Digitalization for Legal Reality: Merits and Risks

There are different views about the depth and extent of the changes in law itself as a social regulator, which actually boil down to two points

of view. The first view is that nothing significant happens to law as such in the course of digitalization and will not happen in the future. The second view is that a qualitative change in technical regulators cannot leave social regulators, including law, untouched. In other words, the transformation of social reality in the process of its digitalization will lead to a transformational change in such an important part of it as the sphere of law. The discussion includes, among others, representatives of the theory of criminal justice, who, using the example of this branch of legal regulation, show their vision of the impact of digitalization both on legal regulation and on the practice of law enforcement.[1] Proponents of the first point of view are convinced that the use of computers may speed up the work of law enforcers and allow them to concentrate on a more substantial part of their work by reducing the routine workload (filling in or checking documents, searching for information or processing it). But nothing will be transformed in the work of the court or the investigation, people will still be controlling machines and algorithms, and all these digital realities and the involvement of computers in the work of the court are just figures of speech and poetic metaphors. This idea is expressed by Leonid V. Golovko when he writes "even a complete transfer of the entire criminal case into a "digital" one changes nothing in terms of criminal procedure, just as nothing is changed in terms of literature, for example, by the possibility of reading Pushkin not only in a paper format (book), but also on electronic media (Pushkin is not turned into some new poet in this case)" (Golovko, 2019, p. 24). Seeing these innovations as a discussion of purely technical issues of storage of criminal case files, the author similarly assesses the discussions on the new quality of evidence, electronic evidence, blockchain, *etc*.

The exact opposite viewpoint is also widely represented in the literature. Even the notion of high-tech law was born. Lev V. Bertovskiy argues: "High-tech law is such a logistic, knowledge-intensive and technological regulator of social relations, which, on the one hand, uses high-tech in the process of law enforcement and, on the other hand,

[1] *See* Russian Legal System in Conditions of the Fourth Industrial Revolution. Collection of Articles of 6th Moscow Legal Forum. Sixteenth International Scientific and Practical Conference (Kutafin Readings). Ch. 3. Moscow: Prospekt Publ. 2019. Pp. 75–308. (In Russ.).

regulates relations arising with it. This research allows us to say with certainty that a new, fourth stage of law development has begun, which may be called the stage of high-tech law" (Bertovskiy, 2021, p. 742).

The authors of an impressive document published back in 2016 and posted on the website of the UK Ministry of Justice also argued that the introduction of algorithms would improve the efficiency of British courts.[2] This document describes the changes as follows: digitalization will help to improve the flow of cases through the various instances, increase the efficiency of their distribution between courts, and increase the speed of their consideration. Digitalization will also ensure that cases are heard close to the place where the offence was committed, allow for timely hearings and create the most convenient time for victims to attend the hearings.

It is not difficult to see that all these changes improve the work of the courts, making it faster and more efficient. But what do the authors who call the digitalization program "transformation" have in mind? Apparently, the mere fact that the courts are speeding up and the new conditions for handling cases cannot pass unnoticed for the results of compliance with seemingly the same procedures. "As new technologies bed down, — the authors state, — we anticipate that more and more cases or parts of cases will be carried out virtually or online. Meanwhile, those who use our courts and tribunals — including legal professionals — should expect two significant developments. The first is our aim for all cases to be started online, whether or not they are scheduled for the traditional system or for online resolution. The second will be the completion of some cases entirely online, which will be much more convenient for everyone involved" (Chernysheva, 2021, p. 39).

Even the usual speeding up of court proceedings by moving interrogations and debates online raises well-founded concerns about the impact of technology on court decisions. As Irina S. Chernysheva notes, "virtual trials themselves are also not that enthusiastic with all Brits. Richard Miller, head of the Law Society's Justice Department

[2] Transforming Our Justice System. By the Lord Chancellor, the Lord Chief Justice and the Senior President of Tribunals. September 2016. Available at: https://www.gov.uk/government/publications/transforming-our-justice-system-joint-statement [Accessed 02.05.2022].

(an independent professional body for solicitors), has expressed concerns about the use of video links in court" (Chernysheva, 2021, p. 39). Research into the digitalization of US justice has shown that online communication reduces empathy (sympathy) so court decisions rendered in virtual trials are harsher and imposed sentences tougher. The lack of trust in the words of someone who is far away and is giving evidence by video link increases the possibility that innocent people suffer as a result of the court decision.

IV. Digital Transformation of Law Enforcement: Objectivity vs Manipulation

There is another aspect to be considered, which is becoming more and more relevant as a result of the digitalization of the judiciary. New technical norms bring about a change in social norms and this cannot pass unnoticed in the whole social reality. It is easy to see that the above-mentioned issue related to digitalization affects the very essence of criminal justice, because it directly concerns the principle of objectiveness (neutrality), long considered an ideal and the highest value not only of criminal justice, but also of justice in general. This is rather a theoretical notion of a desirable quality of justice, whereas the statutory list of principles of criminal procedure (Chapter 2 of the Criminal Procedure Code of the Russian Federation) does not directly enshrine such a provision. However, the social and political nature of the judiciary requires the holder of judicial power to manifest objectiveness as a characteristic of all power in general (Voskobitova, 2017). The most important condition for the neutrality of the judiciary in the field of law enforcement becomes the requirement of trial fairness. In this context, M. de Salvia identifies "two types of fundamental guarantees:" organic guarantees and functional guarantees. The first of these includes the transparency of the procedure and the independence and impartiality of the court. The functional guarantees, according to M. de Salvia, focus "on a dynamic concept and on the equality of the parties throughout the process" (de Salvia, 2004, p. 376). The requirement of independence already applies to the judge in Russia, by virtue of which he must take decisions independently of any external influences on him by the State,

the legislative and executive branches of government and their officials or agencies. There is also a requirement of impartiality, *i.e.,* a clear manifestation and demonstration of a lack of personal bias and prejudice with regard to the circumstances of the case or persons involved in it by his or her conduct during the examination of the case. Therefore, the independent and impartial conduct of a judge is regarded as a guarantee of the objectiveness of the decision.

The very idea of objectiveness is one of the basic values of the Western rationalist tradition, with which the models of ancient philosophy, New European science, modern management by means of bureaucracy, *etc*. have been shaped. It would seem that the digitalization of judicial proceedings will bring us much closer to this ideal, due to the fact that the algorithm used to analyze all the circumstances of the case and correlate them with the provisions of the law, will avoid manifestations of possible subjectivity, human bias. However, the first experiments of court examination of criminal cases in the online mode have caused significant doubts among law enforcers themselves. Machine "objectiveness" seemed to them not entirely objective or even not objective at all: the use of an algorithm clearly demonstrates, at a minimum, the "soullessness of the machine" when it comes to deciding the fate of an animate subject such as a human being. Machine "objectiveness" destroys the human ideal aspiring to be understood; to be judged by a "court of one's peers" (Morhat, 2017).

Thus, the application of digital algorithm requires an unwitting, albeit significant, correction of the very notion of objectiveness. What was understood as objectiveness in relation to the characteristic of thinking, judgment or evaluation did not exclude the involvement of interest, emotion, will, values belonging to the individual in the mental activity. It has become clear that such an ideal of objectiveness, explicated not only in epistemology but also in law enforcement theory, does not contradict the human capacity for empathy. This hypothesis is fueled by real-life examples where a strictly legal criminal judgment imposed by court may appear to be questionable morally, as well as by everyday notions of justice. Moreover, the legislator himself implies a non-formalistic approach by the judge in assessing the unique circumstances of each criminal case. The sanctions enshrined in criminal law provisions usually

provide an alternative for the judge to choose the most appropriate type and amount of punishment so that it complies with the principle of justice enshrined in Article 6 of the Criminal Code. In addition, the law includes an exhaustive list of aggravating circumstances that may aggravate the penalty (Article 63 of the Criminal Code) and an open list of mitigating circumstances that enable the judge to consider as such even those circumstances that are not expressly mentioned in the law but that in a particular case play a mitigating role. In certain circumstances the judge is empowered to impose a penalty even below the lower limit specified by law (Articles 61–62, 64 of the Criminal Code). All attempts to improve legal provisions come up against the impossibility to fit the uniqueness of human life and the uniqueness of each episode of a life situation which is put on trial into the universal wording of law, so it is the individual with his/her ability for empathy and compassion who should evaluate uniqueness.

In light of these considerations, some advanced developments cannot but cause concern, and require the closest attention precisely because they aim to invade the essential aspects of a human being's personality: the free will, independent thinking, ability to make choices based on free evaluation and discretion. Thus, more and more widespread and accessible are various technical devices allowing for wiretapping conversations between people who are far away from each other and unaware that their conversation could be wiretapped, recorded on electronic media without their consent and even used against them or to their detriment. Mark Zuckerberg announced the new capabilities of the information digital system, formerly called Facebook and now called the metacommunity. According to this "demiurge," in the near future, the augmented reality headset will find and process statistical data and other relevant information in real time. While its user is communicating with other people, the "metaverse" will actually participate in communication, enter into a parallel and additional dialogue with the user, influence the user's mental processes and even the decisions he/she makes. The developers of the AI system have already been tasked with learning to "read the thoughts" of both the communicant himself and his interlocutor, appearing as a third, implicit, but potentially leading subject of communication. "Direct feedback is extremely valuable and

will allow us to leapfrog classical systems based on traditional personal data collection," Mark Zuckerberg explained (Bunina, 2021). However, the developers of such digital technologies are not yet talking about the possibilities of manipulating the mind of the person who would use such software. These manipulative possibilities are built into the software at the design stage. It may contain deliberate or reckless technical possibilities for "imposing" such digital interactions on actors, including pre-planned behavior/actions, assessments, decisions that the person would not like to manifest independently or even think of such options, and they will be activated at the level of use of such software. For example, during the interrogation of a witness, a law enforcement officer will be able to obtain various, including negative, information about this witness' personal life, which is not directly related to the facts to be proven, but can have a significant impact on the witness' behavior. He/she may be intimidated by the possibility of disclosure of such information and thereby implicitly coerced, and in fact coerced, into giving testimony that is necessary rather than that corresponding to the reality of the incident. The interrogated defendant could be intimidated without resorting to overtly coercive or psychological methods, which are prohibited at this time both at the national legislative level and at the level of international legal instruments. Such "manipulative" intimidation would be virtually impossible to detect in order to properly assess the admissibility and credibility of such testimony. It is clear from the above statement that the developers are keen to create technology to penetrate human mind, but nothing is said about the possibilities of protection against such intrusions or at least technologies to block them in order to protect human rights from digital technology.

The above shows that the digitalization of law is not only a technical and technological renewal of judicial proceedings, but also a transformation of many theoretical ideas and legal regulators. The above cases clearly show, for example, the difference between the idea of objectiveness as an ideal of cognitive activity and fairness/neutrality provided in the digital reality when using an algorithm, which in fact turns out to be rather synonymous with inhumanity, callousness. It turns out that the availability of exhaustive information about the participants of legal interaction can lead to a more accurate and reasoned

decision. However, the same technologies can generate the whole "industry of manipulation" of others' opinion, others' will. Software and accessories developed for the aggressive style of negotiation described by Mark Zuckerberg may also be used to the detriment of human rights. Consciously and arbitrarily, the operator of such accessories will be able to change the natural behavior of a person, deliberately shape only a unilaterally advantageous decision, induce decisions and actions disadvantageous to the person, *etc*. This demonstrates the fundamental need for more active interaction between lawyers and IT specialists in order to identify all possible transformations of the legal content itself, the meanings of legal regulation, to assess the relationship of legal goal-setting with the capabilities and limits of digital technology, to identify in advance possible legal, moral and other social risks that technology is capable to generate, but which can and must be stopped by man through, among other things, law.[3]

V. Levels of Transformation of the Legal Reality amid Digitalization

The impact of digitalization is far from being limited to procedural paperwork, the ability to conduct interrogations, investigations and court hearings using remote communication technologies. Nor is it confined to the collection, preservation and processing of digital evidence and the discovery, registration and examination of digital footprint. In addition to the direct impact of digital technologies on law enforcement practices, it can be assumed that law is being transformed significantly along with a qualitative transformation of systems of thought and structures of

[3] It is no coincidence that e-justice standardization has received considerable attention. *See*, for example, Recommendation No. R (95) 11 of the Committee of Ministers to Member States Concerning the Selection, Processing, Presentation and Archiving of Court Decisions in Legal Information Retrieval Systems (adopted by the Committee of Ministers on 11 September 1995 at the 543rd meeting of the Ministers' Deputies); Recommendation Rec(2003)14 of the Committee of Ministers to Member States on the Interoperability of Information Systems in the Justice Sector (adopted by the Committee of Ministers on 9 September 2003 at the 851st meeting of the Ministers' Deputies). European Ethical Charter on the use of artificial intelligence (AI) in judicial systems and their environment was adopted on 4 December 2018.

social interaction. Digitalization is likely to have a significant impact on the prevailing worldview, goals and values of the modern individual. According to Taliya Ya. Khabrieva and Nikolay N. Chernogor, digital technologies "are capable of changing the image of law, influencing its regulatory potential and efficiency, opening the way or blocking its action in new dimensions of social reality" (Khabrieva and Chernogor, 2018, p. 89). We have to agree with this opinion. At the same time, the first fragmentary attempts to introduce digital technologies into criminal proceedings have already revealed the need to clearly distinguish between several levels of both the legal reality itself and the digital transformation of the legal reality that the transition to high-tech law may encounter.

First, this is the level of general theoretical ideas about law and certain aspects of its characteristics. Digitalization will require not only a rethinking of the concept of law, its purpose and role as a social regulator. At present, the content of law is determined by the level of social relations, the state policy, and the system of values forming in society at the given moment of historical development. In general, the content of law is formed by such phenomenon as ideology and, therefore, is primarily conditioned by the social nature of human relations. The digitalization of law itself cannot but penetrate into its content. At the very least, apart from the social basis of law, a technical and technological form will emerge and become part of its content, requiring its regulation. The first experiments in the use of electronic vehicles on city streets can serve as an example. The driverless, self-propelled electric vehicle, its functional intrusion into the social environment and its interaction with people — passengers, pedestrians, *etc.* — is already raising many legal issues. For example, who should be held liable for a possible accident causing harm? Different options are being discussed: maybe the software developer, maybe the operator who controls the electric car. It is already clear that the content of road safety regulations will have to be substantially revised and changed. Digital technology will also require a different presentation and design of the content of the legal norm. Not only the text but also the legal meanings implicit in the legal regulation will have to be fixed and explicitly formulated. This, in turn, will require the improvement of legislative technique,

legal language, the style of presentation of individual norms, the clear construction of legal *corpus delicti* and sanctions for their violation, *etc*.

The second level of transformation of legal reality will be related to the interpretation and explanation of the content and meaning of legal norms. The algorithm must be trained not only to find the text of a norm that fits the given factual circumstances of the life situation. It will face the professional legal necessity of interpreting the text of an individual legal norm. Firstly, the task will arise to find the whole system of legal regulation of the given legal relation in its entirety. Secondly, the necessity of the interpretation will be conditioned by the context of uniqueness of the single life situation that requires legal enforcement. The multifariousness and variety of life situations regulated by law cannot be mechanically exhaustively accumulated in digital databases. They are constantly changing as life's conflicts themselves change. They cannot be captured and expressed in some generalized prescriptions as unambiguously as in a mathematical formula. Meanwhile, the algorithm and technology of its application will require just such unambiguity, even if the software provides opportunities to choose from several clearly defined variants. Therefore, we can already observe a certain transformation of legal reference systems when in addition to the official and up-to-date text of a legal act they include also accompanying explanations in the form of hyperlinks to additional information, if the programmer is aware of it.[4]

It should be taken into account that these legal reference systems (LRS) were originally intended to provide simple access to the texts of legal acts to the general public. However, as soon as the need emerges to implement a legal provision in a real-life situation, the task of interpreting such legal provision, identifying its meaning, understanding the legislator's intent, why and for what purpose such regulation was established, *etc*. immediately arises. It follows that the existing systems will have to be transformed and specialized versions of the LRS "for the professional law-enforcer" will have to be created on the basis of the existing systems. They must include not only the actual text of the law

[4] This practice is widely used, for example, by "Consultant Plus" legal reference system.

as a whole. It will also be necessary to add, based on article by article principle, all other necessary normative material, including material from various branches of law, if a real-life situation is found to border between the various sectoral regulation frameworks. All the judicial interpretations as well as explanatory, commentary and even doctrinal materials required to correctly interpret the text of the legal provision and to clarify its true meaning may also be required. This creates a fundamentally new enforcement situation. The sectoral demarcation of the law is replaced by the need for a comprehensive understanding of the legal regulation in relation to the specific legal relationship (Voskobitova, 2019). If the imputed charge, for example, relates to the economic activity of the accused, then without applying the civil law regulation in its entirety, applicable to the given situation, it is often very difficult to identify, understand and formulate the presence of criminal law characteristics of such an offence. For example, without reference to civil law provisions, it is unacceptable to mechanically use notions such as "beneficiary," "shareholding," "controlling interest," "owner and/or founder,", *etc.* in the course of the prosecution, giving them an arbitrary rather than strictly civil law meaning. Only the creation of specialized information and analysis systems for law enforcers will create conditions for the formation of necessary, detailed and comprehensive databases for digitalization of enforcement activities. Undoubdedly, constant interaction with such databases can have a significant impact on the knowledge and understanding of the law for all law enforcers, deepening and expanding their legal awareness.

The third level of transformation of legal reality will be the level of law implementation itself, which should provide the subjects of law both independent forms of implementation of legal regulations (use of their right, performance of their obligation, compliance with the established prohibitions) and the most complex and multi-subject form of law implementation — law enforcement. The most important and regulated form of law enforcement is court procedure, which is also the only form of exercise of the judicial power under Article 118(2) of the Russian Constitution. Therefore, the digitalization of law enforcement will affect practically all procedural branches of law as well as the regulation of administrative and other organizational aspects of judicial,

law enforcement and regulatory bodies. Therefore, the digitalization of law and the transition to high-tech law must not be regarded as a purely technical change, such as the replacement of handwritten documents with typewritten text. The digitalization of law cannot but affect the underlying and essential characteristics of the existence and operation of law at all levels: rule-making, interpretation and implementation.

VI. The Historical Experience of Social Reality and Law Transformations

Comprehension of the possibilities and limits of digital transformation on each of these levels of legal reality has yet to be understood. Therefore, the experience of previous transformations of social reality becomes important. As we know, back in the mid-19th century, Auguste Comte, the founder of positivist philosophy and scientific sociology, presented human history in the form of three stages: theological, metaphysical and positive. Each of these stages corresponded to its own way of explaining processes and phenomena, which predetermined not only the picture of the world, but also values and even the institutional structure of society. It is well known what trace these stages left in the history of the development of law. What the French theorist called the theological stage, modern science mostly refers to as the prehistoric period of civilizational development. There is still no distinction between nature and society, relations with people and animals, inanimate things and forces of nature are equally social. A human being in the theological stage is forced to come to terms not only with his own kind, but also with different "beings," whether it be the spirit of a bear killed in a hunt or the spirit of a river, the safe "interaction" with which is impossible without an offering or even a sacrifice. The extension of social experience to the realm that we now take outside society is linked to the lack of a conception of inanimate phenomena or processes that cannot be influenced. An agreement, along with the relation of kinship, becomes virtually the only social regulator, whether it is an agreement with gods, spirits or tribes.

The whole epoch of ancient civilizations can be described as a time of transition from the theological to the metaphysical stage — this

is when the notions of fate, destiny, predestination and inevitability appeared in the classical society of Ancient Greece and Ancient Rome, and also received their completion. One consequence is the separation of nature from society. Another consequence is the formation of Roman law, based on speculative metaphysics, philosophy and formal logic.

The New Age scientific and technological revolution, in which the metaphysical stage is replaced by a positive one, is marked not only by the mathematization (digitalization) of nature by Galileo, but also by the naturalization of law by Grotius. Society now appeared as a part of nature. The idea of social physics was first suggested by Thomas Hobbes, but only Auguste Comte and Karl Marx managed to bring it to its logical completion, as it was in their theories that society began to be comprehended as a reality. Without these truly tectonic shifts in thinking, subsequent transformations in the social structure, as well as in the understanding of law, law-making and law-enforcement would have been impossible.

There is every reason to believe that the changes in thinking and social reality brought about by digitalization, both those already taking place and those looming in the future, will be no less sweeping. The digitalization-induced changes in worldviews are already taking place — a digital world is being added to the familiar world, which turns out to be no less complex, and contemporary researchers are already questioning the existence of a structured "digital reality." George Towner singles out three types of digital reality, distinguishing them according to their origins, establishing their very origins by the "material" from which each was constructed. One digital reality is generated by behavioral practices, the second is formed by digital properties of physical things, and the third is created from ideal objects. Applying elements of set theory, Towner even establishes an appropriate hierarchy of powers: alef-zero, alef-one, alef-two, which makes it possible to compare them and solves the problem of the impenetrability of each of them to each other (Towner, 2020).

As Towner notes, "three types of digital reality correspond to our types of understanding. Feelings, thoughts, emotions, desires, *etc*. — our internal experiences as a whole — become parts of our behavioral reality. What we accept as external objects and events, including our

bodies, become part of our physical reality. Universals and *a priori* truths become part of our ideal reality. As they are classified and better understood, reality sets of each type can become elements of sets of other types" (Towner, 2020, p. 4). The behavioral type of digital reality is constructed, according to Towner, around the order of time, the main parameter of which becomes its linearity, *i.e.,* duration. The physical type of digital reality is generated by space, the main quality of which is density. The ideal type of digital reality appears as a hybrid of the first two, constituting a kind of complex pattern. This seems logical, because both human actions and physical things can equally be thought in terms of concepts, *i.e.,* be represented as idealized models.

This approach is, to a certain extent, consistent with the levels of digitalization of legal reality suggested above. We can look at legal reality as "*density*" in relation to the volume, scale and comprehensiveness of regulation of social interaction by norms of substantive legal regulation, which has a clear trend towards expansion and complication, following the development of social relations themselves. Moreover, the question of different vectors of development of legal regulation is rightly raised: (a) as a response of the state to the already established social relations, and (b) as a proactive development of law for purposeful formation of new social relations that are useful for society in the given trend of its development (Przhilenskiy, 2020). Such "legal density," despite its expansion, remains static in its real being, while the regulation itself is constantly "densifying" in its volume. It is structured, systematized and evaluated in terms of sufficiency or looseness, consistency or contradiction. It is valid and present in the social and legal reality proper and can technically be transposed into the digital reality as a given. In this sense, the law can be minimally transformed: it simply becomes machine-readable,[5] more accessible, both in its location and in the time it is accessed.

The legal reality as a "*behavior*" appears before us in the implementation of law, where a static provision comes to life and turns into a real functioning regulator of social relations. In order to

[5] *See* Concept for the Development of Machine-Readable Law, approved by the Russian Government on 27 September 2021. (In Russ.). Available at: http://www.consultant.ru/document/cons_doc_LAW_396491/ [Accessed 01.05.2022].

implement the legal reality legal provisions are activated either by active behavior of the legal subjects themselves or through law enforcement activities of the competent authorities or officials specially organized by the state. The application of law is accompanied by a certain compulsion to mandatory following the legal mandate. Thus the behavioral aspect of legal reality is mobile, functioning from the static state of the legal provision to the implementation of its regulatory function in social relations. Digitalization of the behavioral aspect of legal reality requires fundamentally different approaches. The most important of these is the clash between the personal activity of the legal subject, who has a set of human rights, will and interests,[6] and the technological reality that the subject of law enforcement and the developer of digital software or algorithms will now have to reckon with. It is here that the linearity of the case progress from its origin to its legal resolution and procedural conclusion will manifest itself. The duration factor will also affect both the progression of enforcement and the digital technology that enables it. An important factor in the behavioral aspect of legal reality becomes goal-setting and the pursuit of the chosen goal by legal means. It is here that a reasonable balance has to be found between the personal subjectivity of the behavior of the actor of this interaction and the objective algorithmic nature of digital technology. The method of inductive thinking "specifics-to-general" should be the most important principle of developing a behavioral type of digital reality in relation to the behavioral aspect of legal reality. The general will be a static right, while the specifics will always be a single life situation requiring law enforcement. The entire logic of constructing a behavioral type of digital reality must be subject to this logic. There are certain facts of the "life situation" which need to be known correctly in their legally relevant scope and detail. Only then is it necessary to find the most appropriate legal provision to be applied to that situation in the overall volume of legal regulation. This logic of digitalization of the enforcement behavioral aspect of law can provide the aspiration for objectiveness, which is not always present in subjective enforcement. On the other hand, the

[6] It can also be a legal entity with its own set of rights and obligations, as well as interests and objectives.

participation of legal subjects cannot be completely eliminated precisely because of the social, interpersonal interaction in the behavioral aspect of legal reality. An animate subject cannot, for moral reasons, be left at the "total disposal" of a soulless algorithm: the individual has the right to be judged by his peers, *i.e.,* for a court consisting of human beings. At the same time, one cannot ignore the fact that any technical innovation may to some extent encounter opposition from the person using it. In the case of law enforcement behavior, such opposition is potentially conditioned by the acute conflict situation of the legal dispute and the parties' desire to establish their case before the court and to convince it of the persuasiveness of their arguments. The second line of a possible conflict of interest is caused by the clash of state-authoritative interest and subjective interest of a participant to legal proceedings. The practice of digitalization of criminal proceedings shows some examples of unauthorized intrusion into the normal operation mode of digital software. In some cases it is done by officials seeking to strengthen their authority or accusatory position (Atakishi, 2019). In other cases, it can also be done by non-powerful actors in an attempt to obstruct in one way or another, including by hacking, the administration of justice in a particular case. It follows that the digitalization of the behavioral aspect of the legal reality will be the most difficult stage, including with regard to research and forecasting of all possible risks. It will also require the most rigorous design of legal, technical and technological measures to prevent such risks, to remedy their consequences and to find reliable protection against them.

