JORGE ISAAC TORRES MANRIQUE, ANA ALICE DE CARLI, ZULMAR FACHIN, JÉSSICA FACHIN, LARISA SANNIKOVA
Dirección Científica

TRATADO DE LA INTELIGENCIA ARTIFICIAL, CIBERDELINCUENCIA Y DERECHO DIGITAL

DESDE EL UMBRAL DE LA TRANSMUTACIÓN DE LOS SISTEMAS JURÍDICOS

TOMO I

Prefacio: Marcelino Meleu

Agostinho Oli Koppe P., Alcides Antúnez S., Alejandro Knaesel A., Aleteia Hummes T., Alfonso Jaime Martínez L., Catalina Ruiz-Rico R., Cleide Calgaro, Deilton Ribeiro B., Diego Miranda, Dirceu Pereira S., Eduardo J. R. Llugdar, Feliciano Alcides D., Francisco Velásquez G., Giselle Marie K., Guilherme de Siqueira C., Gulyaeva Elena E., Gustavo, Silveira B., Isabela Cesca de Costa, Isabela Moreira D., Jesús Manuel Niebla Z., João Paulo Santos de Souza, Jorge Isaac Torres M., José Emilio Jozami D., José Tadeu Neves X., Leonardo Vargas, Márcio Eduardo Senra Nogueira Pedrosa M., Maria Camila Villalobos O., Maria Laura Vieira A., Mariângela Guerreiro Milhoranza da Rocha, Mayume Caires M., Nancy Nelly González S., Pablo Antonio Duarte R., Paola Ontiveros, Patricia A. Cozzo V., Priscila Caneparo Dos A., Rafael de Jesús Martínez E., Raquel Suira M., Riccardo Perona, Rubens Beçak, Talissa Truccolo R., Tripti Bhushan, Vivian Maria Caxambu G., Xenofontes Curvelo P., Zulmar Fachin.

EDICIONES JURIDICAS DE SANTIAGO
EJS

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Prefacio: Marcelino Meleu

Jorge Isaac Torres Manrique (Perú)

Decano de la Facultad de Derecho y Doctor Honoris Causa en Derecho Internacional por la Universidad de Wisdom (Nigeria). Global Advisor y Global Director Legal Maters de la Wisdom University (Albania). Presidente de la Escuela Interdisciplinar de DD. FF. Praeeminentia Iustitia. Doctorados en Derecho y Administración por la UNFV. Autor y coautor de más de cien libros y tratados en Derecho Constitucional, Penal y Administrativo.

Ana Alice de Carli (Brasil)

Doutora e Mestre em Direito. Professora da Universidade Federal Fluminense. Professora do Programa de Pós-Graduação Stricto Sensu de Tecnologia Ambiental/UFF e do Programa Pós-Graduação Stricto Sensu em Bioética, Ética Aplicada, Saúde Coletiva (PPGBios/UFF). Membro da Comissão de Meio Ambiente da OAB/RJ.

Zulmar Fachin (Brasil)

Professor na Universidade Estadual de Londrina, no Programa de Mestrado e Doutorado em Ciência Jurídica da Unicesumar e Coordenador do Programa de Mestrado Profissional em Direito, Sociedade e Tecnologias da Escola de Direito das Faculdades Londrina (Brasil). Presidente do IDCC. Membro eleito da Academia Paranaense de Letras Jurídicas (Brasil).

Jéssica Fachin (Brasil)

Doutora em Direito Constitucional (PUCSP). Mestre em Ciência Jurídica (UENP). Pós-Graduada em Direito Constitucional (IDCC). Professora no Programa de Mestrado Profissional em Direito, Sociedade e Tecnologias da Escola de Direito das Faculdades Londrina (Brasil).

Larisa Sannikova (Rusia)

Doctor en Derecho, Catedrático de la Academia Rusa de Ciencias, Jefe del Centro de Investigación Jurídica de Tecnologías Digitales de la Académica Estatal de Humanidades. Es miembro del Consejo Asesor Científico del Tribunal Supremo de la Federación Rusa. Federación Rusa, Redactora jefe de la revista “Law & Digital Technologies”.

Serrano 14 - oficina 701 contacto@ejs.cl • Fono 22 6079740

Registro de Propiedad Intelectual
Inscripción Nº 2021-A-502
Santiago de Chile

Diseño de portada y diagramación
EJS - Michel Herrera Cea

Se terminó de imprimir esta primera edición
de 300 ejemplares en el mes de agosto de 2023
822 páginas

Impreso en Talleres Propios

ISBN **978-956-6178-66-8**

IMPRESO EN SANTIAGO DE CHILE / PRINTED IN SANTIAGO OF CHILE

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AUTORES

Agostinho Oli Koppe Pereira, Alcides Antúnez Sánchez, Alejandro Knaesel Arrabal, Aleteia Hummes Thaines, Alfonso Jaime Martínez Lazcano, Catalina Ruiz-Rico Ruiz, Cleide Calgaro, Deilton Ribeiro Brasil, Diego Miranda, Dirceu Pereira Siqueira, Eduardo J. R. Llugdar, Feliciano Alcides Dias, Francisco Velásquez García, Giselle Marie Krepsky, Guilherme de Siqueira Castro, Gulyaeva Elena Evgenievna, Gustavo, Silveira Borges, Isabela Cesca de Costa, Isabela Moreira Domingos, Jesús Manuel Niebla Zatarain, João Paulo Santos de Souza, Jorge Isaac Torres Manrique, José Emilio Jozami Delibasich, José Tadeu Neves Xavier, Leonardo Vargas, Márcio Eduardo Senra Nogueira Pedrosa Morais, Maria Camila Villalobos Oñate, Maria Laura Vieira Alves, Mariângela Guerreiro Milhoranza da Rocha, Mayume Caires Moreira, Nancy Nelly González Sanmiguel, Pablo Antonio Duarte Reyna, Paola Ontiveros, Patricia A. Cozzo Villafañe, Priscila Caneparo Dos Anjos, Rafael de Jesús Martínez Escamilla, Raquel Suira Martínez, Riccardo Perona, Rubens Beçak, Talissa Truccolo Reato, Tripti Bhushan, Vivian Maria Caxambu Graminho, Xenofontes Curvelo Piló, Zulmar Fachin.

ÍNDICE GENERAL

CAPÍTULO II

La inteligencia artificial como regulación de la actividad del Estado

CAPÍTULO III

La inteligencia artificial y los derechos fundamentales. el gran reto ante un Estado de derecho

CAPÍTULO VI

The risk of corruption and fake news to democracy and development. The need for artificial intelligence and public compliance for a culture of legality

CAPÍTULO VII

Inteligencia artificial, gobernanza digital y derechos humanos: hacia la gestión pública digital

TÍTULO II

CAPÍTULO I

Fake news e os direitos da personalidade: a contribuição do letramento digital no combate a disseminação de informações falsas no ciberespaço

CAPÍTULO II

El metaverso. desarrollo de nuevas tecnologías y garantia de derechos fundamentales

CAPÍTULO V

La efectividad de los derechos en el garantismo constitucional de Ecuador y la justicia digital

CAPÍTULO VI

Redes sociais, fake news e iniciativas de controle das (des) informações

CAPÍTULO VII

Terrorismo cibernético.
Perspectivas desde los derechos fundamentales

CAPÍTULO VIII

La perspectiva de un tratado internacional de protección de datos personales para promover la sostenibilidad tecnológica

CAPÍTULO IX

Ciberacoso de género. ¿Virtual o real?