The legal reality as ideology is an area of theoretical reflection on the concept of law, its value, meaning, goals and capabilities. Here, digitalization can provide new and hitherto unknown opportunities to obtain such a database for scholarly studies, which is very difficult to collect in the course of usual research mode. The possibilities of information accumulation, analysis of the collected data, their systematization according to the preset attributes or parameters — all of this creates fundamentally new opportunities for the development of scholarly studies, for interdisciplinary research, for the operation of large databases of empirical material and statistics. In fact, the researcher is able to dive into the legal reality as a whole, to see its

scope and depth at the same time. This gives hope for fundamentally new scholarly discoveries and breakthroughs in legal studies. At the same time, there are risks associated with the "contamination" of the legal reality by erroneous, false, unreasoned, plagiarized sources of information, *etc*. The digitalization of legal ideology must therefore first establish ethical principles for the existence and use of legal ideology, without restricting scientific creativity and its freedom in any way. Incidentally, these ethical requirements and conditions have yet to be constructed in relation to the digitalization of the ideological aspect of legal reality.

VII. Digitalization and Social Justice

It is no coincidence that David Chalmers, who calls his position virtual realism, notes that ethical, legal and political problems arising in virtual worlds, are similar to those in the real world. People cannot help but insist on carrying into the virtual world the values to which they are accustomed in real life. What deserves further discussion, according to Chalmers, is the difference in virtual reality values that cannot be imported into the new environment. The American philosopher is convinced that one of the central problems of political philosophy of virtual worlds is ensuring equality and justice in this field (Chalmers, 2022).

In considering equality and justice in virtual worlds, the American philosopher David Chalmers turns to John Rawls' book "A Theory of Justice," which begins with an intellectual experiment set at the intersection of two perspectives well known to all historians of political and legal thought. The first perspective is born of the legacy of Thomas Hobbes and JohnLocke, who in their intellectual experiments modeled the "initial conditions," according to which individuals "sign the contract" for establishing a society where all obey the laws and other rules of social life. The second perspective goes back to the modeling of the future carried out on the basis of quasi-scientific forecasting of social development by Karl Marx in his doctrine of communism. Thus, the theory of social contract received its tematization in the John Rawls' doctrine of in the context of the issue of fair (or unfair) distribution

of a limited amount of resources among the population. Rawls' book describes initial conditions where an individual finds himself in front of the veil of ignorance and cannot determine whether he will become rich or poor as a result of "signing" such a contract. However, in accordance with the theory presented, he accepts the proposed *principles* of a just social order, which, while preserving inequality, make it rationally and emotionally acceptable (Rawls, 1971).

In addressing the applicability of justice theory to virtual reality, Chalmers asks about the transformation of political, legal and economic relations in transition from the ordinary world to the virtual one What semantic changes will take place in the issues of the expediency of resource distribution, exchange or donation, property transfer, the classification of crime and punishment, the structure of democracy during their transit from the ordinary reality to the virtual one? The American philosopher even wonders if virtual worlds should have open borders or should all cross-border movements be carefully controlled? (Chalmers, 2022).

Chalmers considers the issue of distributive justice to be the most interesting. This term was introduced by Aristotle, who contrasted distributive (allocative) and commutative (reciprocative) types of justice, but in the context of our discussion only the former is interesting. Howard Curzer notes, "Aristotle says that the judge who unfairly distributes punishments is trying to obtain something for himself or herself. The judge is "aiming at an excessive share either of gratitude or of revenge." In general, Aristotle's gratitude or revenge suggestion is that intentional maldistribution is typically motivated by an excessive or defective desire for some good, though not necessarily, for the good being distributed. Disinterested maldistribution is not typical" (Curzer, 1995, p. 230). Here, the transition to the virtual world completely changes the above disposition as a whole. Chalmers thinks that Marx's model of the world of abundance, which Chalmers himself calls the world of the future or a virtual version of "society after scarcity," is appropriate for a mental experiment with virtual reality aimed at clarifying the issue of distributive justice.

According to the theorist conducting the mental experiment, we can hope to harness the power of the sun to produce an unlimited amount

of energy, and the development of medical care will remove all human anxiety about our own health and longevity. The amount of goods and services can also grow almost unlimited. There are special goods, which Chalmers calls "positional goods," whose main characteristic is that they will always be scarce. These goods or benefits depend on the position of each person in the society, and with any desire for equality, it is they that guarantee the preservation of social inequality. David Chalmers writes, "For example, fame is a positional good: not everyone can be famous. The same is true for power. Abundance of material goods in a virtual world cannot ensure abundance of these positional goods, and these goods may take on even more significance in a virtual world. If some groups have far more political power than other groups, a world with virtual abundance will not be a truly egalitarian paradise. More fundamentally, while virtual abundance may remove some distributive injustice, there is much more to equality than distributive justice" (Chalmers, 2022, p. 363).

VIII. Findings and Conclusions

All of the above allows us to see digital reality as a certain alternative to pre-digital reality — it removes previous constraining restrictions by creating new ones. As digital reality is generated by the latest enginery and related technologies, it can itself be seen as a technology. Here we may recall Eugen Kapp who called technology an organ projection — with technology man merely amplifies the natural possibilities of his organs, thus transforming his nature (Kapp, Noiret and Espinas, 1925). By so doing, it is impossible not to touch upon law, standard-setting and law enforcement, and this applies both to theory and practice.

To sum up, it can also be assumed that the law will undergo a transformation, and a very radical one. It is unlikely that the distinction between nature and society can still be appealed to in the context of digitalization, and that the one can be reduced to the other. In other words, the idea of the legal norm as a regulator of social relations will lose its usual meaning and will require transformation, as the representatives of the sociological approach in the philosophy of law do. Natural law and idealistic approaches will also lose their meaning

and require transformation, with all the ensuing consequences for lawmaking and law enforcement.

Traditional perceptions of the distinction between objective and subjective, unique and universal, potential and actual, all of which constituted notions of law and justice in previous ways of constructing reality, will undergo a transformation, if not disappear altogether. Even if the digital reality will only complement the social, physical or everyday reality, its impact on thinking and social, including law enforcement, practices will be very significant.

There is another side of digitalization that yet to be fully discussed in the specialist literature. It is referred to the problem of the relation between the unique and universal as two alternative ways of seeing the world. A trial consists of a series of events, and each of them is both typical and unique. Implementation of legal requirements by parties is designed to make their actions typical (stereotypical), but even this does not deprive each of the actual trials of uniqueness. Adherence to the principle of legal certainty obliges law enforcers to increase the predictability of court decisions. This can be achieved by improving the wording of the legal provisions that, by the way, must not allow for diversity of interpretations. The uniform practice of their application should turn the actions of law enforcement agencies into an analogue of machine-like actions or at least create the illusion of such both for law enforcement agencies and for the subjects of law enforcement. The latter is particularly important as they may include victims, defendants, witnesses and even external observers who may be present in court or may be informed of the trial and its outcome by the media.

Those who, from century to century, have painstakingly perfected the legal framework of judicial procedure and, step by step, eliminated every possibility of human subjectivity, will for the first time have the hypothetical opportunity to rely on the power of artificial intelligence in their movement. Just as in the legendary translation of the sacred books of the Old Testament from Hebrew into Greek, seventy rabbis were able to produce one single text, so seventy trials with the same class of plaintiffs and defendants, but with personally different judges and prosecutors, would have to end in the same way. This cannot happen with live people in real time, because retrial is in principle

different from primary trial — you cannot enter the same river twice. But computer modeling capabilities allow not seventy, but all seventy thousand or more lightning-fast virtual processes, each with its own separate interpretation of an act or utterance. One of the authors of this article has experience as an expert on a dissertation considered by a department and a dissertation council, is a member of the expert council of the Higher Attestation Commission, *etc*., and is somewhat familiar with the work of court experts. The conviction derived from this experience is one — expertise is better than no expertise at all. But a second conviction is that not only do different experts evaluate the same event, action or text differently. They are capable of interpreting it differently. Therefore, the digitalization of the legal reality on each of the levels discussed here should provide a technology of interaction not only for all subjects of law enforcement process, but also for the interaction between the human being with his subjectivity and the algorithm capable of producing a machine-like, *i.e.,* soulless-algorithmic objectiveness. It is necessary to search for a synthesis of such capabilities and capacities in order to preserve everything valuable in law and enrich it with new properties and opportunities.

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DIGITALIZATION IN LAW

Research Article

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Mediatization of the Legal Sphere in Russia: A New Digital Culture of Law in the Media Space

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***Abstract*:** The paper analyzes the concept of mediatization of the legal sphere in the context of emergence of the global information and communication system. The paper proceeds as follows. First, the authors examine conceptualization of the term mediatization in domestic science. Second, the concept of mediatization is examined in the context of law as a social institution. Third, the authors provide the readers with the case study substantiating the conclusion that traditional doctrinal approaches and traditional methodology of linguistic forensic examination cannot be applied in modern conditions. The paper examines the impact of the changes that have accrued in the media and legal sphere: new formats of information production and distribution, robotization of journalism and legal journalism, changes in approaches to the web content examination and judicial text production and distribution.

Keywords: media; law; global information space; legal journalism; legal text; content examination

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Contents

I. Introduction

Modern human civilization is characterized by a high degree of technogenicity. Taking into account the predominance of a certain type of communication at each stage of society's development, researchers, following Alvin Toffler (2002), define the modern stage of society's development as post-industrial, and more precisely, post-information. It is characterized by the global and mobile nature of communications, when information becomes the main item of production and consumption.

An information society forms a single global information space that is characterized by a high availability of information. Global information networks are being created and distributed everywhere; information receives the status of a mass consumption product, and, accordingly, the number and intensity of remote communications are increasing. Moreover, innovative opportunities for expressing public opinion are increasing and their potential to satisfy almost any information needs of people is escalating. Most importantly, the integrity of modern society can be maintained by a certain means of communication. All these processes are reflected in the concept of a *global information and communication system*. At the same time, two opposite trends in the development of the information and communication system are obvious: the trend for globalization and the trend for differentiation

(Toffler, 2002, pp. 15–17). According to Manuel Castells — a sociologist and leading specialist in the theory of post-information society — the Internet accelerates exponentially the information development of civilization, since it creates such a social structure when "the source of productivity lies in the technology of knowledge generation and information processing in symbolic communication" (Castells, 2004).

Today, almost any newspaper, journal or magazine has several forms of existence: the usual "paper" format and the digital format on the Internet. The radio has also changed its usual format: on radio channels' websites, it has become possible not only to listen to online and offline conversations and interviews, but to watch programs, leave comments in real time and offline (Severskaya, 2020, pp. 84–86). The concept of TV broadcasting has also changed. Streaming channels are gaining momentum and they make their substantive contributions to the global information and communication system.

At the same time, not only the nature of the information supply and consumption has changed (McLuhan, 2014; Kolomiets, 2010, pp. 58–65). Their speed is increasing every day. Thus, the new media and the new media formats ceased to be a means of communication. They have become the most influential social institution transforming culture and affecting all the other social institutions. However, there is a contradiction between technological over-development and social under-development of modern society.

II. Robotization as a Technogenic Factor and Content Creator

Robotization should also be called among technogenic factors in the development of digital society in the era of total consumption and production of information. This process reflects not only a technological side of the existence of civilization, but also its culture. First, with the development of technology, any national language as a sign system becomes the object of robotization, and in this case, a robotic language is used in specialized programs (chatbots) on commercial platforms and in online stores.

Second, robotization penetrates into the very sphere of production and transmission of information (Plets, 2017). A key turn in the life of society took place when robotization of journalism and immediate production of the news became possible (*e.g.*, following the results of elections in various regions of the country and publicizing them). It is widely recognized that texts created by robots, in terms of their objectivity and accuracy in quoting figures and data, are more reliable than the news texts written by humans, and they inspire more confidence. The practice of robotic journalism is quite widespread and developed abroad and the thematic range of texts written by robots is very wide.

At the same time, in Russia, the use of standardized texts created by robots is still widespread only in the newsfeeds. Since these processes are being implemented in Russia with a clear focus on foreign software and algorithms, we witness a transformation of the language of modern media. Without setting ourselves the task of solving all the problems that arise within the framework of this study, we emphasize: algorithms compiled according to the English language model break the grammatical (deep "protective") part of the language. Thus, robotization of the media language poses a danger to national languages, and in particular to the Russian language.

III. Mediatization as a Subject Matter of Research: Domestic and Foreign Doctrinal Approaches and Literature Review

Russian and foreign scholars and researchers took many efforts to elucidate cultural transformations that were taking place under the influence of media, digitalization and globalization. This explains popularity of international scientific and practical conferences organized and held under the auspices of the Laboratory of Media Studies and Media Linguistics in the Field of Law (IZiSP, Moscow, Russia): "A New Culture of Communication in the Context of Digital and Socio-Cultural Globalization: Law, Media and National Identity" (November 14–15, 2018), "Language, Law and Society in the Coordinates of Mass Media" (September 25–26, 2019).

At the plenary sessions and round tables of conferences, participants discussed peculiarities of information consumption and the influence of information on the behavior of an individual and the processes taking place in the modern societ. This influence is carried out using two strategies — orientation and disorientation — in advertising (the implicit influence of which is huge on the sphere of unconscious human behavior in general), information consumption, uncontrolled creation of news content. Media and information technologies have a significant impact on the dispositional structures of human consciousness (which are generally difficult to change) and the process of human consciousness transformation has already started.

The study of *mediatization* was initiated abroad. John B. Thompson (1995) introduced the term in the 1990s. However, back in the 60s of the 20th century, the question of the influence of media on politics was raised by Marshall McLuhan (2014). Moreover, at the beginning of the 20th century researchers shared observations concerning the impact of traditional media on politics. Meanwhile, since the 2000s, mediatization has become an object and subject of research in Russian scholarship. However, this is not an indicator that this phenomenon of media-centric culture has already been thoroughly examined.

On the contrary, this constitutes evidence of the interest of researchers in strategies and tools that progress the social development. It is universally recognized that mediatization is a mega-trend of modern social development in Russia, which explains why the subjects, objects, phenomena, factors and processes of mediatization are studied within the subject field of each social institution, and each social institution is considered as an object and subject of mediatization. Thus, Viktor M. Khrul made a fair statement about the essence of the research on mediatization: "Mediatization remains a framework approach for now, and a reliable research is carried out using proven, traditional methods of the humanities and social sciences (content analysis, discourse analysis, mass and expert surveys, interviews, focus groups, *etc.*)" (Khrul, 2019, p. 50).

Nevertheless, over the last twenty years, almost a dozen of theses and dissertations devoted to mediatization have been defended in Russia. All the papers have a pronounced political dominant, and this

is understandable: the theory of mediatization originates from the studies of political communication.[1] Thus, Abbas R. Gallyamov (2003) analyzed the mechanisms of mediatization that form the image of a political leader and the behavior of citizens during election campaigns. Ekaterina Voinova (2006) in her interdisciplinary dissertation describes the process of mutual influence of political and media fields in the conditions of a new information culture. In the thesis prepared by Brady Rosemary (2008), mediatization of US military operations covered in American media were examined. Anton A. Zhuzhlov (2010) subjected civil society to thorough examination in the context of the causes of the emergence of the civil society's network and their role in the process of mediatization, as a result of which there is a transition between the government and society to the form of social partnership. Ekaterina G. Gribovod (2017) has thoroughly investigated both the history of the issue and the degree of politics' mediatization that the scholar considers as *soft power* of States, and as an information and strategic resource that transforms the political sphere.

We must say that in these political science studies, the emphasis is placed on political and social practices. In philological and journalistic works the focus is made on linguistic and cognitive aspects in the process of conceptualization of key concepts of a particular social institution, since mediatization is a powerful catalyst that accelerates this process. Philologists and journalists also pay attention to the cognitive structures of the concept implementation, in particular the *frame* (Volkodav, 2007). In addition, linguists analyze manipulative techniques — linguistic, visual, *etc.*, — that are actively used by modern media (Danilova, 2011).

[1] However, first of all we will enumerate research projects of the leading universities in Russia, namely, Moscow State University and Higher School of Economics: 1) Scientific project of the 2018–2019 academic year carried out at the Faculty of Journalism of Lomonosov Moscow State University "Mediatization in Modern Russia: Theory and Practice" supervised by Dr. Sci. (Sociology), Prof. Irina A. Poluekhtova. (In Russ.). Available at: http://www.journ.msu.ru/about/media-research-centre/nauchno-issledovatelskie-proekty-2018-2019-uch-goda-/mediatizatsiya-v-sovremennoy-rossii-teorii-i-praktiki.php); 2) A project within the framework of the HSE 2017 Fundamental Research Program. "Mediatization of social institutions, communities and everyday life" supervised by Ilya V. Kiria. (In Russ.). Available at: https://www.hse.ru/org/projects/205017353 [Accessed 01.06.2022].

Finally, the phenomenon of mediatization has been analyzed in various aspects in a number of monographic articles that should also be mentioned. In particular, Mikhail M. Nazarov (2014) assessed the state of "*social transparency*" that due to new information technologies is becoming an "increasingly important dimension of social existence." He also "measured" the ratio of "the private and the public" in the process of mediatization of the society. Tatyana V. Shmeleva (2015) highlights the relevance of research concerning this process in media studies, philosophy and sociology. She pointed out that the most mediatized social institutions are culture, politics, law, sports and advertising. In fact, these institutions are subjected to special study in the information field. The author identifies two aspects of the mediatization research strategy — social and personal strategies, as well as media linguistic methods of analysis: discourse monitoring, expert interview and questionnaire survey.

The research review illustrates mediatization of such social institutions as politics, law and religion in Russia. There are both philosophical and culturological justifications for this: the semantic core and strategic priority of each of these spheres is *power*. In politics we speak about "world" socio-political power based on authority, status, force and law. In religion, it is the "heavenly" and sacred power. It is a source of grace, or charisma inherent in the individual, *etc*. It is significant that law is an essential concept that explains the legitimacy of both authorities. Moreover, these spheres of public life are more associated with the emergence of acute religious and political conflicts of varying strength and degree, which requires legal regulation, and, of course, careful research.

Negative Effects of Mediatization: Problems and Possible Solutions

Despite the fact that mediatization is universally recognized as a mega-trend that develops social institutions, it is necessary to indicate the negative sides of this phenomenon.

1. Now scientists are talking about Internet addiction as a mental illness and about the need to observe digital and "information hygiene."

2. Isolation of the sense of reality: modern electronic media are mythmaking and they made mythmaking absolute.

3. Mediazatiation means reduction and blurring of meanings under the influence of mass media (the term was coined and introduced by Irina V. Annenkova (2012)) as an effect of media technologies and media strategies.

4. Threat to national languages.

5. Manipulation of consciousness (linguistic, visualized techniques in text and media products, tactical strategies): manipulating individuals and groups leading to political, religious and ethnic conflicts.

6. The formation of news in accordance with the order of transnational elites — manipulation, *etc.*

7. The loss of communication skills due to communication in social networks.

8. Discrediting an individual, harming his reputation and defaming.

9. Data collection that entails violation of a person's personal freedom. Data collection constitutes an encroachment on individuals' personal information rather than facilitates substantive economic development. This issue has not yet been resolved unequivocally.

10. Terrorism and incitement of national and religious hatred in social networks.

11. Organization of color revolutions (Rusakova, Bocharov and Gribovod, 2014, p. 43).

Initially, mediatization of the society was conceived as the creation of a special environment and mechanisms that provide access to the spiritual riches of culture, science, and civilization in general. Mediatization takes place in two aspects — personal and social — and negative phenomena of this process correspond to these two aspects. Finally, it is necessary to characterize both the legal sphere and the media as a unique subject and object of mediatization, which results in a comprehensive and diversified system of vertical and horizontal social relationships.

IV. Mediatization and Law: Literature Review

The term *mediatization* that originated in the political sphere is now applied in all the spheres of life affected by technocratic revolution and new media. While some jurisdictions are trying to adopt new terms describing a new phenomenon as applied to the legal sphere (*e.g.*, researchers in Israel suggested the term "judinalism" (Peleg and Bogoch, 2012)), in Russia journalism and law are examined as interacting but independent phenomena.

In one of the first dissertations devoted to the interaction between the legal sphere and the media, Fatima Yu. Sheudzhen (2003) defines the concept of a *journalistic legal text* and the field of its functioning. In this regard, it is necessary to focus on the concept of judicial speech production developed by Elena I. Galyashina (2003), who analyzed the principles and mechanisms of forensic phonoscopic and autorological examinations and justified the need to single out forensic linguistic expertise as a new expert specialty.

A significant contribution to the study of mediatization of law was made by Olga V. Tretyakova. In her thesis, she stated that "law enforcement information in the media is one of the main means of forming the legal consciousness of citizens, an essential resource for determining the rule of law and civil society in modern Russia" (Tretyakova, 2002, p. 5). In addition, the researcher classifies *law enforcement information*, defines its most important functions and communicative forms (for example, she proves that law enforcement information in the media refers to socio-psychological information) and develops criteria for its effectiveness. Based on large-scale legal information corpus, Olga V. Tretyakova (2012) develops these ideas in her doctoral dissertation, where she examines organizational and creative parameters of *legal journalism* and its important component — judicial journalism. The researcher presented a model of constructive and productive interaction between journalism and the legal culture of society.

Ekaterina A. Berezina (2015) in her thesis continues to study mediatization of the legal sphere in the context of *legal journalism*. In particular, she identifies the principles of interaction between legal

journalism and the legal culture of small and medium-sized businesses, analyzes the stages of legal journalism development in post-Soviet Russia and determines the place of legal journalism in the Russian media system. Marina V. Silanova (2017) explores mediatization, interpretation and conceptualization of legal terms and concepts before they become a *media concept* and enter into the legal media discourse.

Finally, we note the contribution of the Institute of Legislation and Comparative Law to the development of this research area. Irina V. Annenkova, Maria A. Pilgun and Nikolay N. Chernogor (2018) compared the media coverage of legal issues and the influence of the media on social and legal behavior in foreign research papers since the 1960s. In addition, the researchers characterized Western criminal television shows and the powerful impact of media presentations of criminal news and events on civil litigation in general.

Particular emphasis was placed on the interaction between law and the media in digital reality regarding legal regulation of availability and publication of open data both in Russia (Automated system for ensuring legislative activity official sites of the Supreme Court of the Russian Federation, off the Ministry of Justice of the Russian Federation, the Investigative Committee of the Russian Federation, The Presidential Council for the Development of Civil Society and Human Rights, *etc.*) and abroad ("PredPol", "Hunshlab", *etc.*). The researchers noted the need for "feedback" to build effective communication in the legal sphere. To this fair remark, we will add such an observation. Currently, in Russia, making proposals by citizens in the process of drafting and approving laws is possible only when they register on state portals and in closed accounts. An active citizen does not have the opportunity to get acquainted with the proposals made in the closed account that, in fact, operates as a regular mailbox. Thus, laws, unfortunately, are often discussed after they are passed.

It is especially valuable that the researchers determined the prospects for studying mediatization of the legal sphere in the following directions:

— the language of modern legal documents and its compliance with functional and stylistic norms;

— the processes of the legal discourse mediatization and their impact on the legal consciousness of the society and individuals;

— methodology for determining conflict and conflict-generating texts;

— defining the concept and monitoring the linguistic consciousness of residents of different regions in Russia in order to identify their attitude to law, specific laws, the State and its institutions, law enforcement practice, etc.;

— monitoring of mass media audience's perceptions of law and the State formed under the influence of mass media, social networks, school education;

— monitoring of conflict zones in the linguistic consciousness of different ethnic groups in the regions of Russia and abroad;

— linguistic forensic examination of legal texts;

— linguistic forensic expertise of the media text in the context of legal linguistics;

— psycholinguistic examination of legal and media texts;

— media-geographical and geolinguistic specifics of legal texts of different countries.

Some of these problems were described in the study carried out by Josif M. Dzyaloshinskiy, Maria A. Pilgun and Irina V. Annenkova (2020).

V. Mediatization as a Phenomenon Contributing to Media Content Production

The first aspect of mediatization of law includes publication of laws, which takes place in two formats. First, laws are publicized in the official full-text printed media and their online versions. Second, an abridged and adapted version of the laws appears in the news. Media have become the platform where these two formats quite harmoniously coexist. Undoubtedly, in this situation, the language of the law is influenced by the journalistic style. However, the pros and cons of the media implementation of specific texts depends on at least three factors — legal erudition, linguistic culture and ethical and aesthetic guidelines of the author.

In addition to printed newspapers and journals and their Internet versions, we draw attention to Russian television programs that form the image of law in the minds of citizens and develop legal culture and self-awareness of citizens: "Chelovek i zakon" (Channel One), "Vesti — Russia," "Vesti. Dezhurnaya chast," "Chestnyi detektiv" ("Russia 1" Channel), "Osobo opasen," "Chrezvychaynoe proisshestvie," "Sledstvie veli," "Prokurorskaya proverka" (NTV), "Petrovka, 38" (TVC), court shows "Sud prisyazhnykh," "Sud idyet," "Federalnyi sudya," "Pravo na zashchitu," "Chas suda," "Po delam nesovershennoletnikh," "Sudebnyi detektiv," *etc*. The negative effect of this aspect of the mediatization of law will be analyzed later.

In addition, film production and art industries have a powerful influence on the creation of the image of the legal system in the cultural consciousness of Russian citizens. This is facilitated by large-scale events in the life of Russian cinematograph, rather than by detective series (unfortunately, numerous and monotonous ones). In the legal drama "12" (the movie is based on the play "Twelve Angry Men" by the American playwright Reginald Rose) Nikita Mikhalkov, director, producer and screenwriter, reflects on the limits of humanism and mercy of the jury trial. The movie raises an acute question of possible consequences of a seemingly humane verdict of the jury and the personal responsibility of the juror for the fate of the defendant. Andrey Zvyagintsev's film "Leviathan" released 7 years later (2014) is in dialogue and obvious opposition to Nikita Mikhalkov's drama.[2]

In addition, it is necessary to talk about mediatization of law in the context of *Yandex Zen*. This is not an ordinary news feed consisting of news texts from various media, but a completely new format of information production and distribution. *Yandex Zen* is a community of more than 45,000 bloggers who publish materials that correspond to the thematic headings of the resource popular with consumers: film travel, science, technology, style, celebrities, culture, sports, finance, and politics. In terms of genre, these are articles, videos (lasting about 1 hour) and galleries formed by at least 10 images accompanied by

[2] However, we do not dwell on the dialogue of these dramas in detail, because we analyze it in another work.

quite voluminous comments. The main requirement for materials is a fascinating and appropriate language, even if the articles are about economics, politics or science. It is safe to say that today it is one of the most popular and high-quality resources in Russia: 20 million people visit it every day. On average, an ordinary user spends about 45 minutes surfing a personal news feed formed according to the reader's own interests (the resource's recommendation algorithm is based on the principle of collecting personal data — the so-called "signals" from the user). Not the least role in the development of this resource is played by the support provided by both beginners and experienced bloggers, who are not limited quantitatively in creating channels, and, most importantly, who are motivated by the mechanism of financial support if the channel becomes popular (the mechanism of "monetization").

Moreover, speaking about mediatization of the legal sphere, one should take into account the uniqueness of the legal sphere as the only social institution regulating the activities of the media and new media. The first normative regulatory act is the Federal Law No. 149-FZ dated July 27, 2006 "On Information, Information Technologies and Information Protection". This law also called "The Law on Fakes" provides for detailed recommendations, restrictions and prohibitions regarding transfer, storage of information and the right to access it. The law has received a powerful feedback in the media space. The scientific community is just beginning to investigate the change in the behavior of users of social networks provoked by this law — so far in the format of surveys and interviews. Meanwhile, the law is programmed for a protective function in relation to civil society and it aims to prevent the development of extremism, aggression, ethnic and religious discord.

VI. Linguistic and Legal Examination of Russian Networks Content

All of the above points underline the need to analyze the problems arising in the system of social networks in connection with intensification of the fight of law enforcement agencies of the Russian Federation against such phenomena as "extremism," "incitement of hatred" and "insulting the feelings of believers." In general, these problems are considered in

the context of the world and domestic experience of the struggle for "network neutrality." Josef M. Dzyaloshinskiy, Maria A. Pilgun, Irina V. Annenkova (2020, p. 95) examined the network content, in particular the features and problems of the Russian situation, in the work "Analisis de sontenido de las redes sociales: las populiaridades y la prublemátiza de la situación ep Rusia." The authors conclude that currently, the role of the expert and forensic examination used to evaluate the content of social networks is dramatically increasing. Moreover, traditional methods of web texts' examination need to be significantly updated and adjusted. It is necessary to determine clear and actual qualification requirements for an expert, to regulate the experts' selection procedure and limits imposed on their functional activities.

It should be noted that changes in modern communication processes, transformation of civic consciousness, cultural landscape and educational environment to a certain degree reflect political and socio-economic changes taking place in the society. Digital content is becoming the main direction of development of modern communications.

In world practice, the effectiveness of communication processes is directly related to compliance with rules of law that regulate civil, business and political relations between participants. In the digital environment, the situation is complicated by the fact that legal initiatives lag far behind rapidly changing realities. Regulation of digital communications around the world is still unsettled.

In Russia, the authorities also seek to manage Internet traffic. "The Yarovaya's Law" and the situation with the *Telegram* messenger received a wide public response. On 1 July 2018, Federal Law No. 374-FZ, also called the "Yarovaya's Package" or "Yarovaya's Law," came into force. Under the law, the government was granted the right to oblige communications service providers to store users' traffic for 6 months. Experts, industry representatives, some politicians, civil activists protested against the law that, in their opinion, violated constitutional rights and would negatively affect both Internet business and economic development of the country and will create risks for the cybersecurity of citizens.[3] During the discussion and adoption of the "Yarovaya's

[3] Appeal to Mail.Ru Group from RosKomSvoboda: what to do when users are judged for reposts. *Roskomsvoboda*. (In Russ.). Available at: https://roskomsvoboda.org/40851/ [Accessed 01.06.2022].

package" within the framework of the Russian Public Initiative, 1,098 people signed the petition "repeal the Yarovaya's Law." Protest rallies were held across the country. In early July 2018, the campaign "For Free Internet — Against Yarovaya's Package" was launched. It was supported by 2,030 people during the first month (as of 6 August 2018).

In April 2018, the Tagansky District Court of Moscow authorized Roskomnadzor to block the *Telegram* messenger that refused to provide the FSB with encryption keys. Since the messenger uses *Amazon* and *Google* cloud services, Roskomnadzor began massive blocking of IP addresses of these services, which caused malfunction of many sites unrelated to *Telegram*. A wave of protests took place in Russia, which only strengthened financial and symbolic credentials of this messenger. Public organizations and citizens tried to object to the blockages in court.

An administrative statement of claim was filed with the Moscow City Court to declare illegal the actions of the FSB of Russia demanding the company *Telegram LLP* to provide data necessary to decode the messages of all users. Also, collective and individual complaints from Russian users were filed to the Investigative Committee of Russia and the Ministry of Internal Affairs of the Russian Federation to check the actions of the Roskomnadzor administration for deliberately creating obstacles in the work of web resources by including entire subnets of IP addresses in the register. An administrative claim was filed with the Moscow Arbitrazh Court to declare illegal actions undertaken by Roskomnadzor to include IP addresses belonging to the British VPN service in the Unified Ledger.

Increasing tension in society is caused by the actions of law enforcement agencies against citizens regarding communicative network (reposts, comments, demotivators, saving information, *etc.*) and communication in messengers. Charges are often brought under Article 280 of the Criminal Code of the Russian Federation "public calls to carry out extremist activities," Article 282.1 of the Criminal Code of the Russian Federation "organization of an extremist community," under Article 148 "violation of the right to freedom of conscience and religion" and Article 354 of the Criminal Code "rehabilitation of Nazism" that are related to extremism, unleashing an aggressive war, violation of

the rights to freedom of conscience and religion, *etc*. People convicted on extremist charges are also included in the list of Rosfinmonitoring, which deprives them of the opportunity to open accounts, request salary cards and perform a number of other operations.

Cases, as a rule, are initiated on the ground of the content posted in social networks VKontakte, Facebook, Odnoklassniki, as well as communications in public groups in the WhatsApp messenger.

It has to be stated that quite often bringing to justice is initiated not only by police provocateurs, but also by vigilant citizens. Thus, the dynamics of citizen appeals, government agencies and organizations in the Electronic Document Management System of Roskomnadzor indicates: compared to the same period of 2017, in the 2nd quarter of 2018, the number of citizens' appeals increased by 165 % (in the 2nd quarter of 2017 — 1,457, in 2018 — 3,867).

3,867 citizens' appeals (2nd quarter of 2018) contained:

— complaints about illegal information on the Internet sites, including social networks (pornography, drugs, suicide, propaganda of non-traditional sexual relations, facts of gambling on the Internet, fraud, *etc*.) — 46 %;

— requirements to unblock websites — 35 %;

— reports of violations of the provisions of Federal Law No. 398 (unauthorized rallies, calls for riots and extremism) — 11 %;

— reports of copyright and related rights infringements on the Internet — 2 %;

— miscellaneous — 6 %.

The number of appeals from organizations and public authorities, on the contrary, decreased: in the 2nd quarter of 2018 their number was 1,548 as compared to 1,603 in 2017.

As a rule, organizations' appeals relate to violations of copyright and related rights, as well as restrictions on access to information posted in the web space. The state agencies' appeals mainly contain information concerning distribution of materials on Internet resources that have been recognized as extremist in court and included in the Federal List of Extremist Materials.[4]

[4] The results of the analysis of information on the implementation of the Roskomnadzor activity plan for the 2nd quarter of 2018. (In Russ.). Available at: https://rkn.gov.ru/plan-and-reports/reports/p449/ [Accessed 16.06.2022].

At the same time, it should be emphasized that there is currently no systematic approach to the qualification of offenses in social networks: in some cases, for almost the same acts law upholders apply articles from the Criminal Code, in others — from the Code of Administrative Offenses (CAO).

The above-mentioned Federal List of Extremist Materials posted on the website of the Ministry of Justice does not solve problems for users. In this situation, social networks users discuss the removal of publications and logging out from social networks. In the Yandex search engine, the number of "delete vk" requests increased from 124,000 in September 2017 to almost 168,000 in July 2018. As a result, in the media space, there are more and more materials designed to help people avoid punishment for online actions.[5] Afisha Daily launched a test "Do you know memes that can be prosecuted?",[6] *etc*.

VII. Mediatization Processes and the Role of Forensic Examination

In the situation described in a previous section, the role of an expert and forensic examination increases, since the content evaluation depends on them. The Russian legislation describes the rights and obligations of an expert (Article 85 of the Civil Procedure Code of the Russian Federation, Article 55 of the Administrative Procedure Code of the Russian Federation), as well as the main content of the expert's opinion (Article 86 of the Civil Procedure Code of the Russian Federation, Article 86 of the Administrative Procedure Code of the Russian Federation).

There are many studies in the scientific literature that are dedicated to various aspects of speech activity in court. There is an interesting analysis of the specifics of speech forensic examination based on a

[5] Text mems for which you can be sent to prison. (In Russ.). Available at: https://twitter.com/text_ments [Accessed 01.06.2022].

[6] "Do you know memes that can be prosecuted?" Test. *Afisha Daily*. 15 January 2020. (In Russ.). Available at: https://daily.afisha.ru/brain/9666-test-znaete-li-vy-memy-za-kotorye-mogut-osudit/correct_answers/10/?utm_source=fb&utm_medium=socialsharing [Accessed 15.06.2022].

survey of 36 experts from 13 countries from 5 continents (Gold and French, 2011). Even a mechanism has been developed to identify the speaker by laughter samples (Gold and Land, 2017). There is also a large number of works in the Russian scientific literature that describe various aspects of the problems arising in this area (Galyashina, 2003; Baranov, 2011).

Russian civil law jurisprudence applies *forensic examination* definition as given in Part 1 of Article 79 of the Civil Procedure Code of the Russian Federation, Part 1 of Article 82 of the Administrative Procedure Code of the Russian Federation. The procedure for commissioning and conducting a forensic examination is consolidated in Articles 79–84 of the Civil Procedure Code of the Russian Federation, Articles 82–85, 87 of the Administrative Procedure Code of the Russian Federation.

Today, the most widespread and well-established is the concept of *forensic linguistic examination* that replaced the earlier concepts of *stylistic, textual, philological* and even *semasiological* examination. When conducting a *forensic linguistic examination*, the speech means of expressing information in the form of statements and value judgments (subjective opinions in a specific form) should be clearly differentiated. It is obvious that this type of examination can only be a component of the complex expert examination of the material for a comprehensive and complete examination of law rules violations.

The author*'s linguistic portrait examination* is of particular importance in the analysis of web content. Author's linguistic portrait establishes compliance / non-compliance of specific texts with the individual speech characteristics of the author. This type of examination also allows you to determine the specific features of the author (gender, age, educational, social, professional, *etc.*), the features of the author's feelings when creating a text, to identify signs of imitation, stylization, *etc.*

Recently, the use of the authorship examination in criminal cases has expanded under Articles 280 of the Criminal Code "Public calls for extremist activity," Article 282 of the Criminal Code "Incitement of hatred or enmity, as well as humiliation of human dignity," Article 129 of the Criminal Code "Slander," Article 130 of the Criminal Code "Insult" and others. Moreover, the establishment of the authorship and text

execution sometimes serve as the only source of evidence for bringing a person to criminal responsibility. Media texts existing in the web space are increasingly subjected to such examination.

The presence of an audio component in the media text actualizes *phonoscopic examination*. Phonoscopic examination allows us to identify the verbatim content of the sounding speech, determine the number of speakers and identify them. Phonoscopic examination also makes it possible to identify gender, age, physiological, *etc*. features, as well as to determine the emotional, mental, and psychophysical state of the speaker. It should be noted that the expert's conclusions in such examination are, most often, probabilistic in nature.

In situations where it is necessary to identify an intentional compilation of the text, *forensic technical examination* is used. To confirm the author's full awareness of his actions we need forensic *psychological examination*. If it is necessary to clarify the mental sanity of the author forensic *psychiatric* examination is necessary, *etc*.

The question concerning the *tools* and *methods* that make it possible to diagnose the integrated media text, the *methodological basis*, specifics *of the analysis* and the *concept of examination* remains unsolved.

It is *psycholinguistic examination* that provokes the greatest interest in the search for reliable mechanisms for solving communicative problems in the field of media text examination.

The concept of forensic psycholinguistic examination as a kind of forensic psychological examination was introduced by Vitaliy I. Batov (1974, pp. 33–35) and Mikhail M. Kochenev (2010). In particular, Kochenev was the first to state the need for a comprehensive forensic psychological and psychiatric examination. He also formulated characteristics of a comprehensive examination that include: examination of a common object by representatives of various fields of knowledge and the existence of border areas between special knowledge used to solve issues (Kochenev, 2010, p. 18).

A mechanism for *psycholinguistic examination of xenophobia in the media* was also developed (Methodological recommendations for law enforcement officers, 2003). A unit of psycholinguistic analysis means speech actions and operations that are in hierarchical relationships and

correlate with speech activity or message segments that, when decoded and encoded, are distinguished as integral in terms of their function and that can be analyzed by levels (Saporta, 1954, p. 61).

Aleksey A. Leontyev was one of the first at the turn of the century to propose a psycholinguistic examination when studying controversial materials (Leontyev and Leontyev, 2004). The problem lies in the fact that later researchers developed the idea of the complex nature of the examination with the participation of both psychologists and linguists (Methodological recommendations for law enforcement officers, 2003). They also combined psycholinguistic examination with psychological examination applied to traditional forms of communication (Yuzhaninova, 2008, p. 43). In a web environment, such procedures require serious transformations for an adequate analysis of integrated content.

The Russian Federal Center for Forensic Examinations under the Ministry of Justice of the Russian Federation and its subdivisions in the regions have developed and are using in practice the methodology of complex forensic psychological and linguistic examination in cases related to countering extremism and terrorism (Kukushkina, Safronova and Sekerazh, 2011; 2014).

When using this technique, the professional competencies of experts are clearly differentiated: "a *philologist-linguist* determines what is specifically said (shown), which component of the meaning is expressed and how; a *psychologist*, based on the description of what is said (shown), verified by a linguist, establishes the charecter of the material from the point of view of the social attitudes formed by the addressee" (Kukushkina, Safronova and Sekerazh, 2014). The described methodology is also used in the State Budgetary Institution of Moscow ("Moscow Research Center" of the Department of Regional Security and Anti-Corruption of the City of Moscow).

Thus, it can be stated that both the theory and practice of forensic examination have been developed, and nowadays their development is preconditioned by mediatization of the legal sphere.

The problem, however, is that the qualification characteristics of an expert in civil proceedings are not determined. Law enforcement agencies rely on requirements for a forensic expert consolidated in

Article 13 of Federal Law No. 73-FZ dated May 31, 2001 "On State Forensic Expert Activity in the Russian Federation" stating that in order to obtain the procedural status of an expert as a participant in civil proceedings, a citizen of the Russian Federation needs, in addition to higher education, additional professional education received in a specific expert field.

Moreover, the experts' selection procedure and the boundaries of their functional activities are not regulated at all. Consequently, the circle of experts is blurred, and the questions posed for examination are not always correct. In some cases, it is necessary that the expert first explains to the initiators of the linguistic examination the specifics of this type of examination. It is also necessary to distinguish between the competence of lawyers who qualify the act in terms of law and the competence of linguists-experts who carry out linguistic examination relying solely on their linguistic knowledge. The educational and methodological literature emphasizes: "Before commissioning an expert examination (before submitting an application for commissioning expert examination), consult with linguists concerning questions to the expert (experts), since the effectiveness of the expert opinion for the purposes of the claim (dispute) depends on the accuracy of the wording of the questions" (Gorbanevskiy, 2006).

Lack of transparency in the expert selection procedure and quality criteria for the examination of integrated network content (verbal and visual series) causes great difficulty. As a result, in some cases, the text of the examination itself is disputed and an expert opinion is drawn up on it.

VIII. Forensic Examination in Court Proceedings and Media: A Case Study

In the criminal case (charges brought under Article 282 of the Criminal Code of the Russian Federation) initiated against the blogger M. Efimov, who published the post "Karelia is tired of priests," nine forensic examinations were conducted (Dubrovskiy, 2014, pp. 207–228). The post consists of 165 words, but experts could not come to a consensus even on the phrase "Orthodox spawn" which was naturally

considered in the context of whether this phrase applies to Orthodox Christians or only to officials of the Russian Orthodox Church in the Republic of Karelia, to whom the material was dedicated. Moreover, the publication under examination was only a verbal text, without visual and audio components.

There is another example of a contested expert opinion in a criminal case initiated by the investigative department in Naro-Fominsk regarding the results of the election of the head of the city administration (the expert is marked with an X):

Expert X in the introductory part of the expert opinion states that "*The examination of the presented text was carried out in accordance with the methods of logical-grammatical, linguistic-stylistic, textual, lexical-semantic and semantic-syntactic analysis of the Russian-language text, recommended for practical use by the decision of the expert advisory council under the Chairman of the Board of GLADIS*." Meanwhile, the text of the expert opinion contains only some elements of inconsistent linguistic-stylistic analysis that cannot be defined as "linguistic examination."

The expert's X statement "*The subject of the analysis covered the meanings of individual units and expressions in their interaction with the meaning of the whole context*" is incorrect in all respects — both in the scientific and in the practical senses. The expert opinion does not contain lexico-semantic analysis at all. The expert does not take into account that the meaning of a word is a structure of elementary meanings — sememes. The semantic structure of a word assumes a certain relationship and hierarchy (subordination sequence) of its meanings. To understand the hierarchy of the semantic structure of a word, it is necessary to pay attention to two types of value relations: invariant-variant and, most importantly, main-specific relations. The hierarchical semantic structure of the main lexical unit is manifested in the different nature of the relationship of the word — in its different meanings — with the context. The word has the main meaning, which is least conditioned by the context, and the specific meanings that are more dependent on the context. In specific meanings, the semantic content of the main meaning is joined by the content elements (sememes) of the context. Unlike the main meaning given in a special scientific analysis,

the main and specific meanings of the word are directly perceived in the text.

The statement of expert X "*The main communicative intention here* is to *influence electoral behavior and electoral preferences*" is also incorrect. The expert cannot judge the goals that the author of the text set for himself. He can only analyze the speech means that constitute the disputed text. "Communicative intention, communicative attitude is the goal of the speaker, the writer. When creating a work (including a journalistic one), the communicative intention (communicative attitude) is implemented in the author's plan, the plan has nothing to do with the intent" (Gorbanevskiy, 2006, p. 49).

Expert X's statement "*It should be noted that the text uses the injection of lexemes with negative evaluation and negative expression as a speech tactic. For example, 'plundered for years to come' ('plunder' means 'steel, rob, destroy'), 'holds us for fools,' 'fattened' (all these are rude colloquial forms)*" uses incorrectly linguistic terms and interpretation of linguistic phenomena.

The expert does not explain on what basis these word forms are classified as "rude colloquial, what he means when he says 'rough-colloquial forms,'" what criteria he uses to differentiate colloquial and rough-spoken forms. Moreover, the expert X fails to provide lexicographic confirmations.

The three examples given are "*plundered for years to come,*" "*holds us for fools,*" "*fattened*." According to the expert, they are "rude colloquial." According to the most complete dictionary of the Russian Language — the Dictionary of the Modern Russian Literary Language in 17 vols. (BAS) — the first example "*plundered for years to come*" does not contain any colloquial lexeme.

The second example "*takes us for fools*" contains the word *fool* that is marked "colloquial" in BAS, not "rude," and it is accompanied by numerous examples from classical Russian literature: Pushkin, Dostoevsky, Bazhov, Herzen, Turgenev, Gogol, Goncharov, *etc.* The word *fool* is actively used in modern fiction and journalism, *e.g.,* in works by Okudzhava, Iskander, Astafyev, Makanin, *etc.*

The verb to *fatten* has the marks "figurative; colloquial," but not "rude colloquial," and it is illustrated by examples from Leskov and

Mamin-Sibiryak. This word was used by outstanding Russian writers Sholokhov, Prishvin, Astafyev, *etc*. It should be noted that in the disputed text, "*fatten*" is used in quotation marks.

Consequently, only one word out of three identified by the expert and qualified by him as "rude colloquial" (quoted in the disputed text in quotation marks "*to fatten*") refers to colloquial. At the same time it is widely used and it is frequent in the modern Russian literary language and it is nowhere qualified as "rude colloquial."

The wording of the thesis proposed by expert X: "*The thesis is that 'Baranov's statements about the regions's achievements and the care of the residents of the region are a lie, there has been no improvement in the lives of voters, since the district budget was formed in violation of the law' and that 'Baranov and officials from the district administration mislead the residents of the district.' ('For the completeness of the plot, it is worth paraphrasing another line of the same song: "...You become stupid from their double tongued mugs, Zin!!!")*", contains not one, but several theses and an argument. The wording proposed by the expert violates the requirements for the thesis presented in textbooks on rhetoric and argumentation theory.

The expert X statement "*Thus the statement that the B-ov violates the legislation in the budgetary sphere and misleads the voters of the district is subject to verification. If it does not correspond to reality, it defames the A. N. B. in the eyes of voters. If verification of the statement shows its full compliance with reality, then this statement defames, but does not discredit A.N. Baranov*." contains punctuation and logical-speech errors:

— introductory words *thus* are separated by commas;

— there is a logical-speech error *ignoratio eleni* in the statement. From a linguistic point of view, the words *defame* and *discredit* are synonyms. The Dictionary of Modern Russian Literary Language defines the word *defame* through the word *shame*: "to spread reprehensible information about someone, something; to shame."

In legal practice in accordance with the Resolution of the Plenum of the Supreme Court dated February 24, 2005 "On judicial practice in cases of protecting the honor and dignity of citizens, as well as the business reputation of citizens and legal entities," the concept of

"defaming information" is fixed. Establishing the correspondence of information to reality is the prerogative of the court.

In conclusion, expert X indicates: "*The content and semantic essence of the disputed text… consists in the formation of a negative image of the A.N. G-va, which violates the legislation in the budgetary sphere and misleads the voters of the region.*" It contains an incorrect judgement that characterizes the author's intention ("the formation of a negative image of B-ov A.N."), which cannot be the subject of examination, the object of which can only be the linguistic facts contained in the disputed text. Experts deal only with the implementation of the plot (plan) and its result — the text of the publication that they can discuss during court proceedings.

In this case, there is also a logical and syntactic error associated with the uniformity of predicates with different subjects of action (it turns out that B-ov misleads the voters of the region, and, according to the logic of the expert opinion, the article is misled).

And these are just some of the "discoveries" of this expert.

To a certain extent, the reason for this attitude to linguistic expertise can be explained by underestimation of its specifics by lawyers. A convincing analogy is drawn by Nikolay D. Golev: "Medical reports that have legal force for law enforcement agencies can only be given by specialized institutions that are authorized to make such reports. Linguistic opinions, as practice shows, are given by anyone, as long as he is related to philology: a school teacher, an associate professor, a journalist or a proofreader of a publishing house" (Golev, 1999, p. 8). **Thus, it is advisable to create a separate normative act regulating the linguistic examinations in cases involving human rights protection**. Also, apparently, it is necessary to raise the question of creating a full-fledged specialization of linguists-experts at universities, for example, at the master's level.

Returning to the problem of methodological equipment of the expert, it should be emphasized that in most cases the tasks solved by the examination require an integrated approach, *i.e.,* the use of psycholinguistic, linguistic, and handwriting examination. The situation is significantly complicated due to the emergence of new types of virtual communications, which demonstrate insufficiency of

examination algorithms developed on the basis of traditional written and oral communications. New forms of communication give rise to new formats of message presentation. Thus, the media text at the present stage of development is changing qualitatively. It represents a syncretic unity of verbal, visual and audio components functioning in a cross-platform environment.

IX. *Mediatext* Examination in the context of Mediatization of the Legal Sphere

There are several definitions of the concept of *mediatext*. In particular, Allan Bell believes that the definition of mediatext goes beyond the traditional view of the text in the form of printed words reproduced in ink on paper, and includes a wide range of different factors: speech, music, sound effects, images, *etc*. (Bell, 1996, p. 3). David Probert understands media text as any structured media product or means of communication, including both printed and audiovisual placement that can be analyzed and deconstructed (Probert, 2005).

Obviously, mediatexts examination requires the experts to adjust traditional old techniques, to form new algorithms, to use a multimodal approach that will disclose specifics and nuances of communication processes taking place in the web space.

A possible version of such a multimodal approach can be presented as follows:

— psycholinguistic examination (according to the standpoint of the Moscow psycholinguistic school) (Leontyev and Leontyev, 2004, p. 34);

— authorship examination;

— examination establishing temporary characteristics of the author of the text (Osgood and Walker, 1959);

— examination establishing certain conditions (circumstances) of the creation of the text under examination;

— examination establishing deliberate distortion of the information expressed in the text (falsity of the text);

— examination establishing whether the text has meaningful and other features that raise the issue of possibility of holding liable or bringing charges against the author under certain provisions of the Civil

or Criminal Codes of the Russian Federation, the Constitution of the Russian Federation and other federal laws.

The authors propose the following methods to be further developed for the purpose of linguistic forensic examination:

1. Methods of paraphrasing a text or a complete semantic fragment of a text.

2. Methods of semantic scaling of the text (Batov's and Sorokin's method of "semantic integral").

3. Methods of free associative experiment using dictionaries of associative norms.

4. Methods of predicative text analysis.

It is obvious that the use of content and intent analysis is extremely promising in this area. It is possible to distinguish a psychosemiotic approach to the identification of hidden structural invariants of texts. They include:

— latent content and latent invariants of the text;
— the main categories of psychosemiotic tools;
— speech manner;
— sign cultural detail;
— quoting;
— "internal predicates;"
— agentless and pseudo-agent constructions;
— decoding procedure.

Thus, it should be concluded that it is necessary to further improve the legal and psycholinguistic mechanisms of examination of mediatexts in the practice of linguistic forensic examinations in connection with appeals to the court with claims about citizens' web communications.

Reference and consulting psycholinguistic analysis of web content can also be carried out in a non-procedural form. A specialist can assist a judge by giving advice on modern possibilities for the study of physical evidence. In a non-procedural form, it is possible for specialists to give advice to lawyers, since according to sub-para. 4, para. 3, Article 6 of the Federal Law No. 73-FZ dated May 31, 2001 "State Forensic Activity" an advocate has the right to engage experts on a contractual basis to clarify issues related to the legal aid provision.