CAPÍTULO X

Los delitos informáticos: vulneración de derechos fundamentales

CAPÍTULO XI

Direitos fundamentais, sustentabilidade ambiental versus obsolescência planejada na sociedade consumocentrista

CAPÍTULO XII

Sobre a regulação das tecnologias em *lethal autonomous weapons systems –laws*

CAPÍTULO XIII

El derecho al olvido: un análisis del instituto a partir de casos del derecho extranjero y a la luz de la decisión del Supremo Tribunal Federal de Brasil en el caso "Aída Curi"

CAPÍTULO XIV

El reconocimiento del derecho al olvido digital, como un derecho fundamental

TÍTULO III

CAPÍTULO I
Los deportes como derechos económicos y sociales

CAPÍTULO II

La deportivización del derecho deportivo contemporáneo. Desafíos y perspectivas interdisciplinarias

CAPÍTULO III

Un análisis desde la constitución del derecho al deporte

CAPÍTULO IV

Inteligencia artificial y derechos humanos: desafíos y oportunidades

CAPÍTULO VII

Contemporary legal issues on new technologies

CAPÍTULO VIII

Garantía y protección de datos personales con el uso de tecnologías.
Análisis comparativo entre Colombia y México

CAPÍTULO X

Ciberespaço, local de (im)punidade para os ciberdelinquentes? limites de aplicação do direito penal no cibercrimes

CAPÍTULO XI

La cuarta Revolución Industrial, Derecho 4.0, interacción entre humanismo y transhumanismo (relación entre la ética, la tecnología y la dignidad humana)

CAPÍTULO XII

EL trabajo 3.0 en la economía de plataformas en Cuba

PREFÁCIO

Inteligência Artificial aplicada ao Direito, Bioética e Dignidade para animais humanos e não humanos: os desafios para a concretização dos direitos fundamentais em um cenário pós-pandêmico.

A obra organizada pelos professores Jorge Isaac Torres Manrique e Ana Alice De Carli, destacados pesquisadores na seara dos Direitos Fundamentais, seleciona trabalhos que demonstram um compromisso científico do mais elevado nível. Uma verdadeira demonstração da importância da ciência para a superação de desafios como os impostos pela sindemia causada pelo SARS-CoV-2.

Os trabalhos selecionados intentam demonstrar e, em alguma medida, apontar possíveis caminhos a serem percorridos para a concretização dos direitos fundamentais em um cenário pós-sindêmico, especialmente, em temas que envolvam a inteligência artificial aplicada ao direito, a bioética e a dignidade para animais humanos e não humanos. Dito de outro modo, pretendem definir caraterísticas de um sentido de justiça afeito as garantias impostas pelo conteúdo de Direitos Fundamentais, em especial, nas áreas apontadas.

Em um contexto de Estado Democrático de Direito tal desiderato passa por um compromisso com a jurisdição constitucional que, para Kelsen, representa um elemento do sistema de medidas técnicas que tem por fim garantir o exercício regular das funções estatais, porquanto, a função política da Constituição é estabelecer limites jurídicos ao exercício do poder, como também, garantir "disposições a respeito do conteúdo das normas de direito que devem ser emitidas no âmbito de competência federativa e no âmbito de competência dos Estados-membros. Assim acontece, quando ela apresenta um catálogo de direitos fundamentais e de direitos de liberdade"[1].

[1] Hans Kelsen. *Jurisdição constitucional*. Trad. Alexandre Krug. São Paulo: Martins Fontes, 2003, p. 59.

Nesse aspecto, se observa que para além da garantia de validade do regramento positivo, a jurisdição constitucional deve se ocupar do necessário sopesamento dos valores que fundam a própria Constituição positivada, ou seja, analisar os elementos valorativos contidos na norma hipotética fundamental que outorgam validade a todo o sistema, para fins de apresentar respostas, como sugere Kelsen, a seguinte questão: "Mas quais são as necessidades humanas dignas de serem satisfeitas e, em especial, em que ordem de importância?"[2].

Respondendo a essa indagação, o mestre de Viena, primeiramente, destaca que "essas questões não podem ser respondidas por meio de cognição racional. A resposta a elas é um julgamento de valor, [...] de caráter subjetivo"[3], o que poderia amparar um agir discricionário. Para esclarecer que não se admite tal agir quando da análise da norma fundamental, Kelsen, em escritos posteriores, destaca que, a norma fundamental,

Não é uma norma estabelecida através do ato de vontade de uma autoridade jurídica, isto é, uma norma positiva, mas uma norma pressuposta pelo pensamento jurídico. A sua pressuposição é a condição sob a qual uma ordem de coação criada pela via legislativa ou consuetudinária e globalmente eficaz é considerada como válida – como objetivamente válida.

A norma fundamental determina somente o fundamento de validade, não o *conteúdo* de validade do direito positivo.

[...]

A norma fundamental definida pela Teoria Pura do Direito não é um direito diferente do direito positivo: ela apenas é o seu fundamento de validade, a condição lógico-transcendental da sua validade[4]

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[2] Hans, Kelsen. *Teoria Geral do Direito e do Estado*. Trad. Luis Carlos Borges. São Paulo: Martins Fontes, 2000, p.10.

[3] Hans Kelsen. *Teoria Geral do Direito e do Estado*. Trad. Luis Carlos Borges. São Paulo: Martins Fontes, 2000, p.10.

[4] Hans Kelsen. *O problema da justiça*. Trad. João Baptista Machado. 3ª ed. São Paulo: Martins Fontes, 1998, p. 117.

Mas, como questionamos em outro momento[5], qual o conteúdo de uma norma fundamental valida a constituição positivada que, por sua vez, valida todo o sistema positivo? Quais os limites da atuação dos julgadores ao concretizar a jurisdição, ou dito de outra maneira, quais os valores utilizados na decisão? Ao fundamentar nos princípios qual o critério para definir a preponderância (dimensão de peso) do escolhido?

Seja por intermédio da doutrina humanista filosófica, religiosa ou até mesmo pela contratualista pois, Kant alertava que a pessoa humana não deve jamais ser tratada como meio de seus próprios fins mas, sempre como um fim em si mesma, a dignidade humana (e não humana) deve permear a ressignificação das estruturas sociais e, portanto, jurídicas, do Estado Democrático de Direito, demarcando a supremacia da civilização contra a barbárie.

Ou seja, a dignidade como um mínimo ético, parafraseando a filósofa espanhola Adela Cortina, que destaca ser "o interesse pelo bem dos homens concretos, motor objetivo inveteradamente da ética, foi se expressando de diversos modos no decorrer da história"[6]. Assim, tal dignidade, como um farol a iluminar a rota dos viajantes, merece manutenção e adequação as necessidades que existem ou passam a existir na sociedade. Para a manutenção, não raro, novas técnicas inovam, por vezes, pretendendo sim, uma melhor iluminação, uma ampliação do fim que constitui a própria razão de existir do farol. Outras, todavia, visam especulações outras (econômicas, políticas, egocentristas, etc.) sem qualquer preocupação com a razão primeira, fundamental.

Seja para contrapor o egocentrismo, estabelecendo consensos sobre o alcance das liberdades individuais, seja para limitar o exercício do estado de natureza, a doutrina contratualista,

[5] Nesse sentido consultar: Meleu, Marcelino; Lixa, Ivone F. M. *Jurisdição Constitucional e Direitos Fundamentais como objeto de pesquisa do PPGD da Universidade Regional de Blumenau (FURB)*. Revista Jurídica da FURB, Blumenau, SC, v. 25, nº. 56, jan./abr. 2021. Disponível em: h ttps://proxy.furb.br/ojs/index.php/juridica/article/view/10339/5139. Acesso em: 10 fev. 2022.

[6] Cortina, Adela. *Ética Mínima*. Trad. Marcos Marcionilo. São Paulo: Martins Fontes, 2009, p. 46.

especialmente pela obra do empirista britânico John Locke[7], sustenta que os seres humanos possuem capacidades básicas similares, portanto, ninguém está legitimado a tratar o outro como meio. Para Locke, existem deveres morais obrigatórios, um deles reside na autopreservação, não fazer o que pode levar o outro à destruição.

Locke, assim como os demais ideólogos do liberalismo, preparam o terreno para a discussão política sobre direitos fundamentais. Poucos anos após a sua morte (ocorrida em 1704), a expressão "direitos fundamentais" aparece na França[8], no ano de 1770, em um movimento político e cultural que culminou com a Declaração dos Direitos do Homem e do Cidadão de 1789[9] e, que além de configurar os direitos humanos positivados nas constituições estatais, representam princípios que resumem a concepção de mundo e que informam a ideologia política de cada ordenamento jurídico[10].