X. Conclusion

All the spheres and all the results of speech and meta-speech activity of a person (or any other entity) are concentrated in the media space. Mediatization is an essential process, and the global impact of new media on human thinking is obvious. Penetrating into one or another sphere of human life, the media actually construct a new reality in the information sphere — virtual reality, which affects person's consciousness and operation of all social institutions. The irreversibility of the processes of mediatization of culture and society requires further examination of possble consequences of mediatization. A unique nature of law as the institution that is both influenced by the media and regulates the media encourages researchers to investigate this phenomenon applying different approaches. However, approaches based on traditional understanding of the media and their influence on law need adjustments: new strategies, methods and algorithms should be developed in compliance with technological accomplishments. Regulatory nature of law requires law upholders to change their traditional approaches and develop recommendations, as well as linguistic forensic examination methodology, aimed to provide actual content analysis to prevent lawsuits and criminal prosecution of the Internet users.

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ARTIFICIAL INTELLIGENCE

Article

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Artificial Intelligence and Effective Governance: Legal Framework

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Abstract: Artificial intelligence (AI) use in the state governance structures is obviously on the rise. Cognitive technologies have potential to transform the government sector — by reducing expenses, mundane chores, coping with resource limitations, making more accurate projections, and implementing AI into an array of organizational processes and systems. *Methods*. General research methods: analysis, synthesis, logical method were employed to study certain concepts and legal categories and their interrelations (artificial intelligence, artificial intelligence technologies, governance system, machine-readable law, digital state, automated decision-making, *etc*.) and develop insights into public relations amid proactive use of artificial intelligence systems and technologies in the governance system. Comparative legal research method was used to discern dynamics and further trends in legal relations, as well as to compare approaches of foreign countries to regulating AI systems and technologies. Prognostic method was applied to project the future of the Russian legislation as concerns building effective legal framework to regulate AI systems and technologies in the governance system. Technical legal (dogmatic) method helped develop legal foundation for the use of technologies and AI systems in the governance sphere. The

analysis showed promising theoretical and practical avenues of modern law development in the aspect of artificial intelligence: the concept of artificial intelligence within the conceptual legal framework was described; legal regulation of administrative processes and its specifics were defined; ethics and principles of artificial intelligence application in governance were stressed, which involves restrictions of AI use in automated decision-making; stipulating the status of informed consent in the legislation in case an automated decision is made; the procedure which allows prohibiting the use of automated decision was established, as well as the procedure of AI risk assessment in the governance system, ensuring proper data protection and independent security monitoring.

Keywords: artificial intelligence; artificial intelligence technologies; artificial intelligence system; governance; machine-readable law; profiling; automated decision-making

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Contents

I. Introduction

Technologies and systems based on artificial intelligence (AI) are currently being proactively implemented in all spheres of public life. Experts estimate these decisions will generate for the global economy in 2024 at least $ 1 bl profits (Karmaza, 2020). There is a lot of evidence of how AI-based information products are used. In 2018 for the first time in the history of Christie's the Portrait of Edmond de Belamy made

by AI was sold for almost half a million dollars. To create the portrait AI had analyzed 15,000 portraits created for the last five centuries. Warner Music record studio signed the first contract with AI Endel, which "promised" to release a few discs in a year's time. The USA has boasted the first cyber composer AIVA, recognized by the professional music association. In Japan AI after studying 11,000 books wrote a few novels, one of which was shortlisted for the Hoshi Shinichi Literary Award. Proceeding from the central idea, storyline and characters, the cognitive system built up a narrative that the board assessed as a coherent literary work (Karmaza, 2020). We assume the number of such cases will keep growing with every passing year, due to human activities transforming and building new forms of cooperation between man and machine.

The use of AI in the state governance system is steadily going up. Cognitive technologies have a huge potential to transform the state governance sector — boost performance, reduce expenses, cope with resource shortage, switch employees from mundane chores to more creative activities, make projections more accurate and focused, start using AI in dozens of processes and systems to benefit in the areas which call for extra efforts (Eggers, Schatsky and Viechnicki, 2017)

Khila Meer from Harvard Ash Center Technology & Democracy Fellow claims AI might prove to be effective in six types of state governance systems: labor resources management, big data analysis, specialist shortage, scenario projection based on historic data analysis, regular routine procedure management, and making general conclusions on different types of information (visual, linguistic, *etc*.).

The analysis of the legislation, the basic concepts and systematizing material called for the use of general research methods: analysis, synthesis, logical approach. These methods were used to study certain concepts and legal categories (AI, AI technologies, governance system, computer readable law digital state, computerized decision-making, *etc*.) to get a comprehensive picture of how they are related and how public relations based on AI technologies in governance are built. System approach make it possible to define the place of AI relations in the framework of overall information relations, show their specifics and

interrelations. System analysis made it possible to assess established approaches to legal regulation of AI technologies and systems overseas and view them from public relations perspective, including the Russian Federation.

The comparative legal research method was employed to discern dynamics and trends in the sphere of relations governed by law, as well as to compare approaches of foreign countries to the artificial intelligence and its use.

To see the processes of AI use legal regulation from historical perspective legal historical method was used. It helped trace the main stages of AI legislation development in foreign countries and in the foreign corporate documents.

Prognostic method was applied to define the future of the Russian legislation as concerns legal regulation of artificial intelligence system and technologies in the governance system. Technical legal method (dogmatic) helped develop legal foundation for the use of technologies and AI systems in the sphere of governance.

Nomothetic approach, based on the revealed information patterns, particularly in the sphere of AI use, allowed to discern major principles and trends in the legal regulation of public relations sphere.

II. Artificial Intelligence in Russian Juristic Doctrine

Valeriy N. Protasov (2020) thinks that the foundation of law is formed not by public relations but behavior patterns. Thus, it makes sense to discuss legal regulations of people's behavior in respect of AI systems implementation, rather than new public relations among robots. Since these systems are hierarchical, it is important to understand what system person's life belongs to, as well as person's program code, code of life.

Sergey P. Kapitsa (2014) wrote long ago that the processes of destitution and depopulation hinge on the exorbitant growth of population. There is also an assumption that the humanity might die out due to natural disasters and man-made global catastrophes. Therefore, scholar knowledge should rely on improving the humanity itself, its program code and the ecosystem we live in.

The nervous system of a living organism is comprised of nerve cells — neurons. Neurons make partnerships with different body cells and build up many connections. There are several levels of nervous system activity. The macro level involves the brain as an integral whole, sensory data that are important in decision-making and functioning of musculoskeletal system.

The second level is a mezo one, which ensures interaction of big neural groups, cognitive groups to form neural hypernetwork (neural clouds), which tends to grow with age. Connections within a single neuron make up the third level.

Neuron is a special cell with a number of inlets (dendrites) and one axon (outlet), which form many connections — up to 10–20,000. It is hardly possible to analyze a single neuron, only ensembles of neural networks. That makes human brain unique and virtually impossible to simulate in an artificial module. Still, we can simulate neural groups (100–200 neurons) with computer modeling method.

The National Strategy for the Development of Artificial Intelligence Through 2030 (hereinafter Strategy)[1] defines Artificial Intelligence as "a complex of technological decisions aimed to simulate human cognitive abilities (including the ability of self-education and search for decisions without a previously set algorithm) which can bring results comparable with human intellectual activity.

The complex of technologies involves IC (informational and communicative) technologies, software (including computer-based education), processes and services for data processing and decision searching." Of particular importance are computer vision, natural language processing, speech recognition and synthesis, intellectual support of decision-making.

The AI development strategy emphasizes two types of AI: the first one aims at solving narrowly specialized tasks and the other is a universal one, capable of human-like reasoning, interacting and

[1] Decree of the President of the Russian Federation No. 490 dated October 10, 2019 "On the Development of Artificial Intelligence in the Russian Federation". Collection of Legislation Acts of the Russian Federation. No. 41. Article 5700. (In Russ.). Available at: https://www.garant.ru/products/ipo/prime/doc/72738946/ [Accessed 20.03.2022].

adapting to changing conditions. The Strategy shows AI development as a complex science and technology goal at the intersection of different avenues of scholarly knowledge: natural science, technological, social and humanitarian knowledge. Besides a positive effect on all the key human activities, steady efforts in creating AI might entail negative consequences as well, due to social and technological changes they go along with (Strategy, p. 9).

With this in mind, Oleg P. Saulyak suggested introducing the term "AI-complicated social relations" as a parallel to those relations that do exist in the international law. Another argument is the fact that numerous Internet-based relations can be of transnational and transborder character. Still, there is much to be clarified here, specifically, the ratio of the legal and the factual sides of these relations (rights, responsibilities, behavioral patterns of all the sides involved). What makes these relations different from those based on the private international law is the fact that they also might be complicated by a foreign element. A few subjects with characteristic delictual dispositive capacities and several cyber systems can enter these relations with AI on the side of one of the legal entities.

Valeriy N. Protasov (2020) states that the term "relations complicated by AI" can hardly be called perfect, as AI does not actually complicate information exchange among legal entities, but makes it easier. With this respect, it would be more correct to speak about legal regulation of social processes employing AI systems.

Petr M. Morhat (2018) in his paper "The Intellectual Property Right and Artificial Intelligence" claims that there is no need to recognize AI a copyright and patent right proprietor. He describes the following types of legal structures and models to regulate relations involving AI: machine-centered concept (AI unit is a rightful author of the created works); anthropocentric concept (AI unit is a tool a human uses in the process of creating intellectual property products); work-for-hire concept (AI unit act as a "hired worker" creating intellectual property products); hybrid authorship concept (AI unit is regarded as a human's co-author of created intellectual property products); "disappearing" or

zero authorship concept (it relates to especially difficult situations, when investigated concepts appear to overlap in different variations).

The author assumes that legal entities and AI units, being different, have some similar, corelated features, especially if seen as subjects able to perform legally significant actions (Morhat, 2019).

At one of round tables on computer law and security issues Yuriy M. Baturin argued that AI we face with in our daily life is actually not "real" AI, but these are just elements of future AI. At present AI is based on computer software and complex intellectual property objects, which are just fragments of bigger intelligence. That gave Baturin grounds to coin the term "coherent relations" (Rassolov, 2021).

There are authors who believe that AI is not a legal subject, but an object. AI, being a complex of technological decisions imitating human reasoning, does not hinge on established algorithms, but rather in conditions of uncertainty. In future legal fiction "digital entity" should be developed and this leads to the question of whether it can become a participant of legal relations. Europe does already have an agency specializing in robot registering, regular and smart ones. We might suggest robots are likely to have their own interests in future (Chubukova, 2021).

The administrative law regards an individual within the frame of power relations either a subject or object, which depends on the nature and content of those relations. Given this fact, Rozalina V. Shagieva (Erofeeva and Shagieva, 2015, pp. 88–89; Dimitrov and Shagieva, 2020, p. 63) calls to turn to the Roman law and the legal arrangements applied to the private law subjects in order to assess the possibility of their being applied to the current environment. More specifically, she means the slave legal status, who never had the status of a legal subject, acting in some situations on their master's behalf, as well as on their own, when pursuing their own interests. In such situations, the slave enjoyed a certain amount of choice in particular questions. In case of success, the master would share the profit with the slave; still the burden of liability for negative consequences fell only on the slaveowner.

III. Legal Regulation of IT Sphere Overseas

The survey of global rating systems and the International Federation of Robotics helped reveal the leaders in robotics and AI, which include Singapore, South Korea, Germany, Japan, Sweden, Denmark, China, the USA, the UK, France, India, Australia.

The National AI program (AI Singapore) regulates the use of AI and robotics in Singapore.[2] In line with the Professional Services Industry Transformation Map (2018)[3] the next decade will see Singapore heading the global market of high-value specialized services. The key initiatives, outlined in the Plan, aim at stimulating innovations in the IT sphere.

Without all doubt, South Korea is among the top ten countries with automated economies. This success is down to the national legal norms regulating robotics and AI. Intelligent Robots Development and Distribution Promotion Act[4] is the document determining the AI plan and strategy,[5] including establishing special legal arrangements and business reliefs for innovative companies and state support. The government should develop and implement comprehensive and effective policy in the sphere of robotics and AI budgeting these expenses. The state and municipal powers have different authority to implement the reforms. The law (Development and Distribution Act) also introduces into the legal environment such terms as "smart robot," "responsibility of state and municipal authorities for bearing expenses on developing the robotics market," "special territories to develop robotics and smart robots," *etc*.

[2] AI Singapore (2018). Strategic Communications. Available at: https://fticommunications.com/2018/02/artificial-intelligence-race/ [Accessed 20.03.2022].

[3] Launch of Professional Services Industry Transformation Map (2018). *A Singapore Government Agency Website*. Available at: https://www.edb.gov.sg/en/about-edb/media-releases-publications/launch-of-professional-services-industry-transformation-map.html [Accessed 20.03.2022].

[4] Law on the Development and Smart Robots Propagation (2008). *Research Center "RoboPravo"*. (In Russ.). Available at: http://robopravo.ru/zakon_iuzhnoi_koriei_2008 [Accessed 20.03.2022].

[5] Best practices in designing effective roadmaps for robotics information (2018). *Robohub*. Available at: http://robohub.org/best-practices-in-designing-effective-roadmaps-for-robotics-innovation/ [Accessed 20.03.2022].

Shaping the AI regulatory environment is seen as a joint task of all the EU member-states and is part of the EU digital strategy and digital agenda. Technological dominance in key industrial sectors makes Germany another leading player in the AI regulatory sphere. The Artificial Intelligence Strategy of the German Federal Government meant for the period up to 2025 was made public in 2018. It makes clear that AI technology should be developed "on the basis of European values such as respect of human dignity, privacy and equality." The German government works on "raising awareness of ethical and legal boundaries of AI use in developers and users, as well as on further improvement of legal foundation in this sphere."[6] In 2020, Germany launched the global project "Industry 4.0" aimed, among other things, to establish regulatory standards for AI use.

Sweden is another country to invest a lot into AI development.[7] In 2018, they signed "Declaration on cooperation in AI" in order to ensure the leading role of Sweden in the area of innovative digital technologies and reinforce its competitiveness and well-being.[8] The strategy stipulates for investing in research, higher education, joint projects in both private and state sectors of economy.

[6] Strategie Künstliche Intelligenz der Bundesregierung [AI Strategy of the Federal Government] (2018). *Die Bundesregierung [Federal Government]*. (In Germ.). Available at: https://www.ki-strategie-deutschland.de/files/downloads/Nationale_KI-Strategie.pdf [Accessed 20.03.2022].

[7] Meddelande om artificiell intelligens för Europa (2018). *Regeringskansliet Faktapromemoria 2017/18:FPM96*. (In Swedish). Available at: https://data.riksdagen.se/fil/508CA833-C7F2-47D3-A33C-7DE9444057CC [Accessed 20.03.2022]; Parliamentary Minutes referencing Wallenberg Investment (2017). *Riksdagens Protokoll 2017/18:47*. (In Swedish). Available at: http://www.riksdagen.se/sv/dokument-lagar/dokument/protokoll/protokoll-20171847-mandagen-den-11-december_H50947 [Accessed 20.03.2022].

[8] EU Member States Sign Up to Cooperate on Artificial Intelligence (2018). Press Release, European Commission. Available at: https://ec.europa.eu/digital-single-market/en/news/eu-member-states-sign-cooperate-artificialintelligence [Accessed 20.03.2022]; National Approach to Artificial Intelligence (2018). Government Offices of Sweden. Available at: https://www.regeringen.se/4aa638/contentassets/a6488ccebc6f418e9ada18bae40bb71f/national-approach-toartificial-intelligence.pdf [Accessed 20.032022].

Denmark has been proactively working on AI laws and regulations since 2017. The country adopted the National AI Strategy in 2019. It sets the main goals of AI development and defines advantages for industries relying on AI. According to the plan, the priority spheres for AI implementing are healthcare, energy, production sector, agriculture and transport.

China enjoys the most extensive legal regulation base of AI-related economy sectors. The 13th Five-Year Plan For Economic and Social Development of the People's Republic of China (2016–2020)[9] projects a break-through both in the Chinese economy and national security, making emphasis on AI efforts as well. China's New Generation Artificial Intelligence Development Plan (2017)[10] accentuates the significance of legal framework that has to regulate ethical issues of AI use. This document outlines the main principles of AI development in line with the state policy in this sphere.

As concerns AI development, the USA is undoubtedly one of the global leaders. They are on top of the global technological start-ups list, says the German Economic Institute (IW) (Araya, 2019). The USA has special legislation applicable to certain AI related areas. One of such laws is John S. McCain National Defense Authorization Act for Fiscal Year 2019 based on one of Congress documents.

The law defines AI through general characteristics of intelligence systems that:

— perform different tasks in changing and unpredictable conditions without much human control; are able to learn and increase productivity while processing data;

— in a digital form manage the tasks which generally call for human perception, processing, planning, learning, communicating, and physical actions;

[9] The 13th Five-Year Plan for Economic and Social Development of the People's Republic of China (2016). *National Development and Reform Commission (NDRC) People's Republic of China*. Available at: http://en.ndrc.gov.cn/newsrelease/201612/P020161207645765233498.pdf [Accessed 20.03.2022].

[10] China's New Generation Artificial Intelligence Development Plan (2017). *The State Council of People's Republic of China*. (In Chinese). Available at: http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm [Accessed 20.03.2022].

— meant to think and act like a human, including cognitive architecture and neural network;

— rely on a set of techniques, including computer-assisted teaching, aimed at approximating cognitive task and meant for rational acting, using software agents and robots to perceive, plan, reason, learn, communicate, make decisions and take actions.[11]

The US National Robotics Initiative 2.0[12] stipulates the positions of different government agencies on financing, supporting and implementing robotics and cyber physical system research.

The US road map "From the Internet to Robotics"[13] describes a package of measures aimed to implement robot systems in different spheres of social life (production, social services, medicine, employer-employee relations and labor market, economics, *etc*.). The authors point out that the applicable legislation impedes robotics development and indicate the spheres that require legal regulation on the first-priority basis: security, insurance, protection of confidential information, *etc*.

In Italy IT technologies development is the responsibility of AI Association, established in 1988.[14] The main avenues pursued are implementing AI in education, industry, building strong connections with research institutions in order to apply AI decisions in the governance structures.

In 2018, Italy set up AI and intelligence systems to support "fundamental and applied research of AI, ICT industry by providing government structures as well as entrepreneurship with the results of research." In March 2018, the White Paper on Artificial Intelligence

[11] John S. McCain National Defense Authorization Act for Fiscal Year 2019 (2019). Available at: https://www.congress.gov/115/bills/hr5515/BILLS-115hr5515enr.pdf [Accessed 20.03.2022].

[12] National Robotics Initiative 2.0: Ubiquitous Collaborative Robots (NRI-2.0) (2020). Available at: https://www.nsf.gov/pubs/2020/nsf20522/nsf20522.htm [Accessed 20.03.2022].

[13] A Roadmap for US Robotics: From Internet to Robotics (2016). Available at: https://cra.org/ccc/wp-content/uploads/sites/2/2016/11/roadmap3-final-rs-1.pdf [Accessed 20.03.2022].

[14] The European Artificial Intelligence landscape (2018). *European Commission*. Available at: https://ec.europa.eu/digital-single-market/en/news/european-artificial-intelligence-landscape [Accessed 20.03.2022].

was released.[15] It sets a new culture of implementing innovations into civil services, indicating AI-related problems. According to the plan on the use of IT technologies in the government structures, unveiled in 2017, it would take three years to materialize.[16] The White Paper expects the AI strategies to provide citizens with effective services in education, healthcare, legal system, public security, making them faster and more efficient. At the same time the paper emphasizes the need for updating the legislative and regulatory framework for AI in Italy, reaching balance between government and individual interests, complying with the transparency principles when it comes to the use of law, privacy and copyright protection, enhancing accountability and establishing effective system of human rights control. The White Paper includes 10 recommendations for the Government to consider, namely to set up "National center of competencies and interdisciplinary center for AI," national platform to facilitate collection of data and implement AI implementation via government institutions.

Within the frame of Pan-Canadian Artificial Intelligence Strategy (2017),[17] Canada adopted the Directive on Automated Decision-Making in 2019. The aim is to provide legal grounds for automated decision-making to reduce the risks for Canadians, as well as to make this process more efficient and consistent.

The Russian Federation does not belong to the group of the leading players in this sphere yet, which makes it necessary to develop a nationally specific approach allowing for the experience of industrialized countries. This experience shows the importance of legal regulatory framework, both on the legislative and administrative regulation levels. That primarily relates to ethical standards and principles of AI use in the government structures.

[15] Libro Bianco sull'Intelligenza Artificiale al servizio del cittadino (2018). (In It.). Available at: https://ia.italia.it/assets/librobianco.pdf [Accessed 20.03.2022].

[16] Three-Year Plan for ICT in Public Administration (2017). Available at: https://docs.italia.it/italia/piano-triennale-ict/pianotriennale-ict-doc-en/en/stabile/doc/01_piano-triennale-per-informatica-nella-pa.html [Accessed 20.03.2022].

[17] CIFAR Pan-Canadian Artificial Intelligence Strategy (2017). Available at: https://www.cifar.ca/ai/pan-canadian-artificial-intelligence-strategy [Accessed 20.03.2022].

IV. Developing Machine-Readable Law Technologies

One of the modern trends of AI use in the governance sphere is developing machine-readable law technologies, which help build applicable law in the intelligence information systems. These algorithms are employed to create new automated systems in the contract law, RegTech and SupTech; technologies of preparing and processing collected machine-readable accountability.

As a rule, decision-making for computerized contract work involve AI technologies, *e.g.,* autofill of legal documentation, form designer to develop documentation, compilate relevant analytical data, search and summarize court rulings or contracts in the corporate database. RegTech traditionally involves technologies to ensure companies' compliance with the applicable regulation. RegTech technologies are also commonly used for compliance control and client identification, transaction monitoring, data protection, system audit, corporate governance, risk management, reporting practice. These technologies can facilitate and enhance the process of meeting regulatory requirements, including preparatory work on accounts; facilitate and enhance reliability of client identification procedure, transaction analysis quality, as well as ensure control over risks and counteract cyberthreats.[18]

The regulator employs SupTech (Supervisory Technologies) to make regulation and supervision processes over financial market players more efficient. SupTech are applicable in two major areas: systematic data collection and procession of data coming from supervised organizations; data analysis to check compliance of supervised organizations with regulatory requirements. These technologies enable to computerize and streamline administrative procedures, digitalize data and tools used for communication with citizens, improve reliance and quality of accountancy, upgrade the system of decision-making.

Apart from that, these technologies might be quite instrumental to reveal fraud schemes, shady transactions and collect evidence of

[18] Issues and directions of development of regulatory and supervisory technologies (RegTech and SupTech) in the financial market in Russia. Report for public consultation (2018). (In Russ.). Available at: https://cbr.ru/Content/Document/File/50667/Consultation_Paper_181016.pdf [Accessed 20.03.2022].

commercial crime. As concerns businesses, AI technologies will support and reinforce their own systems of decision-making, risk-management and internal control processes, as well as reduce regulatory pressure due to the digital format of communication with state and local authorities.

The main aim of introducing machine-readable accountancy is to rid organizations and citizens of necessity to provide the same data to government structures for different purposes. Another benefit is reducing costs of data aggregation and analytical indicators calculation for reporting purposes. One of the impediments on the way of proactive development of machine-readable law technologies is the challenging task of converting the legal norms, written in the natural language, into the machine-readable format.

Overall, the use of these algorithms implies an obvious risk of distorting real data, which might relate to defining the circumstances to prove certain legally significant fact. In practice, it means that in case of the system's glitches and errors, an individual might find themselves wrongfully liable for offences and therefore restricted in rights. This increases the role of the algorithm as it determines which data exactly provide rationale for legal liability and how the rights of the person, who fell victim to a wrongful decision, can be protected. As a result, we need to define criteria for those legal norms that can be converted to the machine-readable form.

V. Automated Decision-Making

In general, the governance structures employ cognitive technologies when an individual in an automated mode is considered qualified for an unemployment benefit, retirement, loss of breadwinner, child birth, social insurance services (Zheng *et al.*, 2018); in case of emergence service calls classification, contagious disease management;[19] civil servant support on immigration issues (Martinho-Truswell, 2018); social media monitoring for public opinion on the state policy and revealing

[19] Unleashing the potential of Artificial Intelligence in the Public Sector (2017). Available at: https://www.capgemini.com/consulting/wp-content/uploads/sites/30/2017/10/ai-in-public-sector.pdf [Accessed 20.03.2022].

emergency situations, sanitary standards violations; forecasting transport congestions, road accidents and road maintenance needs.[20]

Government agencies all over the world use virtual assistants, who help contact with the public and facilitate access to public services.[21] Dr. A. Witford (SPIA), while speaking at the ATARC conference (Advanced Technology Academic Research Center) in October 2019, remarked that "machines learn faster than people and manage bigger bodies of data. In other words, AI can read about a million of cases while a human can hardly manage it even during all his/her life. Thus, AI can make business of both public and private sector much more effective."

AI technologies are becoming an inalienable part of decision-making systems in the governance sector. In many countries legislation stipulates severe requirements for the AI systems making automated decisions without human participation, with violations followed by legal or other significant consequences for individuals.

The European Data Protection Board (EDPB), independent British organization, established to protect the right to information in public interests and promote transparency of government agencies and data confidentiality for individuals, and Information Commissioner's Office (ICO) have already made public guidelines for Automated Decision-Making (ADM).[22]

The extent and quality of human interference into decision-making is the key to define whether the decision-making system is solely or partly automated. The conclusion depends on the following: whether a human checks the system's recommendations or not; whether a human can make a decision which runs counter to an automated one; whether

[20] Artificial Intelligence in the public sector. Available at: https://www.act.ipaa.org.au/brief-artificial [Accessed 20.03.2022].

[21] Department of Human Services Annual Report 2017-18 (2018). *Australian Government Department of Human Services*. Available at: https://www.servicesaustralia.gov.au/sites/default/files/2018/10/8802-1810-annual-report-web-2017-2018.pdf [Accessed 20.03.2022].

[22] Guidelines on automated individual decision-making and profiling (2018). Available at: http://ec.europa.eu/newsroom/document.cfm?doc_id=47742 [Accessed 20.03.2022]; Art. 22 GDPR — Automated individual decision-making, including profiling. Available at: https://gdpr.eu/article-22-automated-individual-decision-making/ [Accessed 20.03.2022].

only the system's conclusion is taken into account or other factors are considered as well. Along with it, researchers identify two significant AI-related risks. The first one — "inclination towards automation" shows unreasonable trust to the decisions made by AI, when a human never doubts and questions the computer-generated outcome and stops reasoning by him/herself. The second risk stems from the fact that AI technologies keep developing and become more complicated. Some of them — deep machine learning — are so sophisticated that their decisions might be difficult for a human to interpret. This is fraught with knee-jerk decisions, when machine's recommendations are accepted without reasoning. Both situations mean that the decision-making was totally automated excluding any human influence on the outcome.

Overseas experience shows that organizations should have a clear idea of the extent to which any app with AI technology is used. It is essential to inform and stipulate in the respective documents on the risk management policy whether AI will be used to enhance human decisions effectiveness or to make totally automated decisions. The documents related to AI use to support human decisions should allow for risk factors indicated earlier. Commissioners, developers, analysts and other specialists involved in these systems creation should develop requirements for the system's design that suggests information content analysis made by humans. It is vital to determine the factors that are to be taken into account by the AI system, and extra factors to be considered by experts before taking a final decision. For example, AI systems can study measurables like age, years spent in a certain employment sphere, while a human can evaluate applicants' skills that are not indicated in the questionary, *i.e.,* knowledge of specialist terminology, emotional stability, *etc.* If a human expert has access to and uses only the data that the AI system already uses, without considering any other additional information, such participation is inadequate and the outcome should be considered totally automated.

Thus, the system developers should identify additional factors to be taken into consideration by humans, *e.g.,* oblige people contact with the individual who the decision directly relates to. It is also relevant to leave in the AI design room for an opportunity to interpret automated

decisions, explain the system's actions and interpret to make it plain and clear for humans.

The ability to interpret is hard to gauge, describe in accurate terms when it comes to answers to such questions as:

— Can a human predict how system's output will change with different input data?

— Can an expert identify the most important input data defining a certain output?

— Can an expert say when a decision is wrong?

That is why it is of importance that the developers define and record "interpretability" and ways to gauge it in each AI system to be used. The risk management policy should make the interpretation process for each AI system reliable. At the same time, the documents have to indicate people responsible for testing and final examination of the system before its implementation. These people are to put the system into operation only if it complies with the established risk management policy.

The critical role in ensuring human participation in the system's decisions belongs to expert training. Experts should be able to:

— understand how the AI system works, what restrictions it has;

— anticipate when the system might make misleading decisions and understand why;

— avoid relying blindly on AI decisions and beware of mistakes which might occur;

— be aware of how their own experience should complement the system and know the range of factors to be considered;

— suggest well-grounded arguments to explain why a certain decision was turned down or accepted, as they are responsible for it.

To make the training effective it is important to give experts authority to redefine AI-generated results. An internal audit procedure of the automated decision-making based on the effective risk monitoring system should compliment the training system. The key part of the risk monitoring system should become the statistics of system decisions' human review: how often and why human experts turned down or accepted AI system results.

If risk monitoring reporting shows that human experts commonly agree with the AI system results and there are no signs of critical assessment, then decisions should be categorized as totally automated. An organization should have certain control mechanisms to keep risks within the target level, including, if necessary, temporary or permanent refusal from AI system in data processing.

Consequently, an individual using the AI system for automated decision-making is obliged to inform the data subject that the decision is made in an automated form, perform risk assessment, ensure data protection; introduce procedures which allow individuals to make inquiries concerning automated decision-making; implement independent monitoring system.

VI. Conclusions

The long-term tasks of modern law regarding AI use can be reduced to the following.

Firstly, we need to continue studying sensual and emotional behavior of data subjects amid new cognitive systems and technologies (brain implants, neural implants, cochlear implants).

Secondly, it is important to understand how lack of emotions and feelings affects robot's behavior.

Thirdly, it is necessary to undertake multidisciplinary research into emotions and feelings caused by the use of complex cyber and physical systems (involving psychology, medicine, physiology, psychological theory of emotions, biochemistry).

Fourthly, emphasis should be placed on the following aspects:

— the concept of artificial intelligence in the conceptual framework of the legal science;

— specific legal regulation of behavior in the government agencies employing AI;

— comparative analysis of AI systems and human behavior mechanisms in the governance sphere.

Fifthly, it is vital to put ethical norms principles of AI use in the government administration on the permanent footing;

Sixthly, legislation should describe:

— restrictions of AI use in the automated decision-making procedure;

— obligatory informed consent in case an automated decision relates to an individual;

— procedures which enable individuals to stop automated decision-making relating to them;

— risk assessment regulations for the AI use in the governance structures; ensuring data protection and independent security monitoring.

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ARTIFICIAL INTELLIGENCE

Article

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Predictive Policing: High-tech Modeling as a Method to Identify Serial Killers

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Abstract: The article considers the development of predictive policing in Russia through the creation of software, based on the use of artificial intelligence (AI) to identify serial killers. Forensic modelling in crime investigation, in particular modern digital twin technology is analyzed. The system of the digital twin is trained on the basis of a set of mathematical models of various level of complexity and specified by results of full-scale experiments. Existing approaches to solving the serial killer portrait problem are investigated. Digital twins in conjunction with machine learning can predict the behavior of the object under study in the future, based on statistical data and accelerate the work of the investigator in the investigation of serial crimes.

Keywords: predictive policing; digital twin; artificial intelligence; neural network; machine learning; ensemble methods; forensics; serial murders

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Contents

I. Introduction

One of the latest trends in law enforcement is the use of computer models that predict crime, based on algorithms capable of self-learning (machine learning) in order to investigate and prevent crimes. Such predictive policing models are used in Europe and the United States to identify a person who is likely to commit a crime or a place in which a crime may be committed.

Predictive policing uses methods of mathematical, predictive analytics as well as machine learning algorithms to identify potential criminal activity. When predicting, they distinguish methods for predicting crimes, methods for predicting the identity of criminals and methods for predicting victims of crimes. Prediction methods cannot predict the future — they can only identify people and places at increased risk of crime, and they are to be used as elements of larger proactive strategies to address crime problems.

At the moment, Russia does not have software solutions based on machine learning algorithms that could be used to solve serial killings. It seems promising to develop predictive policing in Russia by creating models and software based on artificial intelligence in order to investigate and solve serial killings.

II. Predictive Policing

Back in the 1970s, the French philosopher Herbert Marcuse predicted the emergence of some new technologies that could change the world. On the one hand, they will open up new prospects for freedom, but on the other, they will create new forms of alienation and give the

state and corporations new mechanisms for controlling people. To date, his prediction has come true.

Computer models that predict crime fall into two following groups (Shapiro, 2017).

— Type one programs determine who is most likely to commit a crime or, conversely, become a victim. They assess people's profiles in terms of age, criminal history, employment data, dating (conducted through social media pages) and other data. What kind of data is used for this depends on the developers, and they do not always disclose details.

— In models of the second type, the main thing is time and place, that is where and when a crime can be committed. Algorithms divide the territory of the city into small zones with an area of several tens of meters — this can be a specific quarter or intersection — and calculate the probabilities based on the incoming data. For example, one of the market leaders, PredPol, makes forecasts based on statistics on reports of murders, thefts, robberies, and vehicle thefts. But even the weather, opening hours of the surrounding bars and schools can also be taken into account. If the program believes that the risk of committing a crime is high, a police squad is sent to the scene.

There is no legal definition of predictive policing in Russia. However, in doctrine and the media, this term is sometimes used, it refers to a preventive strategy based on computer calculations, with the help of which the police can assess the degree of risk of committing certain crimes in certain places. Nevertheless, it is possible to note the presence of a significant amount of use of systems based on artificial intelligence in predictive policing and related fields.

The modern application of artificial intelligence in all spheres of activity is impossible without working with Big Data. To this end, the Ministry of Internal Affairs of Russia, together with leading research centers and start-ups, is holding large joint conferences on the most relevant breakthrough approaches in the use of artificial intelligence and Big Data in order to combat crime. The Academy of Management of the Ministry of Internal Affairs of Russia housed the second major event of this kind in December 2021.

In Russian practice, the successful use of artificial intelligence technologies in predictive policing can be noted. For example, the use of artificial intelligence algorithms for video surveillance is the Safe City program. Part of this system is the FindFace Security face recognition system, created by the Russian company NtechLab in 2015. As the NtechLab website notes, the main goals of their created program are advanced analytics, search for offenders, search for missing people, ensuring the safety of public events, as well as transport security. That is, as a rule, criminals are searched for using this system. In addition, active cooperation on the use of artificial intelligence to combat cybercrime is carried out in cooperation with large banks, their cyber defense structures and information technologies (IT) structures working in the prevention and investigation of cybercrimes.

So, let us give an example of an anti-fraud system. Fraud Hunting Platform is a Group-IB product that is used by Sberbank, Post Bank, Raiffeisenbank. This program allows to detect payment fraud, combat money laundering, identify fraudsters. According to Sberbank, in 2018, using the introduced anti-fraud system, it was possible to save more than 32 billion rubles belonging to depositors. The technology quality is confirmed by the international Cybersecurity Excellence Awards.

In relation to the programs taught abroad, it should be noted the program based on artificial intelligence, which is actively used in New York (USA). This program recognizes the "handwriting" of robbers. The software is called Patternizer. For AI training, the data collected over a decade was used. To identify common features of robberies, the algorithm draws attention to the method of breaking doors, the list of stolen things and the scene of the incident. The algorithm began to apply back in 2016. Its effectiveness has been proven many times — for example, it was able to link two robberies that were committed in two different areas of New York City within two weeks of each other. The perpetrator was identified by his unusual weapon, a syringe, which he used to intimidate Home Deport shop staff. Thanks to Patternizer, instead of hours of work, the investigators only needed to make one click of the computer mouse.

III. High-Tech Modeling as a Method to Identify Serial Killers

Modeling originates in antiquity. The word "model" comes from the Latin word "module," meaning "measure," "sample." Its intended meaning is connected with the art of building, and in almost all countries it is used to signify an image, a type, or things in some connection with an external thing (Nechaevsky, 2013). To describe logical operations, modeling was first used by Raymundus Lullius (1235–1315) (Luzgin, 1981, p. 4).

In the ancient period, modeling can be characterized as follows:

— there is no concept of "models" and "modeling" in science, however, the presence of relevant objects and phenomena in the practice of human cognition and life;

— appearance of language characters (symbols) as models denoting real objects, phenomena, processes;

— the existence of mental modeling as an integral feature of human thinking;

— reflection of the results of scientific research in the form of models. The emergence of elements of scientific theories as a reflection of the surrounding world;

— the formation of modeling languages: verbal; symbolic, including mathematical; geometric; drawing; schematic; mechanical;

— development of descriptive verbal pedagogical models as a fixation of the scientist's thoughts and as an indicative basis for the upbringing process. The use of models of studied objects, processes, phenomena as means of facilitating the understanding and assimilation of knowledge in the content of education and education (Kotlyarova, 2019, p. 7).

Modelling is also found in cults. A prime example of modelling is the volt (voodoo doll), a doll used in voodoo witchcraft. It is believed that as a result of a special ritual, the doll receives a special kind of connection with a particular person, enabling the possessor of the doll to influence through it the person it symbolises. Building and studying models of real objects, processes or phenomena in order to obtain explanations for these phenomena, as well as to predict the behavior of these objects,

has become one of the main tools of human cognitive activity. This effective method of cognition is used by various sciences and branches of knowledge, and if earlier there was an opinion that the inheritance of modeling is only technical and natural sciences, now its use in public sciences is considered expedient and, moreover, promising.

Recently, modeling has developed most dynamically in the activities of solving and investigating crimes. For the first time, G. Gross (1847–1915) expressed ideas for using the modeling method in forensic science to recreate a specific picture of what happened and search for a criminal. The origins of recommendations for the use of modeling in investigative practice appeared during this period, that is, at the dawn of forensic science. The founders of Russian criminalistics V.I. Gromov and I.N. Yakimov recommended that investigators during the investigation recreate a specific picture of what happened and use it to search for the culprit. The term "modeling" itself appeared in the 1960s thanks to the work of A.R. Ratinov (Ratinov, 1967). The active development of domestic forensic modeling has been taking place since the 1970s and 1980s.

Forensic modeling is a process of perception and processing of source data, which is based on conditional probabilistic syllogism "if, then, probably" and sets itself the task of establishing and using natural connections and relationships in versive and predictive models of the mechanism of criminal activity and investigation models in order to form a system of evidence in a criminal case (Luzgin, 1980). The forensic model allows to gain new knowledge about the original and use it to solve search, cognitive, recognition, identification and other tasks in the process of investigating and solving crimes (Volchetskaya, 1997). Recent years have been distinguished by a truly explosive development of technology. According to L.V. Bertovskiy, the fourth industrial revolution — the logical continuation of computerization, namely, the optimization of automatic and machine processes — is coming. In this regard, the era of high-tech law is coming (Bertovskiy, 2021).

One of the latest trends in law enforcement is the use of computer models based on algorithms capable of self-learning (artificial intelligence and machine learning) in order to investigate, predict and prevent crimes. The most popular modern technology based on

computer modeling is Digital Twin — a synchronized virtual model of any objects, systems, people, processes and environments that simulates internal processes, technical characteristics and behavior of a real object under the influence of interference and the environment. The digital twin tracks the past and predicts the future and is a learning system consisting of a complex of mathematical models of different levels of complexity, refined from the results of field experiments, and is a changing digital profile containing historical and most relevant data about a physical object or process. Digital twins together with machine learning allow to create a reliable model and predict the behavior of the studied object in the future, based on the analysis of large and semi-structured data arrays (Lubin, 2021).

The high-tech modeling is widely discussed in foreign scientific literature. For example, modeling the behavior of offenders who commit serious sexual assaults (Adderley and Musgrove, 2001), predicting criminal recidivism, classification system for serial criminal patterns (Caulkins *et al.*, 1996).

In Russia, the problem of identifying serial killers is especially acute. Serial killings occupy a significant place in the structure of murders, are latent and often remain unsolved. In Russia, statistics of serial crimes are not kept. However, from the data provided by the territorial investigating authorities of the Investigative Committee of Russia, as well as analytical materials of the GUK (CC), it was established that 138 episodes of 1,083 crimes were registered in the first half of 2021. In the study period, 136 episodes of 1,080 crimes were revealed (with crimes of previous years). Also in this period, 96 episodes were registered about 861 crimes committed against minors. 94 episodes in relation to minors have been disclosed. Given the crimes committed in past years, 142 episodes of 552 crimes remain unsolved. 69 episodes of 196 crimes committed against minors remain unsolved. A digital twin can be used in investigative activities to identify a criminal, a potential crime scene, predict the development of a series and solve other problems.

Often a serial killer develops a certain stable "criminal handwriting" — a specific manner through which they can be established by the same type of victims, the stereotype of criminal actions, the instrument, method and situation of its commission, as well as the

nature of the bodily injuries, wounds and other signs displayed in the trace data, and by which it can be established. For example, the serial killer A. Pichushkin in the last nine episodes inserted a bottle, stick or branch into the head of the victims.

Due to the large amount of data on the case, insufficient analysis of the material and the relationship with other cases, the investigation is not always able to quickly identify the coincidence and relationship of the obtained data to establish seriality. In addition, not all investigative units comply with the requirements of paragraph 2.4 of the Order of the Investigative Committee of Russia No. 130 dated August 11, 2011 "On the organization of work in the Investigative Committee of the Russian Federation to investigate crimes with signs of seriality," according to which it is necessary to immediately consider the issue of combining criminal cases in one proceeding on crimes with signs of seriality. Such facts, as a rule, take place in cases of crimes committed on the territory of different subjects of Russia. As a result, the preliminary investigation in such criminal cases is carried out independently without taking into account the data on the commission of crimes by one person on the territory of other subjects of Russia. Based on the results of the investigation, decisions are made to suspend it due to the unidentified person to be brought in as an accused (suspect).

Thus, the problem is that the crime is recorded as isolated, which prevents the rapid disclosure of the crime, which is why the serial killer continues his criminal activity. One of the options for solving this problem is the development of a digital double of a serial killer. This computer model that predicts crime will combine 2 groups of models. With its help, it will be possible to identify a potential offender, as well as time and place, that is, where and when a crime can be committed.

The advantages of an artificial intelligence-based program are that it can analyze a large amount of data (not only data about crimes, but also data about the world around it, such as natural phenomena in a given period, news reports, political situations in the world, *etc.*), and thus identify non-obvious connections between the crime and other events in the world.

For example, the presence of non-obvious connections was proven in 1980 by Phillips. Phillips demonstrated that immediately after a wave

of publications reporting on suicides, the number of people who died during plane crashes is increasing by 1,000 %! Moreover, the increase in the number of deaths from accidents concerns not only deaths in airplanes. The number of road accidents is also increasing sharply. Thus, it seems promising to put a large array of data into the program in order to identify certain patterns that have not been previously identified in science (Cialdini, 2001, pp. 135–136).

When developing a digital twin, several areas of research can be identified, which are carried out in parallel, based on the basic foundations of machine learning, namely data, features and algorithms. The first area — without which, in principle, it is impossible to create software tools — is the creation of a sufficient data set consisting of actually completed cases. Moreover, for the development of predictive policing in Russia, this data must be promptly replenished and available for use.

The next problem to be solved is the separation of the basic signs of the committed crime from many criminal cases, the analysis of the informativity of the signs, the identification of the most important ones, the implementation of the task of reducing the dimension of the space of the signs. Signs are formed from protocols of inspection of the scene, protocols of interrogations of victims, statistical cards, conclusions of a forensic medical examination, indictments. It is important to understand what features the digital twin will represent in the future model, since the entire further process is based on them. Firstly, it needs not to miss important characteristics that describe the object, and secondly, create tough criteria for deciding on the characteristic. The following set of characteristics is proposed:

1) the situation of the crime;
2) the method of committing the crime;
3) typical traces;
4) circumstances in which the crime was committed;
5) data on the identity of the victim;
6) data on the identity of the offender;
7) place of release of objects (guns, victim's belongings, *etc.*);
8) age of the perpetrator;
9) previous convictions of the criminal;

10) the presence of psychological diseases in the criminal;

11) the family and children of the criminal;

12) data on the presence of a connection between the criminal and the victim.

Three following characteristic categories can be distinguished.

1. Boolean (bicategoric), the answer to which is: Yes or No (1 or 0). For example, the answer to the question: is there a connection between the criminal and the victim?

2. Categorical, the answer to which is a specific class. Usually there are more than two classes (multicategory). For example, the age of the criminal.

3. Quantitative, the responses to which are numbers characterizing a specific measure. For example, the distance to the ejection of objects by a criminal.

Significant heterogeneity, weak structuring, small amount of data from the point of view of machine learning methods, high dimension of the feature space, the absence of a hypothesis for the distribution of source data complicates the model of the digital twin. A separate task to be solved is the analysis of natural language texts in order to automatically distinguish signs from the text of protocols for inspecting the scene of the incident, protocols for interrogating victims, conclusions of a forensic medical examination, and indictments.

When building a model, it needs to understand what types of questions the algorithm can deal with. It can be argued that a computer program is trained as experience is gained regarding a certain class of tasks and objective function, if the quality of solving these problems relative to the objective function improves with new experience. Thus, it is not the data that takes center stage in the learning process, but the objective function and the way the results are evaluated. The choice of objective function completely determines all further work, and even in similar tasks, different objective functions can lead to completely different models.

For example, the decision tree is trained on all types of questions, and the neural network receives only numerical inputs and is trained only on quantitative features. Does this mean that we should abandon some questions for the sake of a more advanced model? Not at all,

you just need to properly prepare the data based on the problem being solved. So for each data set, two fundamentally different machine learning problems can be solved: the classification problem and the clustering problem.

The task of classification for detecting serial crimes implies the presence of pre-marked data relating specific cases to the already identified series of crimes. One series is one class of crime. Such markings are carried out by competent investigators based on their personal experience or on the results of indictments. The greatest efficiency of the model can be achieved by using ensemble machine learning methods, where several models are trained to solve the same problem and combined to obtain better results. The main hypothesis is that with the right combination of weak models, we can get more accurate and reliable crime classification results, identify crime series and predict the actions of the offender in the future.

The task of clustering in relation to the problem of predictive policing can be set as follows. When clustering, the number of future clusters is initially unknown, that is we do not know how many series of crimes are contained in the training sample. A dataset is a set of feature vectors of objects, events, processes, or phenomena. For each of the sample examples, additional data or description relating only to the individual examples themselves but not directly involved in the training may be known. It is essential to obtain a model that will perform one or more functions from the list throughout its life cycle:

— relate the vectors supplied to its inputs to one of the already existing clusters closest to the input vector;

— create a new cluster if it does not find a close enough match to existing clusters

— delete clusters that were unused as a result of the last learning era.

This problem can be effectively solved using Cohonen neural networks, graph neural networks or adaptive resonance networks. The input variables of such networks can take both binary and analog values. Their output values can be conditionally considered the distance to the center of each of the existing clusters. In fact, they have no outputs in the understanding familiar to other neural network architectures, since

there is no clear pre-known training goal — an output image or a class of images. At the final stage, the developed architecture is trained, its training parameters are adjusted, as well as the adequacy of the model's conclusions on the trends and similarities of unsolved murders and the identification of the connection between crimes is checked.

IV. Conclusion

Technological progress does not stand still. Predictive policing is actively used all over the world and has already demonstrated its effectiveness. The detection rate of serial murders in Russia at the moment is low. In this connection, we consider it possible to create a program of "digital twin serial killers." With its help it is possible to get data on a potential offender, potential scene of crime, victim and weapon.

The main tasks to be solved in the near future, including on the legislative level, are creation of a dataset of sufficient volume, consisting of completed cases and cases in progress. This data must be promptly updated and made available for use. The next task to be solved is to justify the choice of machine learning algorithms to obtain the most effective digital twin model for the creation of a software tool for the analysis of crimes for seriality. The prospect of application of this program is increase of solvability of serial murders, decrease of load on law enforcement bodies.

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ARTIFICIAL INTELLIGENCE

Academic Events, Comments and Notes

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"Artificial Intelligence" Technologies in the Mechanism of Contractual Regulation in the Russian Federation

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Abstract: "Artificial intelligence" technologies (AI technologies) are becoming popular objects of civil rights. Current legislation does not regulate relations on the creation of these results of intellectual activity and the turnover of exclusive rights to them. The current state of doctrine and law enforcement practice demonstrates the unresolved problems associated with the legal qualification of AI technologies, the definition of their legal regime, the use of various contractual structures for the creation of these innovative intangible objects and the turnover of exclusive rights to them. The purpose of the study is to consider the key civil scientific and practical problems of AI technologies in the mechanism of contractual regulation at the stage of establishing of legislation regulating digital relations. *Methods:* comparative legal method, rising from the abstract to the concrete, modeling, induction, deduction. Results and novelty: having realized the research objectives through the general scientific and private scientific methods described above, the authors considered AI technologies as independent results of intellectual activity and objects of civil rights. The factors influencing the construction of a system of contracts ensuring the turnover of exclusive rights to AI technologies are identified, in particular, the need to include conditions on confidentiality of information, on the procedure for

applying a smart contract, methods of identification and authentication of the parties to contracts. A system of contracts has been developed to ensure the turnover of exclusive rights to AI technologies.

***Keywords*:** "artificial intelligence" technologies; legal regime; establishing of digital legislation; system of contracts; creation of "artificial intelligence" technology; pledge; exclusive right

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Contents

I. Introduction

Modern marketplaces offer consumers "artificial intelligence" technologies (AI technologies) in various forms — digital devices, robots, bots, *etc*. For example, AI technologies are applied for provision of medical services (Lee *et al*., 2022; Myers *et al*., 2020, pp. 830–840). There are still no norms in civil legislation establishing the legal regime of these objects.

Both in doctrine and in practice, there is no consensus on what kind of contracts are applicable for the development of AI technologies and the turnover of exclusive rights thereto. The authors of this paper were among the first to propose a solution to these problems. The article establishes the relationship between the concepts of AI and AI technologies, and make conclusions about the legal regime applicable to each of these results of intellectual activity. Based on the analysis of modern legislation and business practice the paper presents classifications of contracts that ensure the turnover of exclusive rights

to AI technologies, as well as system-forming criteria (connection with property, target orientation, content features, in particular, conditions on the procedure for applying assurances about circumstances, smart contract, electronic form of the contract).

To substantiate their conclusions, we consider the key civil scientific and practical problems associated with AI technologies and propose ways to solve them. We analyze the current state of legislation regulating relations related to intellectual property, scientific doctrine and law enforcement practice; identify scientific and practical problems related to AI technologies, contracts ensuring the turnover of exclusive rights to these results of intellectual activity; substantiate the proposed solutions to these problems.

The definition of constitutive features of AI technologies, identification of features, as well as contract structures mediating the turnover of exclusive rights to these objects, was based on a system of methods consisting of a comparative legal method, a modeling method, and methods of rising from the abstract to the concrete, induction and deduction.

II. "Artificial Intelligence" Technologies: Problems of Contractual Regulation of Turnover Relations

The active involvement in the conditions of digitalization of the economy (Galiautdinov, 2020) of new innovative intangible products — AI technologies — in property turnover poses the problem of defining them not only as objects of civil rights, but also as their civil law regime. The legal regime makes it possible to understand what legal actions individuals and legal entities can perform with the object. Consequently, the choice and conclusion of a certain contract depends on the civil law regime (García-Monleón, Danvila del Valle, and Francisco Lara, 2021; Teker and Asena Deniz, 2020) of the object that is the subject of a specific contract.

The doctrine often identifies AI technologies either with AI itself, or with things — robotic devices (RD) which embed AI. This leads to the need for differentiating these objects and defining their concepts.

We believe that AI and AI technologies should be enshrined in the list of protected intellectual property results provided for in Article 1225 of the Civil Code of the Russian Federation. AI consists of intellectual rights objects of various legal nature — computer programs (copyright objects), algorithms and software (know-how), technical solutions (inventions), databases (complex and composite objects), *etc*. Each of these elements, performing certain functions in the complex structure of AI, is connected with the system forming, main structural component of this system — computer programs. All the designated structural elements of AI that are part of it, connecting with each other, form a complex object with properties that are not reducible to the properties of individual elements. The main task of this object is to serve as the basis for the development of the so-called end-to-end technologies — promising technologies that radically change all spheres of human activity (Vasilevskaya, Poduzova and Tasalov, 2021, p. 80). Such technologies include AI technologies.

AI as a complex structural entity with a new qualitative certainty, as a complex object of civil rights as part of the technology of AI plays the role of the main link determining the purpose and use of a single technology in various sectors of the economy (industry, construction, medicine, *etc*.). The immaterial nature of AI and AI technologies necessitates their materialization, since without an objective form of expression, they cannot arise as objects of intellectual rights, existing at the level of an idea, a plan.