Delineado esse compromisso mundial pela dignidade humana e, assim, com a concretização dos direitos fundamen-

[7] Em especial consultar: Locke, John: *Dois tratados sob o governo*. 3ª ed. São Paulo: Martins Fontes, 2020.

[8] Com "[...] influência das doutrinas jusnaturalistas, de modo especial a partir do século XVI. Já na Idade Média, desenvolveu-se a idéia *[sic]* da existência de postulados de cunho suprapositivo, que, por orientarem o poder, atuam como critério de legitimação de seu exercício. De particular relevância, foi o pensamento de Santo Tomas de Aquino, que, além da, já referida concepção cristão da igualdade dos homens perante Deus, professava a existência de duas ordens distintas, formadas, respectivamente, pelo direito natural, como expressão da natureza racional do homem, e pelo direito positivo, sustentando que a desobediência ao direito natural por parte dos governantes poderia, em casos extremos, justificar até mesmo o exercício do direito de resistência da população. Também o valor fundamental da dignidade humana assumiu particular relevo no pensamento tomista, incorporando-se, a partir de então, à tradição jusnaturalista". Sarlet, Ingo Wolfgang: *A Eficácia dos Direitos Fundamentais*. 8 ed. Porto Alegre: Livraria do Advogado, 2007, p. 45-46.

[9] Em que pese as discussões francesas e o documento de 1789, é na Declaração de Direitos do povo da Virgínia, que "pela primeira vez os direitos naturais do homem foram acolhidos e positivados como direitos fundamentais constitucionais". In: Sarlet, Ingo Wolfgang: *A Eficácia dos Direitos Fundamentais*. 8 ed. Porto Alegre: Livraria do Advogado, 2007, p. 52.

[10] Pérez Luño, Antonio-Enrique: *Derechos Humanos, Estado de Derecho y Constituición*. 10 ed. Madrid: Tecnos, 2010, pp. 32-33.

tais, concordamos que é inegável o avanço de tecnologias (novas ou existentes) para o progresso da humanidade. No campo das ciências jurídicas e sua responsabilidade de responder a todos os conflitos sociais, bem como, de garantir os princípios constitucionais incorporados de conteúdo de direitos humanos, a introdução da inteligência artificial apresenta prós e contras, o que demanda um olhar mais atento, como fizerem os pesquisadores desta obra, de modo que se encontre consensos tecnológicos e normativos para que possamos usufruir das benesses trazidas pelo uso daquela inteligência sem comprometer a efetivação dos direitos fundamentais.

Inovar faz parte da essência do indivíduo, seu progresso individual reflete na sociedade, pois, "não são só as descobertas da ciência que devolvem o homem o primado sobre o universo, mas é a própria ciência que o coloca num plano superior ao antigo"[11]. No caso, a introdução da inteligência artificial (I.A.) no direito, entendendo essa como "um sistema algorítmico adaptável, relativamente autônomo, emulatório da decisão humana"[12] há de se ter uma maior responsabilidade, estabelecendo um protocolo ético-jurídico[13] que a direcione a concretização dos direitos fundamentais.

Tal protocolo ético-jurídico se faz importante, porquanto, a padronização preditiva, realizada sem aquele compromisso, pode aumentar exponencialmente a desigualdade, a xenofobia,

[11] Nogare, Pedro Dalle: *Humanismos e Anti-Humanismos: Introdução à Antropologia Filosófica*. 13ª ed. São Paulo: Martins Fontes, 1977, p. 303.

[12] Freitas, Juarez; Freitas, Thomas Bellini: *Direito e inteligência artificial: em defesa do humano*. Belo Horizonte: Fórum, 2020, p. 33.

[13] Juarez e Thomas Freitas listam diretrizes a serem perseguidas, são elas: "I) indelegabilidade da decisão intrinsicamente humana; II) dignidade da vida; III) diversidade e privacidade; IV) bem-estar multidimensional, ecossistêmico, intergeracional, V) escrutínio de impactos diretos e indiretos (externalidades); VI) transparência (ativa e passiva) e explicabilidade; VII) segurança preventiva e precavida; VIII) responsabilidade e proporcionalidade (legitimidade, adequação, necessidade e proporcionalidade em sentido estrito); IX) instrumentalidade tecnológica e indentificabilidade; X) sustentabilidade e XI) supervisão humana e reversibilidade." In: Freitas, Juarez; Freitas, Thomas Bellini: *Direito e inteligência artificial: em defesa do humano*. Belo Horizonte: Fórum, 2020, p. 74.

o racismo, a aporofibia (fobia à pobres)[14], uma vez que, falta aos algoritmos "a capacidade para a utilização do conhecimento implícito, importante para a ação humana, bem como, a capacidade para a empatia, para o desenvolvimento da criatividade ou para o emprego da intuição ou – importante para juristas – avaliação judicial intuitiva"[15].

Aqui, reside o mérito dos trabalhos sobre inteligência artificial e inovação na presente obra, todos se propõem a debater critérios que, de alguma forma, se voltam a necessidade de incorporação de um protocolo ético-jurídico, evitando, como bem alertou Cathy O´Neil, "a produção massiva e industrial de injustiça" [16].

A obra ainda contempla importantes trabalhos que identificam o animal humano como sujeito de direito. Aliás, o reconhecimento de animais não humanos (como outrora e ainda presente, a negação da mulher ou a não inclusão de pessoas com deficiências cognitivas) constitui um dos problemas não resolvidos pela teoria contratualista (tanto clássica, quanto moderna) como alerta Nancy Fraser.

Partindo do diagnóstico de que a dignidade humana depende da possibilidade de ação e funcionamento das capacidades, Nancy Fraser lista e examina, em sua obra,[17] dez capacidades[18],

[14] Sobre tal cenário, a filósofa e professora da cátedra de ética da Universidade de Valência, na Espanha, Adela Cortina, denuncia que além da xenofobia, a Europa se volta à atitudes de aporofobia, pois cresce o ódio, a aversão ou hostilidade para com os pobres e necessitados, ao mesmo tempo em que multimilionários de todos os cantos são calorosamente recebidos na Comunidade Europeia. Nesse sentido consultar: Cortina, Adela. *Aporofobia, el rechazo al pobre: Um desafio para la democracia*. Barcelona: Paidós, 2017.

[15] Hoffman-Riem: A legitimação de decisões jurídicas na utilização de legal technology. *Direitos Fundamentais & Justiça*. Belo Horizonte: Fórum, ano 14, jan./jun. 2020, p. 86-87.

[16] O'Neil, Cathy: *Algorítimos de destruição em massa: como o Big Data aumenta desigualdade e ameaça à democracia*. Trad. Rafael Abraham. Santo André: Editora Rua di=o Sabão, 2020, p. 150.

[17] Nussbaum, Martha C.: *Fronteiras da justiça: deficiência, nacionalidade, pertencimento à espécie*. Trad. Susana de Castro. São Paulo: WMF Martins Fontes, 2013.

[18] Sendo: 1) Direito à vida; 2) Saúde Física; 3) Integridade Física; 4) Sentidos, imaginação e pensamento; 5) Emoções; 6) Razão Prática; 7) Afiliação; 8) Outras

entre elas a de ser capaz de viver com preocupação por e em relação aos animais não humanos, uma vez que, estes merecem uma existência digna, sendo que para a autora,

Uma existência digna pareceria incluir pelo menos o seguinte: oportunidades adequadas para nutrição e atividade física; direito a não sofrer dor; abandono e crueldade; liberdade de agir de acordo com os modos característicos a cada uma das espécies (em vez de serem confinados e, como aqui, obrigados a realizar acrobracias bobas e degradantes); viver sem medo e oportunidades pata interações recompensadoras com outras criaturas da mesma espécie, e de espécies diferentes; e oportunidade de aproveitar da luz e do ar com tranquilidade.

O fato de os seres humanos agirem de forma a negar aos animais uma existência digna parece ser uma questão de justiça[19].

Por tudo isso, a obra organizada pelos professores Jorge Isaac Torres Manrique e Ana Alice De Carli, se insere nesse novo modo de compreender fenômenos que inovam procedimentos, promovendo o necessário debate sobre a forma de sua aplicação e sua sintonia, alertando para o respeito a ética, para o acolhimento do animais não humanos como sujeitos de direitos, com respeito ao meio ambiente e, por conseguinte, demonstrando a preocupação com a concretização dos direitos fundamentais, considerando-os vitais para a sobrevivência das espécies em uma sociedade sadia.

Enfim, mais do que recomendar a leitura, compreendemos a presente obra como um marco indispensável da constituição de uma rede ampla de pesquisadores imersos na preocupação de desvelar novos e profícuos debates, de modo a contrapor à ideia de que os direitos humanos se transformaram em um 'mito concretizado' nas sociedades pós-modernas, porquanto,

espécies; 9) Lazer e 10) Controle sobre o próprio ambiente (político e material). In: Nussbaum, Martha C.: *Fronteiras da justiça: deficiência, nacionalidade, pertencimento à espécie*. Trad. Susana de Castro. São Paulo: WMF Martins Fontes, 2013.

[19] Nussbaum, Martha C.: *Fronteiras da justiça: deficiência, nacionalidade, pertencimento à espécie*. Trad. Susana de Castro. São Paulo: WMF Martins Fontes, 2013, p. 401.

como alerta Costas Douzinas[20], naquelas muitos ainda "sofrem violações em maior ou menor grau nas mãos dos poderes que proclamaram seu triunfo". Pode tal proposta parecer utópica, mas "o fim dos direitos humanos chega quando eles perdem o seu fim utópico"[21].

De Blumenau/Santa Catarina/Brasil, em julio de 2023

Marcelino Meleu
Advogado
Professor Universitário
Professor Titular e Vice Coordenador do Programa de Mestrado em Direito da Universidade Regional de Blumenau (Santa Catarina/Brasil)
Doutor e Pós-Doutor em Direito Público

[20] Douzinas, Costas: O *fim* dos direitos humanos. Trad. Luzia Araújo. São Leopoldo: Editora Unisinos, 2009, p. 384.

[21] Douzinas, Costas: O *fim* dos direitos humanos. Trad. Luzia Araújo. São Leopoldo: Editora Unisinos, 2009, p. 384.

INTRODUCCIÓN

En principio, es de traer a colación que, en prácticamente la totalidad de sistemas jurídicos del orbe, rige el Estado Constitucional de Derecho (denominado: Estado Democrático de Derecho en Brasil y Estado Social de Derecho en Paraguay, por citar algunos). Y entre las características basilares de este Estado Constitucional de Derecho, podemos mencionar, que la Constitución se yergue como un nuevo orden de valores, situándose en la cabeza del ordenamiento jurídico. Pero, además, amerita considerar que, en el mismo, el derecho constitucional y derechos fundamentales, se hacen presentes de manera transversal en la totalidad de ramas jurídicas. Es así, que dejan de tener vigencia las consabidas y tradicionales ramas de Derecho, como: el derecho penal, empresarial, tributario, entre otros, para dar paso a remozadas como: el derecho penal constitucional, empresarial constitucional, tributario constitucional, etc. Finalmente, apostrofar quie estos últimos hacen lo propio en la totalidad de disciplinas y ciencias del saber humano, distintas al Derecho.

En ese sentido, en esta valiosa oportunidad vale señalar, que ello es objetivamente aterrizable en la presente obra colectiva: "***Tratado de la inteligencia artificial, ciberdelincuencia y derecho digital. Desde el umbral de la transmutación de los sistemas jurídicos".***

Cabe dejar constancia, que la misma se constituye en la resultante de los trabajos científicos presentados por los conferencistas que participaron en el evento que tuvimos a bien coorganizar entre la Universidade Federal Fluminense (Brasil) y la Escuela Interdisciplinar de Derechos Fundamentales Praeeminentia Iustitia (Perú), con la participación de la distinguida Profesora y amiga, Dr. Ana Alice De Carli y Jorge Isaac Torres Manrique (el suscrito), en calidad de Representante y Presidente, respectivamente. Magno evento denominado: "1ª Assembleia Mundial: Boiética, Ética Animal e Direitos Funda-

mentais"[22], llevado a cabo exitosamente en el Estado de Río de Janeiro, el 2[23] y 3[24] de diciembre del año próximo pasado.

En esta entrega, podremos apreciar capítulos inéditos de destacados profesores de Brasil, Ecaudor, Perú, España, México, Cuba; que se ocupan de la actualidad jurídica mundial y a su vez del Derecho que está por venir, de manera específica en las temáticas que dan nombre al presente título.

Y es que la bioética no solamente viene paulatinamente ocupando un lugar protagónico, sino que, además, un *aggionamiento* de conformidad a los nuevos tiempos constitucionales y de derechos fundamentales, incluso, de justeza y legitimidad.

Así, hoy en día, varios debates sobre temas controversiales, propios de la bioética y biojurídica, han venido siendo influenciados por una serie de corrientes propias del denominado pensamiento posmoderno. Las principales características de este tipo de pensamiento son la negación de la razón como instrumento guía, la relativización de la moral, el escepticismo hacia la metafísica y su visión estructuralista; al respecto, estas han terminado por consolidar un escenario donde la persona humana busca alejarse de las reflexiones internas, por considerarlas prescindibles, apegándose al plano más técnico y palpable, obviando toda reflexión moral sobre sus decisiones. Dicho pensamiento se ha venido concretando en dos teorías que han alcanzado mucho arraigo en el último siglo: el utilitarismo (que promueve la toma de decisiones a partir del beneficio para las mayorías) y el neoliberalismo (que promueve la imposición del mercado como pauta de las relaciones sociales). Los debates

[22] Pós-Graduação em Residência Jurídica da Universidade Federal Fluminense. En línea, recuperado en fecha 7/01/22 de: http://prj.sites.uff.br/category/eventos/. Estado de Río de Janeiro. 2021.

[23] 1ª *Assembléia Mundial: "Bioética, Ética Animal E Direitos Fundamentais"*. 1º DIA. En línea, recuperado en fecha 7/01/22 de: https://www.youtube.com/watch?v=krTvosBB6SY. 2021.

[24] 1ª *Assembléia Mundial: "Bioética, Ética Animal E Direitos Fundamentais"*. 2º DIA. En línea, recuperado en fecha 7/01/22 de: https://www.youtube.com/watch?v=-hrwAGsL38c. 2021.

sobre la bioética y biojurídica deben partir sobre la debida defensa dela persona y su dignidad.[25]

Por su parte, es de anotar, que la cibernética se constituye en una de las más trascendentes y señeras tecnologías de la presente etapa contemporánea. No obstante, la misma presenta también su contracara, su lado oscuro.

En tal sentido, tenemos que la cibernética es el arma más peligrosa del mundo, política, económica y militarmente, según lo señalado recientemente por el exsecretario de Defensa Bob Gates, vicepresidente del Consejo Internacional de JPMorgan[26].

Y a su vez, el derecho digital comparte el escaparate de primera línea, tanto con la bioética como con la cibernética.

Y ello puede corroborrase, cuando se tiene que el Gobierno de España adoptó la Carta de Derechos digitales el pasado 14 de julio de 2021. La Carta ofrece un marco de referencia para garantizar los derechos de la ciudadanía en la nueva realidad digital y tiene como objetivo reconocer los retos que plantea la adaptación de los derechos actuales al entorno virtual y digital. Además, insta a los poderes públicos a estudiar posibles reformas legales en garantía de estos derechos y a establecer políticas públicas digitales con el fin de reforzar su desarrollo. También afecta a las empresas en lo que se refiere a los ámbitos laboral y de compliance, entre otros aspectos.[27]

Queda claro entonces, que la multidiscipinariedad no queda como una aspiración hipotética, ilusioria, sino que, es perfectamente evidenciable y demostrable. Así, no conrresponde ya

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[25] Santome- Sánchez, Aldo Alesandro: *¿Hacia dónde vamos? El pensamiento postmoderno y su influencia en los conflictos o dilemas bioéticos y biojurídicos*. En línea, recuperado en fecha 7/01/22 de: https://revistas.usat.edu.pe/index.php/apuntes/article/view/700/1286. Chiclayo, 2021, pp. 189- 190.