The physical carrier of AI is a computer that comprises and runs all programs existing in a binary format, *i.e.,* in a digital form. For AI technologies, such a physical carrier is a robotic device (RD). The significance of RD as a physical carrier of a single technology is to serve as a technological basis for the application of AI in various spheres of human activity.

Due to their immaterial nature, the objects of civil turnover are not AI and not AI technologies, but exclusive (property) rights thereto. According to clause 4 of Article 129 of the Civil Code of the Russian Federation, the results of intellectual activity cannot be alienated or otherwise transferred from one person to another, since only exclusive (property) rights, as well as physical carriers in which intellectual

property objects have found appropriate embodiment, possess the property of turnover.

Therefore, it is necessary to distinguish between exclusive rights to intangible innovative products, on the one hand, and ownership of computer and robotic devices as things, on the other hand. Such a distinction is of fundamental importance. By purchasing physical media (computer or RD), the buyer does not become the copyright holder of AI and/or AI technologies. The transfer of ownership of a thing (computer, RD) does not mean the transfer of intellectual rights to AI and/or the technology of AI embodied in the computer and RD. This means that the real-legal mechanism of acquiring ownership of things is unacceptable for alienation and transfer of exclusive rights to AI and AI technologies.

The exclusive right, proprietary in nature, is the right to use the result of intellectual activity and the right to dispose thereof. Thus, the essence of the exclusive right to a single AI technology lies in the right holder's ability to decide the legal fate of this right. There are the following ways to do that. The first is to alienate it to a third party (an agreement on alienation of the exclusive right to AI technology). The second is to limit it, *i.e.*, to grant the right to use it to a third party (a license or sublicense agreement), or to transfer the exclusive right to pledge (an agreement on pledge of the exclusive right to AI technology) (Vasilevskaya, 2021, pp. 3–18). However, these contractual structures do not exhaust all possible ways of disposing of the exclusive right to AI technologies. We believe that depending on the causa of the contract in a certain system of contracts that ensure the turnover of exclusive rights to AI technologies, it is necessary to choose a contractual structure corresponding to it (causa) and conclude a specific civil contract.

When building a system of contracts ensuring the turnover of exclusive rights to AI technologies, it is necessary to take into account a number of factors. We consider the concept of a "contract" as a transaction agreement that generates a corresponding legal relationship as stated in Article 420 of the Civil Code of the Russian Federation. When executing and performing contracts that ensure the turnover of exclusive rights to AI technologies, it is necessary to take into account the ownership of exclusive rights to certain subjects of law to these objects, the absence of encumbrances and other restrictions of these

rights. The conclusion of contracts ensuring the turnover of exclusive rights to AI technologies, in most cases, takes place remotely. In these conditions, the electronic form of the contract, electronic signature, smart contract (program code) are subject to application, the parties to the contract interact with each other using their digital projections.

According to the criterion of connection with property (Article 128 of the Civil Code of the Russian Federation), these contracts can be divided into property and non-property. Among the property contracts in the studied area, we identified the following property contracts with organizational elements: an option agreement, as well as property contracts that ensure the turnover of exclusive rights to AI technologies, including organizational conditions (on confidentiality, on the procedure for applying an electronic signature, a smart contract (program code), remote identification and authentication of subjects). Organizational and property contracts also include a contract with open conditions.

Property contracts with organizational elements are mixed contracts. Mikhail Braginskiy (2007, pp. 61–62) rightly identifies the following features of mixed contracts: "*there must be at least two contracts whose elements are included in the content of a mixed contract*"; such contracts are understood as contracts that meet the characteristics of a named contract; "*the mixed contract itself does not belong to the named ones*." At the same time, a mixed contract must be distinguished from a package contract (Sobchak, 1989, p. 64).

As to to the focus on a certain legal result criterion David (2020) divides property contracts into the following types. These are, in particular, a contract for the performance of research, development and technological work on the development of AI technologies, a contract for the creation of AI technologies, an agreement on the alienation of the exclusive right to AI technology, an AI technology license agreement. It is also possible to single out a commercial concession agreement on granting the right to AI technology as part of a set of exclusive rights, a pledge agreement for the exclusive right to AI technology, an agreement for the management of a pledge of the exclusive right to AI technology, a trust agreement for the exclusive rights to AI technology, a contract on the transfer of authority to manage copyright and related rights on a collective basis. Among non-property contracts, we can distinguish

organizational contracts applicable in the field of ensuring the turnover of exclusive rights to AI technologies. These include a preliminary agreement, a framework agreement, a gratuitous option agreement, and a non-defined agreement on the organization of joint activities.

License agreements can serve as the main agreement, as well as a contract serving other contracts for the provision of services in the field of the use of AI technologies. For example, services for the introduction of AI technologies into the user's activities can be provided not only by the copyright holder, but also by a third party. In this case, the copyright holder and a third party conclude an AI technologies license agreement so the third party has exclusive rights to introduce them into the user's activities. A paid services agreement between a user and a third party should refer to this license agreement.

The license agreement acts as a kind of "maintaining" agreement for services agreement involving AI and AI technologies. According to the criterion of the scope of application, these agreements can be divided into the following specific groups. The first group includes a contract for the provision of paid services using AI technologies. This agreement is of a mixed nature, it includes elements of a license agreement. At the same time, as the Supreme Court of the Russian Federation rightly notes, the absence of special regulations of an indication for the possibility of an unmotivated unilateral refusal to execute the contract does not mean that the customer does not have such a right.[1] When using software for the operation of RD using SaaS technology (remote access technology), a user service agreement is concluded for the purpose of remote application of the software[2] (the second group of contracts). This agreement also includes elements of the license agreement. The third group includes a contract for the provision of paid services by the copyright holder (or a third party) for

[1] Review of the judicial practice of the Supreme Court of the Russian Federation No. 1 (2018) (approved by the Presidium of the Supreme Court of the Russian Federation on March 28, 2018). SPS "ConsultantPlus". (In Russ.). Available at: http://www.consultant.ru/ [Accessed 30.03.2022].

[2] Public offer on concluding an agreement on providing access to software according to the SaaS model. Available at: https://b2b-connect.ru/media/documents/offer_SaaS.html [Accessed 30.03.2022].

the introduction of AI technologies into the user's activities,[3] and the fourth group includes contracts for the provision of paid advertising services for promotion on the RD market.[4]

According to the scope of application criterion, it is possible to distinguish between certain types of an organizational agreement that are not defined in the Civil Code of the Russian Federation aimed at coordinating joint activities. In particular, there is an agreement between several copyright holders on the procedure for exercising the exclusive right to AI technology; an agreement on the interaction of the organizer of the creation of AI technologies with performers under contracts for research, development and technological works (hereinafter referred to as the R&D agreement) and a contract; an agreement on interaction between the developer of the terms of reference for the creation of AI technology, the customer and the contractor under the R&D agreement (contractor agreement); an agreement on co-authorship in the joint creation of AI technologies. There is also a confidentiality agreement; a contract on the use of a smart contract (program code) (Dutta, 2020, pp. 61–78; Rühl, 2020, pp. 159–180); an agreement on the procedure for using the electronic form of the contract, electronic document management, electronic signature; an agreement on the procedure for identifying and authenticating subjects of digital interaction; an agreement on the organization of remote digital interaction of subjects; an agreement on the organization of personal data processing by a SaaS provider when remotely using the software for the functioning of the RD using SaaS technology.

III. Conclusion

The analysis of business practices shows that the parties, agreeing on specific terms in the contract, in many cases do not take into account the specifics of the relationship and the relevant legal regulation,

[3] Agreement for the provision of services for the implementation of software. Prepared by N.D. Maleeva for the SPS "ConsultantPlus", 2021. SPS "ConsultantPlus". (In Russ.). Available at: http://www.consultant.ru/ [Accessed 30.03.2022].

[4] Contract for the provision of advertising services. Prepared by N.D. Maleeva for the SPS "ConsultantPlus", 2021. SPS "ConsultantPlus". (In Russ.). Available at: http://www.consultant.ru/ [Accessed 30.03.2022].

the specifics of the qualification of contracts, the need to establish the order of organizational interaction of the parties in a particular contract. Several things make it difficult to protect the rights of a bona fide party to such a contract. Among them are substitution of concepts, inconsistency of conditions on the ownership of the exclusive right to the result of intellectual activity, the absence in the contract of conditions on ensuring confidentiality of information, on the procedure for identification and authentication of the parties, on the procedure for the use of electronic signatures and smart contracts.

Entering into certain relations related to AI technologies, it is important to consider the choice of the applicable contractual structure and the right wordingof its content, as these are not a simple formality. In the absence of legal regulation of these relations, the realization of the rights of the parties, the proper performance of duties completely depend on the type and content of the contract they concluded. Due to the complexity and diversity of the studied relations, in many cases it is advisable to apply a set of organizational and property contracts.

In conclusion, we can outline the following results of the sudy.

1. AI and AI technologies are innovative results of intellectual activity that are not reflected in the list of protected intellectual property objects provided for in Article 1225 of the Civil Code of the Russian Federation. Thus, we should consider AI as a complex object of intellectual rights, and classify AI technologies as a "single technology." The physical carriers of these ideal objects by their nature are computers (for AI) and robotic devices — RDs (for AI technologies).

2. The legal regime of an object makes it possible to understand what legal actions individuals and legal entities can perform therewith. It is not AI technologies as an intellectual activity result per se that exhibit turnover properties, but the exclusive (property) rights to them. Depending on the causa of the contract, in a certain system of contracts that ensure the turnover of exclusive rights to AI technologies, it is necessary to choose a contractual structure corresponding to it (causa) and conclude a specific civil contract (an agreement on the alienation of an exclusive right, a license agreement, an exclusive right pledge agreement, *etc.*).

3. Several factors influence contractual structures mediating the turnover of exclusive rights to AI technologies. First, contracts ensuring the turnover of exclusive rights to AI technologies involve the transfer of confidential information of high economic value to the party (parties). Secondly, in executing and performing contracts that ensure the turnover of exclusive rights to AI technologies, the ownership of certain subjects of law of exclusive rights to the objects, the absence of encumbrances and other restrictions to these rights are of paramount importance. Third, as a rule, the electronic form of the contract, electronic signature, smart contract (program code) are subject to application. Fourth, mixed and non-defined contracts are used in this domain.

4. When building a system of contracts that ensure the turnover of exclusive rights to AI technologies, it is necessary to take into account a number of factors. First, we consider the concept of "contract" as a transaction agreement that generates a corresponding legal relationship. Second, it is necessary to take into account the ownership of exclusive rights to these objects to certain subjects of law, the absence of encumbrances and other restrictions of these rights. Third, the conclusion of contracts ensuring the turnover of exclusive rights to AI technologies, in most cases, takes place remotely. According to the criterion of connection with property, contracts can be divided into property and non-property contracts. In both groups of contracts, it is possible to distinguish their types according to the target criterion. A number of property and non-property contracts can also be classified by scope of application criterion.

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ELIMINATION OF RACIAL DISCRIMINATION

Research Article

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Claims Concerning Racial Discrimination: Jurisdictional Approaches of the International Court of Justice

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Abstract: Recent years have demonstrated an increase in cases that were brought before the ICJ by way of jurisdictional clauses of treaties, and never before has the Court experienced such a considerable influx of human rights-related claims. In particular, cases concerning racial discrimination, which first appeared in the Court's docket in 2008, take up today a substantial part of its agenda: three out of fourteen cases currently pending before the ICJ concern issues of application of the International Convention on the Elimination of All Forms of Racial Discrimination (CERD), while the fourth one was resolved just in 2021. The article describes the problems the Court encountered in striking the proper balance between various legal and political considerations when interpreting the jurisdictional clause of Article 22 of CERD and questions whether the ICJ has succeeded in doing so.

Keywords: human rights law; International Court of Justice; jurisdiction; International Convention on the Elimination of All Forms of Racial Discrimination; ICJ Statute

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Contents

I. Introduction

An increasing number of applications are brought before the International Court of Justice ("the ICJ" or "the Court") by way of jurisdictional clauses of multilateral treaties (Zimmermann *et al.*, 2019, p. 748; Abraham, 2016, p. 299). For instance, vast majority of the cases currently under consideration by the Court were filed on this jurisdictional basis. However, over the last years states have been reluctant to conclude new treaties containing jurisdictional clauses (Thirlway, 2016, p. 44; Akande, 2016, p. 320), and only about one tenth of them have been invoked before the Court. When it comes to human rights-related treaties, this trend is even more visible: Judge J. Crawford (2017) noted that only five of the main multilateral human rights treaties currently contain a jurisdictional clause, enabling recourse to the Court.

This has led to the emergence of the "Cinderella's shoe" phenomenon (an illustrative metaphor used by Judge C. Greenwood (2011)), which describes situations when in the absence of other legal grounds States resorted to treaties that were not completely relevant to the matter in question, trying to pass the dispute — as Judge B. Simma put it[1] — "through the eye of a needle" of a jurisdictional clause. What makes this practice possible is the fact that such clauses are often formulated

[1] *Oil Platforms (Islamic Republic of Iran v. United States of America)*, Judgment, 6 November 2003, I.C.J. Reports 2003, p. 326, Separate Opinion of Judge Simma.

very broadly (Thirlway, 2016, p. 42) and do not define clear contours of future disagreements (Zimmermann *et al.*, 2019, p. 742).

In this context, this paper focuses on the 1965 International Convention on the Elimination of All Forms of Racial Discrimination (CERD), which also contains a jurisdictional clause recognizing the jurisdiction of the ICJ. As is shown in this article, CERD has at times been used as a vehicle to seize the Court of political rather than legal "battles." However, the abovementioned trend of framing a multifaceted dispute within the terms of a specific treaty ratified by both relevant Parties has not been opposed by the Court, but rather recognized by it, as was also shown by its case-law on the application and interpretation of CERD.

According to CERD (which entered into force in 1969 and has now 182 Parties), racial discrimination is "any distinction, exclusion, restriction or preference based on race, color, descent or national or ethnic origin which has the purpose or effect of nullifying or impairing the recognition, enjoyment or exercise, on an equal footing, of human rights and fundamental freedoms". It is correctly observed that in addition to CERD, discrimination on racial grounds is also "contrary to customary international law" (Shaw, 2017, p. 222).

Since the first time the Convention came under the Court's scrutiny in 2008, several States have referred discrimination-related applications to the ICJ, leading to the development of the Court's approaches to issues of racial discrimination and even — to a certain extent — to the emergence of the jurisprudence of the Court on matters of application and interpretation of CERD. Two cases have "dissolved" at the preliminary objections stage, the third one — not without questions as to the impeccability of the Court's reasoning — has proceeded to the merits. So far, these judgments have shed light on the terms of CERD regarding certain procedural aspects of the functioning of the dispute resolution mechanism enshrined therein, as well as its scope *ratione materiae*. This article analyzes each of such judgments in a chronological order to enable the reader to trace the development of the Court's approaches, including — as argued by the authors — certain inconsistencies and imminent consequences thereof.

II. *Georgia v. Russia* Case (Preliminary Objections)

For the first time racial discrimination claims were brought to the ICJ in 2008 in the case concerning the *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Georgia v. Russian Federation)*. The parties to the dispute submitted to the Court completely opposite ways of interpretation of Article 22 of CERD, which provides: "Any dispute between two or more States Parties with respect to the interpretation or application of this Convention, which is not settled by negotiation or by the procedures expressly provided for in this Convention, shall, at the request of any of the parties to the dispute, be referred to the International Court of Justice for decision, unless the disputants agree to another mode of settlement."[2]

The "procedures expressly provided" for in CERD entail the mechanism specified in Articles 11–13 of the Convention. According to paragraph 1 of Article 11 "if a State Party considers that another State Party is not giving effect to the provisions of this Convention, it may bring the matter to the attention of the Committee [on the Elimination of Racial Discrimination]," which is a control mechanism of the Convention specifically established for this purpose according to Article 8 of CERD. The Committee then transmits the communication to the State Party concerned, which within three months submits to the Committee "written explanations or statements clarifying the matter and the remedy, if any, that may have been taken by that State." A State Party may address the matter to the Committee again if it is not adjusted within six months after the initial communication by way of bilateral negotiations or any other procedure open to the States in question (paragraph 2 Article 11). Then, according to paragraph 1 (a) Article 12 the Chairman appoints an *ad hoc* Conciliation Commission which offers its good offices to the States concerned in order to reach an amicable solution. The Commission's report containing its findings on all questions of fact relevant to the issue as well as its recommendations for the amicable solution of the dispute is submitted to the Chairman of the Committee (paragraph 1 Article 13), which is then communicated to the

[2] UN General Assembly, International Convention on the Elimination of All Forms of Racial Discrimination, 21 December 1965, United Nations, Treaty Series, vol. 660, p. 195.

relevant States. Within three months these States inform the Chairman of the Committee whether or not they accept the recommendations contained in the report (paragraph 2 Article 13).

According to the interpretation of the jurisdictional clause of Article 22 of CERD proposed by the Russian Federation, two cumulative conditions had to be satisfied before Georgia could apply to the ICJ: an attempt to conduct meaningful negotiations and resort to the special procedures established by the Convention.[3] Georgia, on the contrary, advanced an interpretation of Article 22 of CERD that did not imply any preconditions for access to the ICJ, meaning that the exhaustion of the dispute resolution methods indicated therein prior to filing an application was unnecessary.[4]

In the order on provisional measures the Court established its *prima facie* jurisdiction to settle the dispute,[5] agreeing with the applicant that the "plain meaning" of Article 22 of CERD does not imply that formal negotiations under CERD or recourse to the procedure referred to in Article 22 of the Convention constitute preconditions for applying to the Court.[6] This position was criticized by some judges who expressed the view that the order misinterpreted Article 22 of the Convention due to its failure to recognize the existence of preconditions that must be met before a Party has the right to apply to the ICJ.[7]

Establishment of the jurisdiction of the Court at the provisional measures stage, however, does not prejudge the question of whether or not the Court has the jurisdiction to decide the case on the merits.[8] Thus,

[3] Preliminary objections of the Russian Federation, vol. 1, 1 December 2009, p. 80.

[4] Written statement of Georgia on preliminary objections, vol. 1, 1 April 2010, p. 93.

[5] *Application of the International Convention on the Elimination of all Forms of Racial Discrimination (Georgia v. Russian Federation)*, Provisional Measures, Order of 15 October 2008, I.C.J. Reports 2008, p. 388, para. 117.

[6] *Ibid.*, para. 114.

[7] *Ibid.*, Joint Dissenting Opinion of Vice-President Al-Khasawneh and Judges Ranjeva, Shi, Koroma, Tomka, Bennouna and Skotnikov, p. 404.

[8] *Ibid.*, p. 397, para. 148; *see also AngloIranian Oil Co. (United Kingdom v. Iran)*, Preliminary Objection, Judgment, I.C.J. Reports 1952, pp. 102–103; *Armed Activities on the Territory of the Congo (New Application: 2002) (Democratic Republic of the Congo v. Rwanda)*, Provisional Measures, Order of 10 July 2002, I.C.J. Reports 2002, p. 249, para. 90.

upon a more detailed analysis of the circumstances of the case and the wording of Article 22 of CERD, the Court, in its decision on preliminary objections[9] concluded that it lacked the jurisdiction to consider Georgia's application. In doing so, the ICJ based its reasoning on the general rule of treaty interpretation (Jardón, 2013, p. 130).[10] More specifically, the Court applied the principle of effectiveness, according to which the interpreted provisions of the treaty (in this case: "[a]ny dispute [...] which is not settled [...]") should be given force and meaning. The ICJ referred to the order of the Permanent Court of International Justice in the *Free Zones of Upper Savoy and the District of Gex* case,[11] which confirmed that "in case of doubt" the provisions of the special agreement by which the dispute is referred to the Court should be interpreted in such a way that enables them to "have appropriate effects" if this does not distort their meaning.

The Court decided that the interpretation of Article 22 of the Convention proposed by Georgia (suggesting that the mere fact that the dispute had not been resolved through negotiations or the procedure established by CERD was sufficient for referring it to the Court) rendered ineffective the key phrase of this provision.[12] The Court also emphasized that the indication of two methods of dispute resolution in Article 22 (negotiations and the special procedures under CERD) would otherwise not make any sense and would not lead to any consequences in violation of the principle that treaty terms should be given due effect.[13]

In support of its position, the Court turned to the French text of Article 22 of the Convention. The grammatical structure used therein ("*[t]out différend... qui n'aura pas* été *réglé par voie de négociation ou*

[9] *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Georgia v. Russian Federation)*, Preliminary Objections, Judgment of 1 April 2011, I.C.J. Reports 2011, p. 70.

[10] *Ibid.*, para. 122.

[11] *Free Zones of Upper Savoy and the District of Gex,* Order of 19 August 1929, PCIJ, Series A, No. 22, p. 13.

[12] *Ibid.*, note 12, p. 125–126, para. 133.

[13] *Ibid.*, p. 126, para. 134 ("Their introduction into the text of Article 22 would otherwise be meaningless and no legal consequences would be drawn from them contrary to the principle that words should be given appropriate effect whenever possible").

au moyen des procédures expressément prévues par la convention") presupposes the performance of one action (an attempt to resolve the dispute using the methods indicated in the article) before another future action (application to the Court). Based on the analysis of Court's own case-law concerning jurisdictional clauses similar to Article 22 of CERD, the Court concluded that they were unequivocally interpreted as containing preconditions for the referral of a case to the ICJ. Accordingly, the Court found that the ordinary meaning of this provision implies conditions that must be met before the dispute is brought before it.

The Parties actively used arguments based on the *travaux préparatoires* and the circumstances of conclusion of CERD. Although the Court took the position that the meaning of Article 22 was already clearly established on the basis of its text, it nonetheless decided to analyze these subsidiary sources to confirm its conclusions. The Court noted that due to insufficient information on the discussions during the drafting of the phrase "dispute [...] which is not settled" the usefulness of the preparatory work in shedding light on the meaning of Article 22 of CERD was rather limited. Although this analysis did not reveal any evidence in favor of the Court's position on the ordinary meaning of the text, the Court also detected no facts that would clearly contradict it.[14]

Some judges expressed disagreement with this interpretation, maintaining that the drafters of CERD "chose, deliberately or not, the wording least capable of being interpreted" as establishing a precondition requiring a preliminary attempt to hold negotiations.[15] In their opinion, the desire to establish such a condition could have been evidenced by the use of the wording "a dispute which cannot be settled" (instead of "which is not settled"). It is also worth noting that the Court did not support the "radically human rightist" views voiced by Judge A.A. Cançado Trindade,[16] who in his 84-pages dissenting

[14] *Ibid.*, p. 130.

[15] *Ibid.*, note 12, *Joint dissenting opinion of President Owada, Judges Simma, Abraham and Donoghue and Judge ad hoc Gaja*, p. 148.

[16] *Ibid.*, *Dissenting opinion of Judge Cançado Trindade*, p. 239, 300, 305 ("Under human rights treaties, the individuals concerned, in situations of great vulnerability or adversity, need a higher standard of protection; the ICJ, in the *cas d'espèce*, lodged with it on the basis of the CERD Convention, applied, contrariwise, a higher standard of State consent for the exercise of its jurisdiction").

opinion advocated for a special interpretation of human rights treaties in view of their specific object and purpose, even if this would imply evolutionary interpretation which would not take into account the intentions of States Parties at the time of the conclusion of CERD.[17] This approach would mean the application of softer criteria and a lower threshold for establishing consent to the jurisdiction of the ICJ (namely lack in Article 22 of CERD of any preconditions for the institution of proceedings before the Court).

Thus, applying the principle of effective interpretation of the treaty to the circumstances of this particular case, the Court concluded that Georgia had not negotiated with the Russian Federation on issues concerning CERD. When considering the first preliminary objection of the Russian Federation (on the absence of a dispute between the Parties), the Court established that a dispute between Georgia and the Russian Federation on issues of the Convention arose only after the events that occurred on the night of 7–8 August 2008.[18] Due to the fact that Georgia filed its application to the Court already on 12 August 2008 and made no attempt to conduct negotiations concerning the alleged violations of the provisions of CERD by Russia in this short period of time (9–12 August),[19] the ICJ upheld Russia's second preliminary objection.

In view of Georgia's failure to meet one of the conditions set out in Article 22 of CERD, the Court considered it superfluous to consider whether these conditions were alternative or cumulative. The Court's

[17] *Ibid.*, p. 307 ("Moreover, the reasoning of the Court appears to me as a static one, attempting to project into our days what the Court's majority *imagines* were the intentions of the draftsmen of the Convention (or of some of them) almost half a century ago, on the basis of a textual or grammatical argument. The Court notes that, 'at the time' when the CERD Convention 'was being elaborated, the idea of submitting to the compulsory settlement of disputes by the Court was not readily acceptable to a number of States' (para. 147). The Court then attempts to extract consequences therefrom, so as to advance today, in 2011, a reasoning that freezes or ossifies international law in the present domain of protection of the human person, that hinders its progressive development, and, understandably, that limits its own jurisdiction!").

[18] *Ibid.*, p. 135, para. 167.

[19] *Ibid.*, p. 135, para. 168, p. 139, para. 182 ("[...] the facts in the record show that, between 9 August and 12 August 2008, Georgia did not attempt to negotiate CERDrelated matters with the Russian Federation").

"silence" on such an important issue was criticized by some judges.[20] President H. Owada, judges B. Simma, R. Abraham, J. Donoghue and judge *ad hoc* G. Gaja in their dissenting opinion[21] criticized the "excessive formalism" of the ICJ and provided arguments in favor of the absence of preconditions in Article 22 of CERD as such. Otherwise, in their opinion, such conditions could only be alternative, since the amendment introduced by the delegations of Ghana, the Philippines and Mauritania during the 1367th meeting of the Third Committee of the UN General Assembly (which added the wording "or by the procedures expressly provided for in this Convention" after the phrase "[a]ny dispute… which is not settled by negotiation") was presented as "self-explanatory." In the opinion of some jurists, it was easily accepted, because it did not imply the introduction of significant changes in the text, which in turn indicated a lack of intention on the part of the drafters of CERD to establish additional restrictions on access to the Court.

This position is challenged by other international lawyers who note that it does not take into account the discussions held at the initial stage of CERD drafting. They confirm the reluctance of a number of States to establish the jurisdiction of the Court in matters related to the interpretation or application of CERD, along with the support by other States of direct and unimpeded access to the ICJ. According to Professor A. Zimmermann (2013, pp. 9–10) the adopted wording of Article 22 of CERD represented a compromise between these two positions. Moreover, at an early stage in the development of the text of CERD, the importance of the conventional mechanism for the consideration of interstate complaints was emphasized, and the original version of the jurisdictional clause provided that "any State Party complained of or lodging a complaint may, if no solution has been reached within the terms of Article 13, paragraph 1, bring the case before the International Court of Justice, after the report provided for in Article 13, paragraph 3, has been drawn up."[22]

[20] *Ibid*., *Dissenting opinion of Judge Cançado Trindade*, p. 290, para. 116.

[21] *Ibid*., *Joint dissenting opinion of President Owada, Judges Simma, Abraham and Donoghue and Judge ad hoc Gaja*, p. 157.

[22] *See* UN Economic and Social Council, Commission on Human Rights, Sub-Commission on Prevention of Discrimination and Protection of Minorities

III. *Ukraine v. Russia* Case (Preliminary Objections)

The question of the nature of the procedural conditions contained in Article 22 of CERD arose in the practice of the Court again, namely in the case concerning the *application of the International Convention for the Suppression of the Financing of Terrorism and of the International Convention on the Elimination of all Forms of Racial Discrimination (Ukraine v. Russian Federation)*. This case will be examined through the prism of CERD, while the ICSFT part of the judgment is outside the scope of this study.

Learning from Georgia's experience and the Court's position expressed in its 2011 judgment on the need to hold negotiations before filing the application, Ukraine initiated negotiations with the Russian side. During the proceedings the Russian Federation characterized Ukraine's attempt to negotiate as bad faith, since it did not indicate a genuine desire to resolve the dispute.[23] Furthermore, Ukraine lodged an application with the ICJ without a prior referral to the dispute resolution mechanism of CERD, which was challenged in one of Russia's preliminary objections to the existence of the Court's jurisdiction.

Russia reiterated its argument that the word "or" in Article 22 implied cumulative rather than alternative procedural conditions. In Russia's view, a contrary interpretation would deprive this wording (referring to two different preconditions) of its meaning and legal consequences (relying on the well-established principle of effectiveness, "*effet utile*"). The Respondent also argued that the conciliation under the auspices of the CERD Committee could not be equaled to negotiations, since it presupposed the involvement of a third party, and therefore could not

(1964). *Report of the Sixteenth Session of the Sub-Commission on Prevention of Discrimination and Protection of Minorities to the Commission on Human Rights*, UN Doc. E/CN.4/873, E/CN.4/Sub. 2/24i, New York: United Nations. P. 57.

[23] *Application of the International Convention for the Suppression of the Financing of Terrorism and of the International Convention on the Elimination of All Forms of Racial Discrimination (Ukraine v. Russian Federation)*, Verbatim record 2019/9, Preliminary Objections, Oral Proceedings, Public sitting held on 3 June 2019, Statement of the Agent of the Russian Federation Mr. G. Lukiyantsev, p. 47. Available at: https://www.icj-cij.org/public/files/case-related/166/166-20190603-ORA-01-00-BI.pdf [Accessed 07.05.2022].

replace direct negotiations between States, but rather complemented them.[24]

When indicating provisional measures (which were very limited as compared to those requested by the Applicant), the Court distanced itself from pronouncing on the nature of the preconditions contained in Article 22 of CERD (cumulative or alternative).[25] Later, at the preliminary objections stage the ICJ indicated that this issue had to be determined by way of applying customary international law rules concerning the interpretation of treaties, as reflected in Articles 31 to 33 of the Vienna Convention on the Law of Treaties.[26] The Court specified that the word "or" in the relevant part of Article 22 of CERD — given its structure as a negative clause — could have either a disjunctive or a conjunctive meaning (thus suggesting an alternative or cumulative nature of the conditions, respectively).[27] This statement was questioned by some scholars (Orakhelashvili, 2021, p. 63[28]), and thus merits some further explanations. By way of this conclusion the Court seems to have responded to the arguments advanced by the Russian Federation that the position of the word "or" after a negation ("not") affords it a cumulative meaning. During the oral hearings professor A. Pellet provided an easy but illustrative example for this, "'I do not like apples or oranges' means

[24] *Ibid.*, Statement of the Counsel of the Russian Federation Mr. A. Pellet, p. 58.

[25] *Application of the International Convention for the Suppression of the Financing of Terrorism and of the International Convention on the Elimination of All Forms of Racial Discrimination (Ukraine v. Russian Federation)*, Provisional Measures, Order of 19 April 2017, I.C.J. Reports 2017, p. 104, p. 126, para. 60.

[26] *Application of the International Convention for the Suppression of the Financing of Terrorism and of the International Convention on the Elimination of all Forms of Racial Discrimination (Ukraine v. Russian Federation)*, Preliminary Objections, Judgment of 8 November 2019, p. 598, para. 106; *see also Question of the Delimitation of the Continental Shelf between Nicaragua and Colombia beyond 200 Nautical Miles from the Nicaraguan Coast (Nicaragua v. Colombia)*, Preliminary Objections, Judgment, I.C.J. Reports 2016, p. 116, para. 33.

[27] *Ibid.*, p. 598, para. 107.

[28] "It is not clear, moreover, why should it matter whether Article 22 is drafted in the affirmative or negative manner, because what the Court denotes as drafting certain terms of the conferral or conditions of jurisdiction on 'affirmative' terms would require drafting on 'negative' terms the other parts of Article 22 that in their current version look as though they were drafted 'affirmatively'."

'I do not like apples and I do not like oranges'."[29] However, while not excluding the interpretation proposed by the Respondent, the Court (in merely one paragraph[30]) considered both cumulative and alternative meanings of the preconditions as possible.

Judge P. Tomka regarded this textual analysis as incomplete, deeming that the Court had to make a choice of the correct interpretation of the phrase "not... or" (rather than just the word "or"). Citing De Morgan's first law of formal propositional logic ("the negation of a disjunction is equal to the conjunction of the negation of the alternates"), Judge P. Tomka advanced the position that "only when negotiation and the procedures have not led to the resolution of a dispute, is the condition met in accordance with the ordinary meaning of the terms of Article 22." Thus, in his view, the logical reading of the text of Article 22 required the preconditions to be cumulative.

Characterizing the wording of Article 22 CERD as inconclusive, the Court went on to consider its context, ruling that negotiations and procedures specifically provided for in the Convention served as two ways to achieve the same goal, namely the settlement of a dispute by agreement of the parties (in the Court's opinion, this was implied from mentioning in Articles 11–13 of CERD of an "amicable solution" and the need for States to notify of their agreement with the Conciliation Commission's recommendations). On this basis the Court in fact equated the CERD dispute resolution mechanism with bilateral negotiations, noting that the cumulative nature of the conditions would require States first to attempt to resolve the dispute through negotiations, and in case of their ineffectiveness, refer it to the CERD Committee "for *further* negotiation, *again* in order to reach an agreed solution."[31] Referring to the context of Article 22 of CERD, the Court concluded that it would be unreasonable to require States that have already failed to reach an agreed settlement of the dispute through negotiations to participate in an "additional" round of negotiations under Articles 11–13 of CERD.[32]

[29] *Ibid*., note 27, p. 57, para. 14.
[30] *Ibid*., note 29, p. 598, para. 107.
[31] *Ibid*., p. 599, para. 110.
[32] *Ibid*.

This conflation by the Court of the distinct modes of dispute settlement (negotiation and conciliation) was criticized by some judges.[33]

Having analyzed the context of Article 22 of CERD, the Court turned to the examination of the object and purpose of the Convention. It specifically drew attention to Articles 2 (1) (providing that States undertake to pursue a policy of elimination of all forms of racial discrimination "without delay" in all possible ways), 4 and 7 (prescribing that States undertake to eradicate incitement to racial discrimination and combat prejudices leading to racial discrimination by taking "immediate and positive" / "immediate and effective" measures), as well as the preamble (emphasizing the determination of States to take all necessary measures to eliminate racial discrimination "speedily"). The Court concluded that these provisions indicated the desire of the participating States to "effectively and promptly" eradicate all forms of racial discrimination, and the achievement of such goals, in its opinion, would be difficult if the preconditions provided for in Article 22 of CERD were considered cumulative.[34]

Despite the heavy reliance by the Parties on the *travaux préparatoires* of the Convention in their arguments, the Court — in contrast to its position in *Georgia v. Russia* — refused to refer to it even for the sake of confirmation of its position. Instead, it deemed the alternative nature of the procedural preconditions to be "sufficiently clear" from the interpretation of the ordinary meaning and context of Article 22 of CERD, as well as from the object and purpose of the Convention.[35] Judge P. Tomka characterized it as a departure from the Court's previous practice, and even "a "spectacular" turn-around",[36] while Judge L. Skotnikov explained this "surprising refusal" by the fact that the preparatory documents could cast a shadow on the Court's conclusions.[37] It is indeed highly unlikely that the CERD drafters included the mechanism in Articles 11 to 13 of CERD, regarding it as a secondary option (reference to Court being the preferred choice)

[33] *Ibid., Dissenting Opinion of Judge ad hoc Skotnikov*, p. 669, para. 13.
[34] *Ibid.*, note 29, p. 600, para. 111.
[35] *Ibid.*, p. 600, para. 112.
[36] *Ibid.*, *Separate Opinion of Judge Tomka*, p. 622, para. 27.
[37] *Ibid., Dissenting Opinion of Judge ad hoc Skotnikov*, p. 669, para. 13.

applicable only to States which do not accept the jurisdiction of the Court by way of reservations to Article 22.[38]

This judgment may have far-reaching consequences, some of which have recently materialized. Firstly, due to the Court's inclination towards a more "lightened" approach to the requirements concerning the need to exhaust conventional dispute settlement mechanisms, it is possible to predict the use of CERD (and, perhaps, other international treaties with similarly worded jurisdictional clauses) by an increasing number of States as a means to seize the Court with disputes that are only marginally (if at all) related to the Convention's scope (Koskenniemi, 2017, pp. 287–288). The example of Georgia and Ukraine has been followed by Qatar, whose complaint against the UAE in June 2018 concerning the application of CERD was eventually dismissed by the ICJ (see Section IV), as well as by Armenia and Azerbaijan, which instituted proceedings against each other in September 2021 (see Section VI).

Secondly, the judgment raises a more conceptual and theoretical question of the relationship between the jurisdiction of the ICJ and the competence of treaty-established dispute resolution mechanisms. During the oral hearings in the *Ukraine v. Russia* case the Russian Federation warned that defining the conditions contained in Article 22 of CERD as alternative would lead to the marginalization — or, in other words, the downplaying — of the CERD monitoring system, including the Convention Committee.[39] This could not have been the goal of the "founding fathers" of CERD, who, in contrast, showed a preference towards conciliation as a means for resolving human rights issues rather than judicial proceedings (in particular, the representative of the Philippines, Mr. Ingles).[40] They intended the Committee to be the main "guardian" of the Convention's integrity,[41] and its priority role also follows from Article 20 of CERD, which prohibits reservations inhibiting the operation of any of the bodies established by the Convention. During the hearings Russia also emphasized that a "low

[38] *Ibid.*, *Separate Opinion of Judge Tomka*, p. 622, para. 26.

[39] *Ibid.,* note 26, p. 48.

[40] *Ibid.*

[41] *Ibid.,* note 27, p. 60.

threshold" for seizing the ICJ would encourage States to use Article 22 of CERD as a vehicle to bring to the Court "political battles" unrelated to genuine issues of racial discrimination without a prior assessment of the alleged acts in national legal systems and in the Committee.[42]

However, had a "two-step procedure" been upheld by the Court, it would have enabled the ICJ to use the conclusions of the Committee on several aspects. First, the ICJ generally attributes weight to the interpretation given by such an "independent body [...] established specifically to supervise the application" of a treaty.[43] Second, the ICJ could have benefited from the Committee's findings regarding the complete factual picture of the dispute, instead of dealing with a wide range of factual issues on its own. This task has proven to be difficult — especially in human rights cases — as is evidenced by the Court's judgment on preliminary objections: in particular, it did not decide on a number of jurisdictional points concerning the scope of CERD, leaving them for the merits phase (see Section V below), apparently due to its unwillingness to "untangle" the knot of Parties' conflicting interpretations of CERD due to their links to the complex facts of the case. Third, extrajudicial dispute resolution mechanisms tend to be more flexible and less time- and resource-consuming than the Court procedures, and the latter should not be unrealistically estimated as the only "speedy" way to resolve a dispute.[44]

In this regard, it is alarming that some international lawyers[45] provided a rationale for the lack of *any* preconditions, let alone their cumulative character, in Article 22 of CERD: they seem to believe that the purpose of its wording could not have been purely "formalistic," namely, "to require a State to go through *futile* (*emphasis added*)

[42] *Ibid.,* note 26, p. 48.

[43] *Ahmadou Sadio Diallo (Republic of Guinea v. Democratic Republic of the Congo)*, Merits, Judgment, I.C.J. Reports 2010, p. 664, para. 66; *see also Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, I.C.J. Reports 2004, p. 179–180, paras. 109–110; *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, I.C.J. Reports 2004, *Separate Opinion of Judge Higgins*, p. 213, para. 26.

[44] *Ibid*., note 29, *Separate Opinion of Judge Tomka*, p. 620, para. 21.

[45] *Ibid*., note 12, *Joint dissenting opinion of President Owada, Judges Simma, Abraham and Donoghue and Judge ad hoc Gaja*, p. 156, 159.

procedures solely for the purpose of delaying or impeding its access to the Court." This argument raises two points — the alleged ineffectiveness of the CERD Committee and the need for a speedy resolution of the dispute. As regards the timing, the procedures of the ICJ surely cannot be described as swift: Ukraine's application was filed in April 2017, whereas the ruling of the ICJ solely on jurisdictional matters was announced in November 2019. Due to the COVID-19 pandemic the stage of written proceedings on the merits was prolongated, and the judgment will not be rendered anytime soon.

The effectiveness of the CERD Committee should also be considered in view of the latest developments. Qatar's referral of its controversies with the UAE and Saudi Arabia to the CERD Committee (details are provided below) became the first time when the inter-State communications procedure was triggered. This example was later followed by Palestine's communication against Israel, which indicates the growing relevance of the CERD Committee in the context of inter-State disputes. Admittedly, the Committee was faced with the need to establish all proper mechanisms for such cases and obtain the necessary resources (organizational, financial, *etc.*), which was also aggravated by the unexpected COVID-19 pandemic outbreak. Nevertheless, similar difficulties appear in the framework of any newly-established procedure or organ and are resolved in due course. Therefore, this should not be interpreted as an infallible proof of the ineffectiveness of the CERD Committee procedures. It is thus incorrect to state that in the case of *Ukraine v. Russia* it would have been "excessive formalism"[46] to require Ukraine to refer first to the CERD Committee: on the contrary, had Ukraine done so with a genuine will to resolve the issue (which regretfully was not observed from the Applicant's behavior during its bilateral negotiations with Russia[47]), this could have produced positive

[46] The principle of legal certainty requires that no exceptions to the general rule of prior involvement of the CERD Committee are made, as opposed to what is suggested by Judge P. Tomka ("[W]hile maintaining my interpretation of Article 22 of the Convention, I did not vote against the Court's jurisdiction under the CERD. To insist, in the circumstances of the present case, on the prior referral of the dispute to the Committee would have been an exercise in excessive formalism"). *Ibid.*, note 29, *Separate Opinion of Judge Tomka*, p. 623, para. 30.

[47] *Ibid.*, note 27, p. 63 ("Un simulacre de discussion ne vaut pas négociation").

results out-of-court or at least would have enabled the referral of the dispute to the ICJ in a more structured and complete form (in terms of establishing facts, determining the position of the Committee on the interpretation of CERD, *etc*.).

Thus, the characterization of the procedures established by treaty procedures as "futile" and serving the sole goal of delaying or preventing access to the ICJ seems unjustified. Such a view indeed underestimates "the usefulness of other means of peaceful settlement of disputes and the role of other bodies."[48] Moreover, in accordance with the well-established principle of effectiveness the interpreted provisions of the treaty must be given power and a meaning, in this case — to "preserve the effectiveness of Articles 11 to 13 of CERD and the Conciliation Commissions foreseen thereunder."[49] The CERD dispute settlement procedure — carefully balanced and deliberated — is formed by all its elements, none of which shall be omitted (Orakhelashvili, 2021, p. 61). Thus, by declining the above arguments the Court in fact deprived the Committee of its role as a guardian of the Convention's integrity[50] in contradiction with the will of its "founding fathers."[51]

IV. *Qatar v. UAE* Case (Preliminary Objections)

On 5 June 2017, the United Arab Emirates (the UAE) announced measures which were directed against Qatari citizens and companies (a ban on entering the UAE, a requirement to leave the country, a closure of airspace and seaports, *etc*.), starting the so-called "Qatar blockade" which lasted 3.5 years. Following Georgia's and Ukraine's example, Qatar decided to bring its controversies with the UAE to

[48] *Ibid*., note 29, *Separate Opinion of Judge Tomka*, p. 620, para. 21.

[49] *Ibid*., p. 621, para. 24.

[50] *Ibid*., note 27, p. 65.

[51] *Application of the International Convention for the Suppression of the Financing of Terrorism and of the International Convention on the Elimination of All Forms of Racial Discrimination (Ukraine v. Russian Federation)*, Verbatim record 2019/11, Preliminary Objections, Oral Proceedings, Public sitting held on 6 June 2019, Statement of the Counsel of the Russian Federation Mr. A. Pellet, p. 42. Available at: https://www.icj-cij.org/public/files/case-related/166/166-20190606-ORA-01-00-BI.pdf [Accessed 07.05.2022].

the international level by using the most relevant (in Doha's view) "jurisdictional hook," namely CERD. The simultaneous engagement by the Applicant of the CERD Committee and the ICJ makes this case especially interesting. Due to the curious intertwinement of the two procedural tracks this Section will attempt to present the facts in a chronological rather than a thematic order. The authors request the reader's tolerance of the many dates included in this Section, which is, however, unavoidable for getting the full understanding of the whole picture.

As a first step on 8 March 2018 Qatar lodged a communication[52] under Article 11 of the Convention with the CERD Committee, which became the first instance of it being engaged in an inter-State dispute. Qatar invoked Articles 2, 4, 5 and 6 of CERD, complaining that the UAE unlawfully targeted citizens of Qatar based on their nationality. Already on 11 June 2018, Qatar filed an application with the ICJ against the UAE concerning alleged violations of CERD, simultaneously requesting the indication of provisional measures.

The oral proceedings at the ICJ on provisional measures requested by Qatar took place on 27–29 June 2018. In the Order of 23 July 2018 the Court recognized its *prima facie* jurisdiction and indicated provisional measures, albeit not those requested by the Applicant and of a rather limited character (family reunification, educational rights and access to justice).[53] The Court also called upon both Parties not to aggravate the dispute further. The ICJ, however, abstained from answering the key jurisdictional question raised by the Respondent, namely, whether one of the grounds of discrimination prohibited under Article 1 of CERD — "national origin" — presupposed a differentiated treatment based on the "current nationality" of a person, the key difference between these terms being the perpetual character of the former and temporary character of the latter. Thus, the legal consequences of the General recommendation

[52] Simultaneously an analogous communication was lodged by Qatar against the Kingdom of Saudi Arabia, which will however not be covered in this study due to lack of connection to the ICJ proceedings.

[53] *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Qatar v. United Arab Emirates)*, Provisional Measures, Order of 23 July 2018, I.C.J. Reports 2018, p. 406.

No. XXX (2004) on discrimination against non-citizens (relied on by Qatar) on the scope of CERD remained unclear.

Judges P. Tomka, G. Gaja and K. Gevorgian in a joint declaration criticized the conclusion of the Court concerning its *prima facie* jurisdiction due to the fact that "[n]ationality is not listed in Article 1, paragraph 1, among the bases of discrimination to which CERD applies."[54] They also called in question the CERD Committee's position expressed in the General recommendation No. XXX (2004) due to the lack of a proper reasoning.[55] Similar views were voiced by Judges J. Crawford[56] and N. Salam.[57]

Turning to the CERD Committee in compliance with Article 11 (1) of the Convention, the Committee transmitted Qatar's communication to the UAE. On 7 August 2018 the UAE sent its reply to the communication submitted by Qatar in March, rebutting all accusations contained therein. It also raised the issue of concurrent proceedings at the ICJ, maintaining that the CERD Committee could be seized of the dispute only after the ending of the process in the Hague.

As the matter was not adjusted to the satisfaction of the States parties involved,[58] on 29 October 2018 Qatar referred the matter again to the Committee in accordance with Article 11 (2) of the Convention. By a decision dated 14 December 2018 the Committee requested the concerned States to supply any relevant information on issues of its competence[59] to consider the communication or admissibility of the latter, including the exhaustion of all available domestic remedies. In its

[54] *Ibid*., *Joint declaration of Judges Tomka, Gaja and Gevorgian*, p. 436, paras. 3–4.

[55] *Ibid*., p. 436, para. 5.

[56] *Ibid*., *Dissenting opinion of Judge Crawford*, p. 475, para. 1.

[57] *Ibid*., *Dissenting opinion of Judge Salam*, p. 481, para. 2.

[58] OHCHR (2019). *Information Note on inter-state communications*. Available at: https://www.ohchr.org/Documents/HRBodies/CERD/Pressnote29_08.docx [Accessed 07.05.2022].

[59] While the Committee itself uses the term "jurisdiction," it would be correct to refer to its "competence" to examine a State's communication. For a theoretical discussion on issues of "jurisdiction" and "competence" *see* Vylegzhanin and Zinchenko (2018, pp. 9–12); *see also*: *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Qatar v. United Arab Emirates)*, Preliminary objections, Judgment of 4 February 2021, para. 100.

additional submissions of 29 November 2018 and 14 January 2019 the UAE clarified its position regarding these questions. The UAE reiterated its arguments raised in the ICJ proceedings, in particular regarding the scope of CERD (namely that it did not cover a "differentiated treatment based on current nationality"). Further exchanges of positions followed on 14 February 2019 (comments of the Applicant) and 19 March 2019 (submission of the Respondent).

The "legal battle" of the two Gulf States at the ICJ also continued. A rare development for the Court's practice followed on 22 March 2019: the UAE also submitted a request for the indication of provisional measures, aimed *inter alia* at forcing Qatar to withdraw its communication submitted to the CERD Committee. In addition, on 29 April 2019 the UAE filed preliminary objections challenging the jurisdiction of the Court and the admissibility of Qatar's application.

On 3 May 2019, the CERD Committee held its proceedings on the issues of competence and admissibility that were attended by one representative from each disputing State (without voting rights, according to Article 11 (5) of CERD and the "Rules of procedure regarding the hearings carried out pursuant to Article 11 of CERD", adopted on 29 April 2019[60]).

The oral proceedings at the ICJ on provisional measures took place on 7–9 May 2019, leading to the Court's Order of 14 June 2019 dismissing UAE's request.[61] Despite the Respondent's arguments concerning the *electa una via* rule, the Court refrained from clarifying its position on the nature of the preconditions contained in Article 22 of CERD.

Meanwhile on 27 August 2019, the CERD Committee rendered its decision on Qatar's inter-State communication ruling that "it ha[d] jurisdiction to examine the exceptions of inadmissibility raised by the

[60] Committee on the Elimination of Racial Discrimination (2019). *Decision on the jurisdiction of the Committee over the inter-State communication submitted by Qatar against the UAE*, 27 August 2019, United Nations, CERD/C/99/3, p. 11, note 47. Available at: https://www.ohchr.org/Documents/HRBodies/CERD/CERD-C-99-3.pdf [Accessed 07.05.2022].

[61] *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Qatar v. United Arab Emirates)*, Provisional Measures, Order of 14 June 2019, I.C.J. Reports 2019, p. 361.

Respondent State."[62] On that same date it also issued a decision on the admissibility of this communication, rejecting "the exceptions raised by the Respondent State."[63] The Committee (prior to the ICJ judgment on preliminary objections in *Ukraine v. Russia*) regarded the conditions contained in Article 22 of CERD to be alternative, albeit with a rather shaky reasoning. First, it based its conclusion on the position of the ICJ expressed at the provisional measures stage of the *Georgia v. Russia* case in 2008 (concerning the lack of any preconditions in Article 22 of CERD), which was later overruled by the Court itself in 2011 (as indicated above). In 2019, the Committee could not have been unaware of these developments. Moreover, of all available sources the CERD Committee chose to refer to the dissenting opinion of Judge A.A. Cançado Trindade (whose view on the absence of procedural preconditions was also not supported by the majority of the judges).[64] With all due respect to the honorable Judge, such a reference is rather regretful, since it upholds a particular "human rightist" approach, favoring special methods of interpretation of human rights treaties to the detriment of the cornerstone international law principle of State consent (Kozhevnikov and Sharmanazashvili, 1971, p. 34). The CERD Committee also arrived at a conclusion that its competence *ratione materiae* included "differences of treatment based on nationality."[65] Whether and to what extend this position was influenced by the provisional measures order of the ICJ (where it recognized its *prima facie* jurisdiction despite the extensive arguments of the UAE concerning the limited scope of CERD) can only be speculated about.

As a result, according to Article 12 (1) of CERD, the Chairperson of the CERD Committee was tasked with appointing the members of an *ad hoc* Conciliation Commission which was supposed to provide good

[62] *Ibid*., note 63, p. 11, para. 60.

[63] Committee on the Elimination of Racial Discrimination (2019). *Decision on the admissibility of the inter-State communication submitted by Qatar against the UAE*, 27 August 2019, United Nations, CERD/C/99/4, p. 14, para. 64. Available at: https://www.ohchr.org/Documents/HRBodies/CERD/CERD-C-99-4.pdf [Accessed 07.05.2022].

[64] *Ibid*., p. 12, para. 50.

[65] *Ibid*., p. 13, para. 63.

offices to the disputing States in order to reach an amicable solution.[66] They were appointed following consultations with the relevant States in February 2020. However, due to the outbreak of the COVID-19 pandemic[67] the activities of the *ad hoc* Conciliation Commission were frozen in March 2020, in particular in connection with the uncertainty around the holding of online meetings on sensitive matters raised in the inter-State communication. As regards the ICJ, the oral proceedings on the preliminary objections raised by Qatar were held on 31 August — 7 September 2020.