[26] Egan, Matt: *Exclusiva: La cibernética es el arma más peligrosa del mundo, advierte el consejo de JPMorgan*. En línea, recuperado en fecha 7/01/22 de: https://cnnespanol.cnn.com/2021/12/16/exclusiva-cibernetica-arma-mas-peligrosa-del-mundo-consejo-jpmorgan-trax/. 2021.

[27] Noticias Jurídicas. Webinar Gratuito: *La Carta de Derechos digitales de España: retos y oportunidades de asesoramiento legal*. En línea, recuperado en fecha 7/01/22 de: https://noticias.juridicas.com/actualidad/el-sector-legal/16655-webinar-gratuito:-la-carta-de-derechos-digitales-de-espana:-retos-y-oportunidades-de-asesoramiento-legal/. 2021.

asumir y entender prácticamente nada desde un punto de vista, anquilosado, petrificado, aislado de la multidiversidad, de la realidad actual.

Estos nuevos tiempos difinivamente son retadores, tanto para la humanidad como para las ciencias y disciplinas del saber humano. Así, con el presente libro esperamos contribuir a asumir dicho compromiso.

Agredecemos enormemente la muy valiosa participación del reconocido jurista Dr. Marcelino Meleu, por haber tenido a bien elaborar el importante, agudo y generoso prólogo.

Igualmente, expresamos nuestro indeleble agradecimiento a la prestigiosa firma Editorial Jurídica de Santiago, por la confianza, pues, sin su decidida participación, la presente entrega no hubiera podido salir a la luz.

Finalmente, y al igual que nuestras anteriores propuestas, esperamos que la presente obra colectiva: *"Tratado de la inteligencia artificial, ciberdelincuencia y derecho digital. Desde el umbral de la transmutación de los sitemas jurídicos"*, sea de gran acogida e interés por parte de la comunidad jurídica y no jurídica.

La Dirección Científica

CAPÍTULO VII

CONTEMPORARY LEGAL ISSUES ON NEW TECHNOLOGIES

Gulyaeva Elena Evgenievna[563]

We need international and national policies and regulatory frameworks to ensure that these emerging technologies benefit humanity as a whole.
We need a human-centred AI. AI must be for the greater interest of
the people, not the other way around, - UNESCO, 2021.

I. INTRODUCTION

In 2021, the Russian scientific community enlarged the list of scientific specialties with four new groups of academic branches. These are computer science and informatics, biotechnology, subsurface use and mining sciences as well as cognitive sciences.[564] This proves that the issues of this type are especially significant for the foreign and domestic policies of the Russian Federation. Legitimate regime for using new technologies in a digital era was adopted through the legal instruments.

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[563] Candidate of law, Department of International Law, Associate Professor, Diplomatic Academy of the Ministry of Foreign Affairs of Russia, 53/2-1, ul. Ostozhenka, Moscow, Russian Federation, 119021, e-mail: gulya-eva@yandex.ru, ORCID: 0000-0001-8376-7212.

[564] URL: https://www.rbc.ru/society/10/04/2021/607167f39a794766130f7984?from=materials_on_subject.

So, in 2020, to the Article 71 of the Constitution of Russia[565] have been made the amendments to paragraphs "d", "e", "i", "m", "r", "t", especially concerning the use of new technologies in internal and external policy, to such adjustments were added the following areas: i) federal energy systems, nuclear power, fissile materials; federal transport, *communications, information, information technology and communications*; space activities in outer space; l) defense and security; defense production; determination of the procedure for the sale and purchase of weapons, ammunition, military equipment and other military property; production of poisonous substances, narcotic drugs and the procedure for their use; ensuring the safety of the individual, society and the state when using *information technologies*, *the circulation of digital data*.

To illustrate it, on March 31, 2023, The Concept of the Foreign Policy of the Russian Federation approved by Decree of the President of the Russian Federation No. 229, in para. 7 «Humanity is currently going through revolutionary changes… Structural transformation of the world economy, its transfer to a new technological basis (*including the introduction of artificial intelligence technologies, the latest information and communication, energy, biological technologies and nanotechnologies*), the growth of national consciousness, cultural and civilizational diversity and other objective factors accelerate the process of shifting the development potential to new centers of economic growth and geopolitical influence and promote the democratization of international relations». Moreover, para. 9 stated that «Serious pressure is being put on the UN and other multilateral institutions the intended purpose of which, as platforms for harmonizing the interests of the leading powers, is artificially devalued. The international legal system is put to the test: a small group of states is trying to replace it with the concept of a rules-based world order (imposition of rules, standards and norms that have been developed without equitable participation of all interested states). It becomes more difficult to develop collective responses to *transnational challenges* and threats, such as the illicit arms trade, proliferation of weapons of mass destruction and their means of delivery, dan-

[565] URL: https://rm.coe.int/constitution-of-the-russian-federation-en/1680a1a237

gerous pathogens and infectious diseases, *the use of information and communication technologies for illicit purposes,* international terrorism, illicit trafficking in narcotic drugs, psychotropic substances and their precursors, transnational organized crime and corruption, natural and man-made disasters, illegal migration, environmental degradation. The culture of dialogue in international affairs is degrading, and the effectiveness of diplomacy as a means of peaceful dispute settlement is decreasing. There is an acute lack of trust and predictability in international affairs.

As mentioned in para 26. of the Concept «In the event of unfriendly acts by foreign states or their associations threatening the sovereignty and territorial integrity of the Russian Federation, including those involving restrictive measures (sanctions) of a political or economic nature or the use of modern information and communication technologies, the Russian Federation considers it lawful to take the symmetrical and asymmetrical measures necessary to suppress such unfriendly acts and also to prevent them from recurring in future».

In addition, it is noted in para. 30 that «…In order to ensure international information security, counter threats against it, and strengthen Russian sovereignty in the global cyberspace, the Russian Federation intends to give priority attention to:

1) strengthening and improving the international legal regime for preventing and resolving interstate conflicts and regulating activities in the global cyberspace;

2) shaping and improving an international legal framework for countering criminal uses of information and communication technologies;

3) ensuring the safe and stable Internet operation and development based on the equitable participation of states in the management of this network and precluding foreign control over its national segments;

4) adopting political, diplomatic and other measures aimed at countering the policy of unfriendly states to weaponize the global cyberspace, use information and communication technologies to interfere with the internal affairs of states for military purposes, as well as limit the access of other states to advanced information and communication technologies and increase their technological dependence…».

The contemporary doctrine of Russian foreign policy as well included to traditional methods of diplomacy the «soft power», which become an integral part of efforts to achieve foreign policy objectives. This primarily involved the tools offered by civil society, *as well as various methods and technologies – from information and communication*, to humanitarian and other types.

II. CYBERSECURITY IN INTERNATIONAL LAW

On November 2021 at the plenary meeting of the First Committee of the 76th session of the UN General Assembly[566] on agenda item, «*Developments in the field of information and telecommunications in the context of international security*» by consensus adopted a Russian-American resolution on the responsible behavior of states in cyberspace. The fact that Russia and the United States for the first time submitted such a document to the General Assembly for consideration. This is a historic decision and adopting a draft UNGA resolution consolidates the reestablished atmosphere of consensus in the global discussion on international information security under the UN auspices. The draft resolution lays a strategic basis for continuing the negotiation process: it expresses support for the OEWG on security of and in the use of ICTs 2021-2025 and reaffirms its mandate, as set forth in UNGA resolution 75/240. The document also reflects such indisputable principles of ensuring international information security as promoting peaceful use of ICTs, preventing their use for criminal and terrorist purposes, and preventing conflicts in information space. The possibility of developing additional rules, norms and principles of responsible behavior of States, including additional binding obligations, was confirmed. At the time of the adoption of the resolution, at least 105 states decided to become its co-sponsors, which speaks of broad support for the Russian-American initiative. Previously, Moscow and Washington promoted two competing cybersecurity negotiating mechanisms at the UN. We believe

[566] *UN General Assembly Committee approved a Russian-American resolution on cybersecurity*. URL: https://russiaun.ru/en/news/1com202112021

that the adoption of the Russia-US draft resolution will become a meaningful contribution to strengthening international peace and security in the use of ICTs.

According to a former senior U.S. official, in 2021 at least 60,000 organizations around the world have been compromised due to vulnerabilities in Microsoft software[567]. The author of the publication pointed out that if the growth in the number of victims of the cyber attack continues, the incident can be equated with a **global cyber security crisis**.

On July 2021, Russia has come up with a proposal to the United Nations (UN) at the international level to classify cybercrime into 23 types, and not nine, as is the practice at the moment[568]. The project reflects 23 *corpus delicti*, including unauthorized access to personal data, illegal distribution of counterfeit medicines and medical products, terrorism, extremism, rehabilitation of Nazism, illegal drug trafficking, weapons, involvement of minors in illegal activities and much more.

In the modern world, the number of crimes committed in cyberspace has significantly increased. New types of malware used to achieve illegal goals appear regularly. According to experts, the material damage to the global economy from crimes committed with the help of information and communication technologies amounts to trillions of US dollars. Such a scale requires effective means of legal regulation of relations in cyberspace. Cybersecurity is considered one of the most relevant topics of current international law, which is extremely important for ensuring the national security of states. Information and communication technologies can be used to negatively affect economic, social, cultural and political relations, to damage the economic, military, and defense potential of the state and society. In this regard, the international community is deeply interested in developing a multilateral legal framework for

[567] *Microsoft Attack Blamed on China Morphs Into Global Crisis*. Bloomberg official website. URL: https://www.bloomberg.com/news/articles/2021-03-07/hackers-breach-thousands-of-microsoft-customers-around-the-world

[568] *Expand number of types of cybercrimes from 9 to 23, Russia proposes to UN*. URL: https://www.business-standard.com/article/international/expand-number-of-types-of-cybercrimes-from-9-to-23-russia-proposes-to-un-121072800126_1.html

cooperation in the field of cybersecurity. However, a unified approach to solving this problem in the international arena has not yet been developed. Legal regulation of cyberspace is very complex due to the virtual interface characteristics of this area.

Thus, though the principles and rules of current international law are applicable to the information sphere, it is necessary to universalize the existing international legal regulation of cyberspace, taking into account its specific characteristics and in order to effectively combat the use of ICT for illegal purposes.

The efforts of states are currently focused on a narrow area of problems related to human rights, data privacy, etc. Not all states are interested in creating an effective mechanism for cooperation. Many states are opposing the development of new international legal instruments. That is why the Russian initiative on the UN Convention on Cooperation in Combating Information Crimes has not been supported. This fact has entailed the absence of a full-fledged universal international legal framework for cooperation in the field of cyberspace.

The analysis showed that despite the applicability of the principles and rules of current international law to the information sphere, the universalization of the international legal regulation of cyberspace is required, taking into account its characteristics and in order to effectively combat the use of information and communication technologies for illegal purposes. The efforts of states to develop special rules of conduct in cyberspace are currently concentrated on a narrow sphere of issues related to human rights, data privacy, etc. Not all states are interested in creating a modern and effective mechanism for cooperation in cyberspace. Many states are openly opposing the development of new international legal instruments. For this reason, the Russian initiative to adopt the UN Convention on Cooperation in Combating Information Crimes has not been supported. This fact has entailed the absence of a full-fledged universal international legal framework for cooperation in the field of cyberspace. Based on the analysis of doctrine and practice, the author concludes that there is a need to create a universal international legal framework for cooperation in the field of cyberspace.

III. ARTIFICIAL INTELLIGENCE IN THE DIPLOMATIC CORPS

Experts are thinking about the practical application of AI in the field of international relations. According to their reports, in 45 years artificial intelligence will be better than people to cope with all types of work; moreover, is quite applicable in the diplomatic service[569]. So, according to American scientists, *by 2024 AI will be better at handling translations, by 2026 it will be able to write essays on given topics better than high school students, by 2027 it will completely replace people driving trucks, by 2049 it will easily write bestsellers , and by 2053, it is better to operate a human surgeon.* For instance, a certain amount of automation with the help of AI will not interfere with diplomatic work, and not only at the level of consulates and paperwork, but also at the level of international negotiations and public diplomacy. AI could help improve communication between governments and citizens of different countries by removing language barriers, improve the security of diplomatic missions using image recognition and information sorting technologies, support international peacekeeping operations and prevent disruptions when providing financial assistance to other countries.

As Professor Bjola said, «*The benefits of using AI in the work of consulates are clear*»[570]. Consular services are mostly associated with repetitive and simple transactions, which are carried out on the basis of specific and unchanging rules. Artificial intelligence can, by analyzing large amounts of data, organize them, find hidden patterns in them, and thereby greatly simplify the work of a person. The author gives an example of using AI as a digital assistant to the consul. For example, the consulate of a certain state was faced with the problem of irregular demand for urgent processing of documents. The deadlines

[569] Corneliu Bjola, professor of the Department of Diplomacy at the Oxford Institute, expressed his point of view on this issue.

[570] Corneliu Bjola, Department of International Development, University of Oxford, Oxford, UK. URL: https://www.researchgate.net/publication/309544824_Getting_digital_diplomacy_right_what_quantum_theory_can_teach_us_about_measuring_impact

for processing were delayed, the number of pending requests grew. In this case, the consulate's reputation suffered, and relations between the embassy and the foreign ministry of the host country worsened.

Let consider us the simplest level of use of AI in diplomacy. The AI system enters into this business: using the method of evaluative and descriptive analytics, it studies the data of the work of the consulate over the past five years, reveals hidden patterns and predicts that next year the peak demand for passports, visas and certificates is most likely in August, May and December. The next year is approaching, and the AI forecast for May and August is confirmed, and with December, for example, it was wrong. Then the updated data is entered into the AI system, and considering this, it issues a new, more accurate forecast for the next year. It is expected that this will increase the efficiency of the work of a particular consulate, after which this method can be used to help other consulates where a similar problem arises.

With the development of quantum computing technologies, AI may very soon become an important tool, for example, in resolving diplomatic crises. "AI systems will be able to help embassies and foreign ministries to comprehend the essence and scale of events in real time, simplify the decision-making process, deal with public expectations and help end the crisis," writes Corneliu Bjola. Now the integration of AI into this work is possible only under human control. As far as negotiation is concerned, AI cannot yet replace a human in the conduct of this process or in decision-making. On the other hand, it can help find the best negotiation strategy by timely and quickly selecting the necessary information, analyzing the data obtained and making predictions, which could take days or even weeks for a person.

IV. GENERAL PROVISIONS ON ARTIFICIAL INTELLIGENCE IN LEGAL SCIENCE

It is important to stress that, at present, we do not have a definition of the term "artificial intelligence", both at the national and the international level, which indicates that this area

has not yet been included in the legal regulation to the necessary extent. In that regard, it is necessary to refer to scientific literature, - the term "artificial intelligence" was first used in 1956. It meant the ability of machines to independently perform certain creative functions, which were considered available only to humans[571]. This interpretation has been refined so far. Artificial intelligence is already being considered as a trainable cyberphysical system capable of acquiring new knowledge and subsequently effectively using it to perform specific tasks[572].

Artificial intelligence is commonly divided into weak and strong. It is the weak artificial intelligence that is most prevalent, with its ability to learn only within the limits set by the developer. Strong artificial intelligence is the closest approximation to parameters of the human mind which means it can process sensitive information. To date, no general-purpose cyberphysical system has been developed but we can expect a possible solution to this problem in the near future. Therefore, it is very important to have an appropriate regulatory framework for use artificial intelligence in the form of robots and the priority areas should be identified for the legal regulation both at the national and international levels

Standardizing artificial intelligence systems;

Licensing related to the establishment and use of artificial intelligence systems;

Privacy of personal data;

Respect for professional ethics.

Developing legal approaches to regulating artificial intelligence relationships troubled by the need to strike a balance between different methods of legal regulation. They include mandatory, permissive and promotional methods. The regulation of the area concerned should be cautious and careful as excessive micromanagement can stall advanced technologies. At the same

[571] Kartskhia, A.: Artificial Intelligence: "Pandora's Box" or New Hope? // Intellectual Property. *Copyright and Related Rights*. 2017. N° 4. P. 23-30.