A new development that had a substantial impact upon the situation arose on 5 January 2021 — Qatar and its neighbors concluded the Al Ula Agreement, which ended the blockade. Thus, on 11 January 2021 Qatar transmitted to the CERD Committee its request to suspend the proceedings, to which the UAE consented on 27 January 2021.

Apparently, a similar note was not transmitted to the ICJ, which continued the consideration of the case and rendered its judgment on preliminary objections on 4 February 2021. The Court found that the dispute fell outside of the scope *ratione materiae* of CERD, denying its jurisdiction to entertain Qatar's application of 11 June 2018. Unlike in the *Ukraine v. Russia* case, the Court devoted 13 pages of its judgment to issues of jurisdiction *ratione materiae* (dealing with the correct interpretation of the term "national origin" on nearly 10 pages).[68] Relying mainly upon the analysis of the text of the treaty,[69] the Court concluded that measures based on the current nationality of persons did not fall within the scope of CERD. As in *Georgia v. Russia* (and in contrast with its position in *Ukraine v. Russia*) the Court again referred to the *travaux préparatoires* due to the Parties' heavy reliance on

[66] *Ibid*., p. 14, para. 65.

[67] OHCHR (2021). Decision of the *ad hoc* Conciliation Commission on the request for suspension submitted by Qatar concerning the interstate communication *Qatar v. the United Arab Emirates*, 15 March 2021. Available at: https://tbinternet.ohchr.org/Treaties/CERD/Shared%20Documents/1_Global/Decision_9381_E.pdf [Accessed 07.05.2022].

[68] *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Qatar v. United Arab Emirates)*, Preliminary objections, Judgment of 4 February 2021, pp. 23–36.

[69] *Ibid*., p. 26, para. 81.

various preparatory documents, albeit it deemed its conclusion based on the primary means of treaty interpretation as sufficient. The Court also explicitly referred to the CERD Committee's decisions of 27 August 2019, which it "carefully considered," while reaching its own conclusion on the issue of discrimination based on nationality. Some judges and scholars criticized the summary character of this conclusion and the lack of an "inclusive dialogue" where the ICJ would at least address the CERD Committee's arguments and show "where it went wrong."[70]

Finally, on 5 March 2021 the two *ad hoc* Conciliation Commissions established in accordance with CERD (one for each of Qatar's communications[71]) held a joint online meeting and took note of Qatar's request for suspension and the consent of the respondents. They also invited any of the States parties concerned to inform the *ad hoc* Conciliation Commission, if necessary, of their wish to resume the consideration of the matter before the *ad hoc* Conciliation Commissions or to provide any relevant information (with a one-year limit from the adoption of the Al Ula Declaration). They also decided to remain seized of the matter.[72]

It is relevant to note that neither the Court, nor the CERD Committee, nor the *ad hoc* Conciliation Commission had a final say in the dispute between Qatar and the UAE — eventually it was the Parties who negotiated a settlement before any of the international bodies could reach a tangible result. One can only speculate as to the precise impact of each of these procedures on the outcome of the dispute.

However, the various exchanges of the Parties that took place not only before the Court, but also before the CERD Committee, are likely to have contributed to the settlement. Admittedly, the global COVID-19 pandemic has had an adverse impact on all international organizations and bodies. The CERD Committee was particularly affected due to the novelty of inter-State communications procedures (and the

[70] *Ibid*., *Dissenting opinion of Judge Bhandari* (p. 8, para. 24); Ulfstein, G., (2021). Who is the Final Interpreter in Human Rights: the ICJ v. CERD? *EJIL: Talk!*, 22 February 2021. Available at: https://www.ejiltalk.org/who-is-the-final-interpreter-in-human-rights-the-icj-v-cerd/ [Accessed 07.05.2022].

[71] Qatar also lodged a communication against the Kingdom of Saudi Arabia.

[72] *Ibid*., note 70.

organizational and financial issues arising therefrom[73]), which it was unable to speedily adapt to the new environment. This fact, however, shall not be interpreted adversely for the Committee's role on the international arena. Given the broad interpretation by the Committee of the scope of its mandate (as compared to the ICJ which eventually declined to hear Qatar's application), its potential to contributing to friendly settlements in inter-State cases remains to be seen: another communication (*Palestine v. Israel*) is currently pending. The *ad hoc* Conciliation Commission was appointed by the Committee (due to a lack of agreement of the Parties to the dispute) in December 2021[74] and held two online preparatory meetings on 19 January and 10 February 2022.[75]

V. *Ukraine v. Russia* Case (Pending on the Merits)

As follows from the above, the only CERD-related case currently in the Court's docket remains the application of Ukraine against Russia, which advanced to the merits stage of the proceedings. In this regard some of the Court's conclusions at the preliminary objections stage have had an important impact on the shaping of the case on the merits and deserve attention.

In particular, 38 pages of the preliminary objections raised by the Russian Federation were devoted to the issue of the ICJ jurisdiction *ratione materiae* under CERD.[76] Avoiding an in-depth analysis of the evidence (which would have been improper at such an early stage of the proceedings), the Russian Federation demonstrated that the alleged

[73] *Ibid.*

[74] Committee on the Elimination of Racial Discrimination (2021). *Summary record of the 2865th meeting, 105th session*. Geneva, 3 December 2021, para. 5. Available at: https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CERD%2fC%2fSR.2865&Lang=en [Accessed 07.05.2022].

[75] OHCHR (2022). *State of Palestine against Israel: UN Committee sets up ad hoc Conciliation Commission*. Available at: https://www.ohchr.org/en/press-releases/2022/02/state-palestine-against-israel-un-committee-sets-ad-hoc-conciliation [Accessed 07.05.2022].

[76] Preliminary objections submitted by the Russian Federation, 12 September 2018, p. 144-182, paras. 302–359.

violations presented by the Applicant did not fall within the provisions of CERD. *Inter alia*, Russia maintained that CERD did not cover the difference of treatment between citizens and non-citizens, as well as the rights of national minorities to representative institutions and education in the native language. The respondent also challenged Ukraine's definition of "ethnic groups" encompassing political self-identification and political opinions, which would run counter to the provisions of CERD and lead to an unreasonable result of splitting Ukrainians and Crimean Tatars in Crimea into sub-categories (depending on their political views on the current status of the peninsula).

The judgment is, however, utterly succinct on the issue of jurisdiction *ratione materiae*, which fits on 1 page in just 4 paragraphs (as opposed to a whole section devoted to this topic in its subsequent judgment in *Qatar v. UAE*, see above).[77] The Court applied a rather plain approach, stating simply that Ukrainians and Crimean Tatars (no matter by reference to which criteria they are defined by Ukraine) are "ethnic groups protected under CERD" and that rights and obligations are "broadly formulated." This led the Court to conclude that the measures mentioned in Ukraine's application (whether or not they actually constitute racial discrimination) "fall within" CERD provisions. This stands in a noticeable contrast to the Court's findings at the provisional measures stage, where it concluded[78] that "on the basis of the *evidence* presented before the Court by the Parties, it appears that *some* of the acts complained of by Ukraine fulfill this condition of plausibility" (emphasis added[79]). In other words, not all of Ukraine's claims were regarded by the Court as plausible, which led it to indicate provisional measures that concerned exclusively two aspects: the functioning of Crimean Tatar representative institutions and the situation regarding the education in the Ukrainian language.

Admittedly, the ICJ is generally not bound by its findings at the provisional measures stage (as vividly demonstrated by the *Georgia v. Russia* case mentioned above). However, the Court could have at

[77] *Ibid.*, note 29, p. 595, paras. 94–97.
[78] *Ibid.*, note 28, p. 104, 135, para. 83.
[79] *Ibid.*, note 29, *Dissenting opinion of Judge ad hoc Skotnikov*, p. 667.

least given more explanations to its findings and addressed questions of interpreting the scope of CERD posed by the Parties which could have been considered without a heavy reliance on the facts and evidence. Several judges[80] have expressed similar criticism. Judge L. Skotnikov characterized the Court's conclusions as "summarily reached" and departing from the previous case-law, enabling the ICJ to establish its jurisdiction *ratione materiae* on the basis of "a connection, no matter how remote or artificial, between [the applicant's] factual allegations and the treaty it invokes." Judge P. Tomka, in agreeing with some of the Respondent's arguments on the scope of CERD (for instance, that the Convention did not encompass an absolute right to education in a native language), also regretted that the Court's "determination of its jurisdiction *ratione materiae* [was] not much more detailed" and did not specify precisely which of Ukraine's claims fell within the scope of CERD. Judge J. Donoghue also noted the Court's general approach of determining "the scope of treaty provisions in relation to the acts alleged by the applicant in order to uphold or reject an objection to its jurisdiction *ratione materiae*," which was not done in the case at hand, making the situation "more complicated" since "the claims at issue proceed[ed] to the merits." However, according to Judge J. Donoghue's important remark, this "does not mean that the Court has accepted the interpretations of that treaty advanced by the Applicant" — this issue has rather been postponed to the merits stage of the proceedings.

As a consequence of this approach, the part of the case concerning CERD in its entirety proceeded to the merits, and the Court at this stage will have to handle issues that are jurisdictional in nature but were elegantly avoided by it at the relevant time. Therefore, it is expected that Russia will again address — albeit with a more extensive reference to evidence — similar arguments as it put forward during the preliminary objections stage concerning the definition of an ethnic group under CERD and the scope of the Convention (in particular, whether it encompasses ethnic minorities' right to their own representative institutions and to

[80] *Ibid.*, note 29, *Dissenting opinion of Judge ad hoc Skotnikov*, *Separate opinion of Judge Tomka*, *Separate opinion of Judge Donoghue.*

education in a native language, as well as a "right to return to one's country").

Another consideration which will have bearing on the future proceedings on the merits — especially in terms of evidence and a required standard of proof — is the high degree of Ukraine's accusations (regarding Russia's "systematic policy of racial discrimination," "cultural erasure of the Crimean Tatar and Ukrainian communities in Crimea," *etc*.). It is certain that statements and reports of various organizations (including non-governmental) relied on by Ukraine are insufficient to prove such serious allegations due to low standards of proof applied in such documents, as well as the fact that they concern few individual cases, without providing reliable statistics and comparison of treatment of other ethnic groups. However, the ICJ referred to some reports of this kind (albeit at the provisional measures phase[81]). Due to a lack of credible first-hand information in foreign media, non-governmental organizations' reports and similar sources — given their conformity to a certain general political agenda — it is not surprising that some of the judges may have various misconceptions regarding the real situation in Crimea. For example, Judge J. Crawford believed that "other groups in Crimea representing the Crimean Tatars do not appear to have the same status or level of acceptance as the *Mejlis*,"[82] drawing his conclusion from the observations of the OHCHR — which has in fact never been on the peninsula despite the Russian Federation's "willingness to consider all requests to visit Crimea."[83]

The Respondent will also have to rebut such allegations and misconceptions by credible first-hand information. To help the Judges get out of this one-sided informational vacuum, the Agent of the Russian Federation and relevant experts have themselves conducted visits to Crimea to personally meet the representatives of the Ukrainian and Crimean Tatar communities and civil society organizations, as well as to visit various educational institutions, cultural and religious sites. Such

[81] *Ibid*., note 28, p. 138, para. 97.

[82] *Ibid*., note 28, *Declaration of Judge Crawford*.

[83] Third Committee of the UN General Assembly (2019). *Summary record of the 45th meeting, 74th session*, 14 November 2019, A/C.3/74/SR.45, Statement of the Russian Federation (M. Kuzmin), para. 64.

first-hand evidence should be assigned high legal value as compared to reports and testimony based on hearsay and stemming from sources that have little knowledge of the current situation in Crimea.

On a side-note, this issue raises a general problem concerning practical difficulties encountered by the Court in establishing facts when considering cases on the basis of jurisdictional clauses of specialized treaties — such as CERD and other human rights instruments, which merits a short comment. The case-law of the ICJ demonstrates the insufficient use of existing mechanisms for a comprehensive fact-finding process, especially in the context of human rights treaties, which are increasingly referred to as a basis for the Court's jurisdiction. Legal literature has long referred to the problem of the insufficient "infrastructure" within the Court in order to conduct comprehensive fact-finding *in situ* (Zimmermann *et al.*, 2019, p. 752).

One of such mechanisms that has received undeservedly little attention in the practice of the ICJ involves field visits by the judges. Such a visit was conducted only once in the history of the Court, however, it could become an effective tool for the judges to gain more accurate information about the situation (for example, concerning human rights) in a given area, which cannot be fully achieved by studying only written evidence. Admittedly, there are difficulties in terms of organizing such visits, taking into account the required resources (mostly financial), as well as the need for political will and cooperation of the Parties to the dispute. In the case at hand the Court's visit to Crimea — useful as it could have been — was probably not an option due to various considerations predominantly of a political character.

However, the rare use of on-site visits in the context of an increase in cases stemming from jurisdictional clauses of human rights treaties may lead to the Court's reliance on information about facts "established" by third parties (for example, other tribunals, non-governmental organizations) without the possibility of their verification or control over the selection of persons who collect and analyze evidence, their methodology and procedures, *etc.* Such a situation would be highly controversial. Thus, in order for the judges to have first-hand information, as well as to be able to acquire an impartial view of the situation in a certain territory, its historical, cultural and other features,

it seems necessary to extend the practice of field visits by judges, at least in the most "factually-heavy" cases.

VI. *Armenia v. Azerbaijan* and *Azerbaijan v. Armenia* Cases

On 16 September 2021, Armenia instituted proceedings against Azerbaijan, claiming violations of CERD due to the "State-sponsored policy of Armenian hatred," "systemic discrimination, mass killings, torture and other abuse" of "individuals of Armenian ethnic or national origin."[84] Azerbaijan's application against Armenia followed on 23 September 2021, also referring to the "policy of ethnic cleansing and systematic violations of CERD directed against Azerbaijanis" conducted by Armenia.[85] Special emphasis in both applications is put on the armed conflict of September — November 2020 in Nagorno-Karabakh region, although the period covered by them seems to be "decades" long.[86]

Both disputing Parties also requested the Court to indicate provisional measures pending its judgment on the merits. The phrasing of the jurisdictional aspects by the Parties in their applications is worth noting. Both Armenia and Azerbaijan challenged the jurisdiction of the Court to hear the other's application. Needless to say, that, given the Court's position (explicitly cited in both applications) on the alternative character of the preconditions contained in Article 22 of CERD, both States deemed it unnecessary and "futile" to refer the matter to the CERD Committee and seized the ICJ instead.

As regards the "failure of negotiations" requirement, Armenia in its application refers to the letter sent by its Minister of Foreign Affairs

[84] *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Armenia v. Azerbaijan)*, Application instituting proceedings and request for the indication of provisional measures, 16 September 2021. Available at: https://www.icj-cij.org/public/files/case-related/180/180-20210916-APP-01-00-EN.pdf [Accessed 07.05.2022].

[85] *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Azerbaijan v. Armenia)*, Application instituting proceedings, 23 September 2021, p. 1, para. 2. Available at: https://www.icj-cij.org/public/files/case-related/181/181-20210923-APP-01-00-EN.pdf [Accessed 07.05.2022].

[86] *Ibid.*, note 87, p. 1, para. 3, p. 41, para. 99; note 88, p. 34, para. 56, p. 64, para. 93.

to his Azerbaijani counterpart on 11 November 2020 (the following day after the end of hostilities on 10 November 2020 and the signing of the Trilateral Statement[87]), "expressly referring" to CERD and inviting Azerbaijan to negotiate.[88] In a letter dated 8 December 2020 Azerbaijan denied Armenia's allegations and raised claims against Yerevan concerning violations of CERD.[89] Both Parties refer to the following exchange of "over 40 notes" and several rounds of negotiations between December 2020 and September 2021.[90] Rejecting Armenia's jurisdictional argument on the fulfillment of the negotiations requirement, Azerbaijan claimed that the first substantive meeting between the Parties was held only in mid-July 2021 (all previous negotiations being devoted to "procedural modalities") and that Armenia — unlike Baku — did not genuinely attempt to negotiate and consider the Respondent's proposals.

Simultaneously in its own application against Armenia Azerbaijan characterized the negotiations requirement as fulfilled due to the fact that Baku pursued the negotiation of its claims "as far as possible." Azerbaijan also explicitly stated that it would be "futile" to continue negotiations or to resort to the CERD procedures due to "Armenia's intransigence." Armenia conceded that the negotiations requirement for the failure of negotiations was met, while deflecting the blame onto Azerbaijan due to its lack of intention to genuinely negotiate and its use of "delaying tactics."

On 7 December 2021, the ICJ delivered two Orders indicating provisional measures to protect certain rights claimed both by Armenia and (to a lesser extent) Azerbaijan, as well as ordering the Parties to

[87] Kremlin: Statement by President of the Republic of Azerbaijan, Prime Minister of the Republic of Armenia and President of the Russian Federation, 10 November 2020. Available at: http://en.kremlin.ru/events/president/news/64384 [Accessed 07.05.2022].

[88] *Ibid*., note 87, p. 1, para. 14.

[89] *Ibid*., note 88, p. 14, para. 23.

[90] *Ibid*., note 88, p. 14, paras. 24–26 ("Azerbaijan and Armenia have exchanged over 40 notes and conducted eight rounds of negotiations"); note 87, p. 5, para. 19 ("Armenia has exchanged more than 40 pieces of correspondence with Azerbaijan, and participated in seven rounds of meetings").

refrain from any action which might aggravate or extend the dispute.[91] As regards *prima facie* jurisdiction, the Court seemingly avoided the argument on the short duration of substantive negotiations, plainly stating in both Orders that the Parties' positions "remained unchanged" and that their negotiations had "reached an impasse." It is, however, difficult to imagine that the broad variety of issues and mutual accusations raised by Armenia and Azerbaijan (discrimination, campaign of ethnic cleansing, destruction of cultural heritage and environment, war crimes, campaign of hate speech and disinformation, restriction of activity of non-governmental organizations, *etc.*), which piled up over the last decades, could be comprehensively discussed in seven (or eight as stated by Azerbaijan) meetings in ten months, let alone via a virtual platform (due to the COVID-19 pandemic). Even in *Ukraine v. Russia* the Parties were involved in diplomatic correspondence and a series of talks over two and half years. It is also telling that the first application ever lodged by either of these post-Soviet republics with the ICJ was based on CERD, which may be the consequence of the Court's lenient position on the preconditions contained in Article 22 of CERD.

VII. Conclusion

This paper highlights the main points of the ICJ reasoning and — to a limited extent so far — discussions at the CERD Committee concerning inter-State applications containing allegations of racial discrimination. The cautious conclusion is that established international jurisprudence related to CERD is already a reality, with some of the major issues being resolved. This path has not been easy for the Court, and the fact that the ICJ recognized its *prima facie* jurisdiction in *Georgia v. Russia*

[91] *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Armenia v. Azerbaijan)*, Order dated 7 December 2021, Request for the indication of provisional measures. Available at: https://www.icj-cij.org/public/files/case-related/180/180-20211207-ORD-01-00-EN.pdf [Accessed 07.05.2022]; *Application of the International Convention on the Elimination of All Forms of Racial Discrimination (Azerbaijan v. Armenia)*, Order dated 7 December 2021, Request for the indication of provisional measures. Available at: https://www.icj-cij.org/public/files/case-related/181/181-20211207-ORD-01-00-EN.pdf [Accessed 07.05.2022].

and *Qatar v. UAE* when indicating provisional measures, and then reverted its reasoning at the preliminary objections stage also shows the complexity of the topic at hand. A number of questions still remains unresolved, enabling the Court to continue its path of developing the relevant jurisprudence. It is against this backdrop that this paper attempts to summarize the main problems and inconsistencies that arose in the Court's CERD-related practice that also need to be kept in mind for the future.

The case-law analyzed in this article vividly demonstrates that in interpreting jurisdictional clauses the ICJ relies mainly on textual interpretation. The Court applied the general rule enshrined in the 1969 Vienna Convention on the Law of Treaties, devoting its prior attention to the context in which the relevant terms are used, moving further into the intricacies of the questions concerning the object and purpose of the treaty in order to examine its terms against this backdrop.

However, there is some inconsistency in the practice of the ICJ in CERD-related disputes. In *Georgia v. Russia* and *Qatar v. UAE* the Court — in addition to the textual interpretation (which it deemed sufficient) of Articles 22 and 1 of CERD, respectively, — turned to the working documents of the Convention in order to confirm their consistency with the conclusion drawn on the basis of the textual analysis. However, in *Ukraine v. Russia* the Court limited itself to analyzing the wording of Article 22, its context and the object and purpose of CERD, refraining from referring to the *travaux préparatoires* that were also widely quoted by the Parties despite the fact that the Court itself recognized the ambiguity of the wording of this provision. Such an approach seems inconsistent.

It appears that in *Ukraine v. Russia* the Court's laconic analysis of the controversial provision of Article 22 of CERD was insufficient, since both Parties to the dispute had strong arguments in favor of different interpretation (none of which, as the Court itself admitted, was excluded by the very wording of the Article). Greater clarity and transparency of the Court's reasoning on such an ambiguous issue — rather than avoiding a deep analysis that could admittedly reveal possible inconsistencies and contradictions — would have been beneficial.

It should, however, be welcomed that the legal uncertainty generated by the Court's "silence" in earlier disputes regarding the conditions for filing a CERD-related claim with the ICJ can now be considered exhausted. As a result, the Court, on the one hand, did not lower the threshold for submitting applications to it, recognizing the existence of preconditions in Article 22 of CERD — contrary to the arguments of some jurists (including judges of the ICJ), who relied on the "special nature" of the Convention as a treaty in the field of human rights protection. Thus, the Court provided some barriers to direct access to the Peace Palace, using the principle of effectiveness.

On the other hand, the Court showed certain leniency, since it did not consider these conditions cumulative, thereby easing the way to the Hague for racial discrimination-related claims. It seems to be an omission that the Court paid insufficient attention to the practical, legal and political consequences of this decision, which pushed the role of a special conventional monitoring body — the CERD Committee — into the background. Such a lowered threshold which excludes the need to exhaust the conventional dispute settlement mechanisms may lead to the use of CERD (and other international treaties with similar jurisdictional clauses) by an increasing number of States to refer disputes to the Court, which may be only indirectly related to the scope of the Convention. It may also result in the marginalization of the CERD monitoring system, including the Convention Committee, as well as in the potential further fragmentation of international law in the long term.

In this context some international lawyers (as well as States in their submissions before the ICJ) have characterized the CERD procedures as "futile." Albeit not legally binding, the potential of the CERD dispute settlement mechanism in inter-State cases remains to be seen, given the fact that another application is currently pending before the CERD Committee (*Palestine v. Israel*), which it considered as falling within its competence[92] and admissible.[93]

[92] Committee on the Elimination of Racial Discrimination (2019). *Inter-State communication submitted by the State of Palestine against Israel: decision on jurisdictio*n, 12 December 2019, CERD/C/100/5.

[93] Committee on the Elimination of Racial Discrimination (2021). *Decision on the admissibility of the inter-State communication submitted by the State of Palestine against Israel*, 30 April 2021, CERD/C/103/R.6.

Moreover, the Court's variative approach is also noticeable from the way it dealt with preliminary objections concerning its jurisdiction *ratione materiae* in *Ukraine v. Russia* and *Qatar v. UAE*. While the latter case was dismissed after a detailed analysis by the Court of the notions in question ("national origin" and "nationality"), it left open similar important issues concerning the scope of CERD, shifting them to the merits phase of the proceedings between Kiev and Moscow.

In view of the fundamental role of the principle of consent to the jurisdiction of the ICJ, it is of utmost importance to ensure a balanced and cautious approach of the Court to these issues, including in view of the potential abuse of jurisdictional clauses of treaties by States in order to submit disputes of a political nature that are only remotely related to the object and purpose of the treaty in question (Odermatt, 2018, p. 234). One should not fall into the trap of excessively "human-rightist" approaches that deny the importance of State consent in relation to jurisdictional issues as "outdated and unfounded."[94]

As a final suggestion, the Court might be more cautious not to mix up political considerations and legal arguments in order to avoid stretching CERD beyond its initial purpose and encouraging the misuse of its provisions to bring purely political battles to the ICJ. In this context it should be reminded that, as the Court itself stated in *Qatar v. UAE* case, CERD "was clearly not intended to cover every instance of differentiation between persons" but to "condemn [...] any attempt to legitimize racial discrimination by invoking the superiority of one social group over another."[95]

It is also true that States themselves — if they are genuinely willing to resolve certain sensitive disputes — should refrain from "recruiting the Court for lawfare" and burdening it with "fragments of wider, intractable conflicts." (Fontanelli, 2021b). Such a strategy may not only erode the Court's reputation and credibility as dispute settler, but also already influences the willingness of States to accept the Court's jurisdiction as well as to include compromissory clauses when drafting new treaties (Fontanelli, 2021a, p. 35, 39).

[94] *Ibid*., note 29, *Separate opinion of Judge Cançado Trindade*, p. 626, para. 4.
[95] *Ibid*., note 71, p. 28, para. 87.

The Court has on various occasions refused to use jurisdictional clauses of treaties as a "trap," which could force States to undergo the exercise of international judicial functions (Zimmermann *et al*., 2019, p. 742) contrary to the principle of State consent to the jurisdiction of the ICJ. However, State and non-State actors challenge the directions of the case-law and jurisprudence of the ICJ (Madsen, Cebulak, and Wiebusch, 2018, p. 195), in particular as regards some aspects of the interpretation and application of CERD. It is to be hoped that a cautious approach of the ICJ aimed at strengthening this fundamental principle will prevail in the international jurisprudence and remain untouched by purely political considerations.[96]

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[96] *See*, for example, *Allegations of Genocide under the Convention on the Prevention and Punishment of the Crime of Genocide (Ukraine v. Russian Federation)*, Request for the indication of provisional measures, Order of 16 March 2022, Declaration of Judge Bennouna ("I voted in favour of the Order indicating provisional measures in this case because I felt compelled by this tragic situation [...]. However, I am not convinced that the Convention on the Prevention and Punishment of the Crime of Genocide [...] was conceived, and subsequently adopted, in 1948, to enable a State, such as Ukraine, to seise the Court of a dispute concerning allegations of genocide made against it by another State, such as the Russian Federation, even if those allegations were to serve as a pretext for an unlawful use of force").

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