[572] Arkhipov, V.V. Naumov, V.B.: *Artificial intelligence and autonomous devices in the context of law: On the development of Russia's first law on robotics* // Works of SPIIRAS. 2017. Vol. 6(55). Pp. 46-52.

time, addressing and minimizing security threats posed by the use of artificial intelligence technologies, is really a challenge.

Artificial intelligence currently trained through deep neural networks applied universally by specialists and scientists in various fields - in forecasting, in mass service systems, in data analysis and other areas. The development and use of unmanned aerial vehicles are particularly popular.

Practice shows that immediate development of legislation is required for the use of artificial intelligence, because even though modern vehicles are equipped with various processors, sensors, cameras and other complex tools, unpleasant situations arise in real life.

A notable example is the case that occurred in the U.S. in Arizona in 2018: an experiment was made on the use of fully unmanned vehicles driven by artificial intelligence. Arizona was the first state in the United States to allow such experiments. Earlier, California passed a similar law that allowed remote control of the vehicle. In March 2018, a female pedestrian was injured during a fully unmanned vehicle test. The reason for this was that the vehicle was unable to recognize the pedestrian as the person and stop. It was only later established that the accident was not the fault of technology. Even a human driver would also be unable to take the necessary action to avert a collision with the accidental victim. However, some doubts have arisen about the prospect of widespread use of unmanned aerial vehicles based on artificial intelligence[573]. In the light of this, it is clear that issues related to the legal regulation of artificial intelligence.

Legal innovations, before being regulated by international legal instruments, are adopted at the national level. In the field of artificial intelligence and robotics in particular, Estonia is the first State in the world which officially approved the national travel regulations of robotic couriers. Germany has a law that introduces simpler rules for the movement of vehicles operated by artificial intelligence. However, increased penalties are imposed on owners of such vehicles for violations. But it is the driver

[573] Lukashevich, S.V.: *Unmanned vehicle: a paradigm shift as a consequence of the digitalization of the economy* // Transport Law. 2019. N° 3. Pp. 3-5.

who is still liable for any accidents with a vehicle, that is, the person's participation while driving the vehicle is compulsory[574].

Japan developed laws a few years ago to control the use of artificial intelligence systems. These documents deal primarily with matters relating to the copyright on artificial intelligence technologies. Under Japanese law, copyrights on said technologies belong to customers but in the future, it is intended to carry out transition of exclusive rights to developers. Another distinctive feature of Japanese law is making artificial intelligence systems developing companies responsible for any negative consequences arising from the use of artificial intelligence including compensation for victims.

It is worth noting that Japan has for a relatively long time attempted to develop the best ways to regulate the artificial intelligence market. Introduction of safety certificates for robotics has been planned[575]. Thus, the examples of developed modern States show that national Governments have already understood the need to engage the development and use of artificial intelligence systems, including robotics, in the scope of legal regulation. Only this direction will help to avoid inevitable risks by giving free rein to commercial companies. The need for a legal regulation of relations in the use of Big data must be addressed. Big data is one of the modern manifestations of the innovative information technologies development. The term was first used in 2008 to refer to a set of methods by which a significant amount of information could be analyzed. Analysts estimate that the annual volume of the world market in big data turnover is around US$ 150 billion[576].

At the same time, the volume of the relevant market is constantly growing. The most common and promising application

[574] Lavrinenko, A.V.: To the question of the legal regulation of the use of unmanned vehicles // In the collection: *Legal Science in the XXI century: collection of scientific articles on the results of the round table*. 2018. Pp. 99-102.

[575] Chuchaev, A.I., Malikov S.V.: Liability for causing damage by a highly automated vehicle: state and prospects // *Actual problems of Russian law*. M: 2019. N° 6. Pp. 117-124.

[576] Chubukova S.G. Formation of information society and digital economy in Russia: directions of legislation development // *Innovation and expertise: scientific papers*. 2019. N° 1. Pp. 60-70.

areas of Bigdata are banking, logistics, public administration, energy, telecommunications, industry. In practice, it has long been evident that the use of old methods for processing continuous information in large quantities is simply not efficient. This is because the processing of information will require a considerable amount of time, and the fact that a person may simply not notice the existing regularity. This technology therefore improves human performance in most areas. The bulk of information processing in big data technology is based on horizontal scalability. Computational nodes are formed where stored data are placed. So, information is processed without productivity distribution. Specifically, the operation of big data is based on private technologies, for example, for example, MapReduce, Hadoop, R and others.

To date, the issue of the legal regulation of the use of big data technologies is relevant and topical. This challenge is still significant for nation States, so far, no question arisen concerning international law regulating the use of Bigdata. However, a significant aspect of the legal regulation of the use of big data technology is security and confidentiality of information.

Thus, the technology is a definite technological breakthrough as a means of successfully carrying out tasks that could not previously have been solved when using old methods. However, at the same time, there are significant security concerns such as the privacy of citizens. Minimizing such risks requires the involvement of the relevant sphere to the framework of legal regulation.

It is also important to note that new technologies may carry certain risks to the life and health of citizens - conducting DDoS attacks[577] on important infrastructure, creating fake news based on artificial intelligence[578], or even the usual use of unmanned

[577] *DDoS attack - a hacker attack on a computer system in order to bring it to failure, that is, the creation of conditions under which bona fide users of the system will not be able to access resources* (servers). [Electronic resource]: https://ru.wikipedia.org/wiki/DoS-атака.

[578] *Information taken from analysis of network resources*: [Electronic resource]: https://scientificrussia.ru/articles/silnyj-iskusstvennyj-intellekt-naslednik-chelovechestva-chast-1 https://scientificrussia.ru/articles/silnyj-iskusstvennyj-intellekt-naslednik-chelovechestva-chast-2

vehicles. Spread of anti-government information via hidden network resources of the Internet poses a direct threat to the constitutional integrity of the State and community policing.

Mention should also be made of the fact that developed States are already aware of the need for involvement in the sphere of legal regulation of relations linked to the use of Darknet, AI systems and Bigdata. So far, regulation is being implemented at the national level but as basic approaches to the management of new technologies are developed, and, considering that this need is relevant today, it is to be hoped that international instruments will be adopted in the areas concerned.

On November, 2021, UNESCO General Conference approved «Recommendation on the ethics of artificial intelligence»[579] at its 41st session. It will not only protect but also promote human rights and human dignity, and will be an ethical guiding compass and a global normative bedrock allowing to build strong respect for the rule of law in the digital world.

The document aims to reduce the risks and difficulties associated with artificial intelligence (AI), especially in terms of exacerbating existing inequalities, as well as the implications for human rights, the document says. Representatives of 55 countries, including Russia and China, took part in the discussion of the draft Recommendation. As a result, the project was supported unanimously.

UN member states are encouraged to apply the provisions of the recommendation on the ethical aspects of AI and take appropriate measures, including legislative ones, in accordance with the constitutional practice and governance structures of each state in order to implement the principles enshrined in the document in their territories. The ethical application of AI in the Recommendation refers to a systematic normative understanding of the ethical aspects of AI based on an evolving complex, comprehensive and multicultural system of interrelated value attitudes, principles and procedures, capable of guiding societies in the responsible consideration of the known and unknown consequences of the use of AI technologies for people,

[579] *UNESCO member states adopt the first ever global agreement on the Ethics of AI*. URL: https://en.unesco.org/artificial-intelligence/ethics

communities, environment and ecosystems, and serve as a basis for making decisions regarding the use or abandonment of the use of technologies based on AI. The Ethical Principles serve as a flexible framework for normative assessment as well as guidance on the application of AI-based technologies, "considering human dignity, human well-being, and harmlessness as a benchmark and rooted in the ethics of science and technology".

To begin with, the problem of the poor-quality state of information security in the country is widely discussed in the Russian Federation. There is a low level of implementation of domestic developments and insufficient professionalism in the field of information security, low awareness and inertia of Russian citizens in matters of personal information security. Measures to ensure the security of information infrastructure in the Russian Federation, including the use of Russian information technologies and software still do not have a comprehensive framework. There is no full-fledged system of administrative, legal and normative technical regulation in the field of AI. There is an incompatibility of a number of provisions of Russian data protection legislation with AI technologies.

The legal community is discussing a vague, too broadly interpreted and technically controversial definition of AI in the law No. 123-FZ. It aims to capture a broad range of possible advances in AI development. Much of this definition consists of listing the areas of potential applicability of AI technology.

Thus, the formulation «imitation of cognitive functions» of a person included in the legislative definition of AI evokes various interpretations. Further, a broad interpretation of the phrase about «the ability of a machine to learn and solve problems without algorithms» is allowed. The question arises about the controllability of the self-learning process. Therefore, the neural network is already capable of making accurate forecasts, for example, on market quotes. Does this make the market trading software artificial intelligence? On the other hand, does artificial intelligence still need properties of substantivizes and the ability to perceive?.

Nevertheless, there is also an opposite position. Its proponents support a broad definition of AI in Russian legislation. It notes that this legal definition reflects all the most important

features of AI: 1) the complex nature of such technology; 2) the ability to self-learning and look for solutions without predetermined algorithms; 3) the comparability of the results obtained with the results of human intellectual activity, although they may be perfect.

The problem of data protection in digital technologies and strengthening of the information confidentiality regime is discussed. In the Russian Federation, any actions (operations) for research purposes with personal data should be carried out only with the condition of their obligatory depersonalization (Article 6 of the Federal Law «On Personal Data»). Another innovation in the legislation on personal data was the expansion of the conditions for processing special categories of personal data. These ones relate to race and nationality, political views, religious or philosophical beliefs, health, intimate life.

In addition, here the problem of the special legal status of such a special category of personal data arises. Indeed, if the conditions for their processing are violated, especially negative consequences for the subject may occur. For example, the processing of personal data concerning the state of human health is allowed only if this occurs after the anonymization of personal data, and is required in order to improve the efficiency of public administration.

An «alarming» aspect of the application of AI technology in the Russian Federation remains the problem of security and compliance with strict control over its activities. Although this is contrary to the very essence of the functioning of AI. One of the aspects of this area of discussion is related to the strengthening of liability for offenses with computer information.

For example, the «Skolkovo» Foundation and the Russian Ministry of Economic Development and Trade have introduced an initiative to amend the Criminal Code in terms of liability for illegal access to protected computer information and violation of the rules for using means of storing, processing or transmitting such information (parts 2 and 3 of Art. 274.1 of the Criminal Code of the Russian Federation). The fact is that in the current version of this article, the concept of «harm» has not been disclosed. In practice, this leads to unjustified prosecution on formal grounds of specialists in the maintenance

of critical infrastructure facilities. For example, today, for a short-term server failure or an unsuccessful software update, because of which the website of a government agency, bank or hospital stopped working, the site administrator and the server owner are prosecuted, even if no socially dangerous (material harm) consequences were established. Therefore, it is proposed to include in Art. 274.1 of the Criminal Code of the Russian Federation the following phrase: «causing major damage (more than 1 million rubles)».

Another aspect of this discussion is associated with the active introduction of unmanned vehicles in the Russian Federation and the legal responsibility of AI for harm to human life and health. The most typical example is the functioning of an unmanned vehicle without a test engineer, and then the question arises about the distribution of legal responsibility in an accident. Practicing lawyers believe that Articles 264 or 268 of the Criminal Code of the Russian Federation on liability for violation of traffic rules or the operation of vehicles are not suitable for these cases of accidents involving an unmanned vehicle. The reason lies in the strictly formal nature of the provisions of the Criminal Code, which clearly defines the subjects of traffic offences. One of the ways out of such a conflict may be the qualification of harm caused by drones under Part 2 of Art. 238 of the Criminal Code of the Russian Federation, as «the provision of services that do not meet safety requirements, if they have caused, by negligence, the infliction of grievous bodily harm or death of a person».

The planned implementation of the «National Data Management System» in Russia will open access on the Internet to all processed state data, which will be open-source and free. In addition, it is warning that information related to a secret protected by law or restricted in access may also be available to an unlimited number of persons if it is transformed into impersonal information.

In recent years, LegalTech technology has been gaining popularity among Russian lawyers. Thus, the Russian company «Garant» (Company Garant) is the developer of the reference and legal system ("SPS GARANT") and a complex of information and legal support for lawyers and economists. It recent-

ly started developing LegalTech solutions in the cloud, even before the term became common. The services are available via the Internet even when working abroad. This freedom is especially important given the current trends aimed at creating a digital workplace and a new ecosystem of services in Russian companies.

One of the services of this line in the «Garant» company is the «Sutyazhnik» analytical system, which has gained popularity as a product since its launch in February 2018. This automated service focused on the selection of Russian judicial practice, corresponding to the content and topics of the uploaded documents. Moreover, the system is able to build a list of court decisions with a navigation to their texts, as well as display the claims of the plaintiff, the conclusions of the court, and the subject of the legal relationship, along with key topics.

The «Sutyazhnik» system is a synthesis of modern technologies and extensive experience in working with the legal information of the «Garant» company, as well as with Big Data - tens of millions of court decisions.

Why was such an AI product created for finding court practice? As a rule, the client has in his hands a kind of statement of claim, which he himself made or which was prepared by the opposite party, and it is necessary to quickly find the relevant judicial practice, which will be as similar as possible in its plot and set of legally significant circumstances.

A very useful function of the AI service «Sutyazhnik» is the accessibility of lists of frequently mentioned material and procedural rules of law. It is important to find them, because the better the legal basis of the claim, the more chances of winning a legal dispute. Even if the document does not directly mention a legal act and it is unknown what regulates the sought legal relationship, the «Sutyazhnik» system will find suitable judicial practice and build a list of frequently mentioned legal norms.

How exactly is the search carried out in the «Sutyazhnik» AI service? This is not a search for keywords or similar norms. The entire text and, more precisely, its meaning converted into a kind of mathematical indicator, since the model is trained on the entire multimillion array of judicial practice.

The vector space model (VSM) used as a kind of mathematical indicator. Its main idea is to represent each document of the collection in the «Garant» system as a point in a multidimensional space (a vector in a vector space). Dots that lie close to each other correspond to semantically similar documents. In search and analytical systems, the user's request is considered as a vector (as a pseudo-document), and then the documents are sorted in ascending order of distance to the pseudo-document and presented as a list to the user. The cosine of the angle between vectors can be used as a function of the nearest neighbor distance.

Since the texts of documents presented in natural language, then for their translation into an information retrieval language, it is required to carry out linguistic processing of the original text. One of the elements of this processing is the text normalization in the AI service «Sutyazhnik».

The indicators of accuracy and completeness measure the efficiency of the information retrieval system. Accuracy is an estimate of the conditional probability that a document issued by the system is actually relevant to the request. Completeness is an estimate of the conditional probability that a document relevant to the query will be issued by the system to the user.

Normalization increases the completeness of the search and at the same time decreases its accuracy. However, when simplified, the word can change the original meaning, which reduces the accuracy of information retrieval. In large collections, it is often more important to find documents with high accuracy, and therefore, text normalization is carried out using less «rigid» methods.

For a clearer interpretation of the term AI in Russia, one should take into account the experience and practice of IT companies and sole proprietors involved in the creation, implementation, realization and circulation of AI technologies. This will facilitate the removal of the normative and technical regulation of artificial intelligence in the Russian Federation from the «gray» zone, clarification of the definition and legal regime.

In the Russian Federation, there is no normative and technical regulation of the process of destruction of personal data, which creates serious problems for operators. What means by «destruction», whether in a particular case it is complete or

selective, and how to interpret such actions. For this reason, it proposed to supplement Art. 21 of the Federal Law «On Personal Data» a new rule on the obligation of operators of personal data to destroy such data, taking into account the requirements of Roskomnadzor. In addition, if the operator is not able to destroy personal data in a timely manner, then it must block them and still ensure the destruction of this data within six months.

We support the implementation of an experimental legal regime in Moscow, where a huge number of IT companies are concentrated, so that legal regulation can be tested more effectively. Otherwise, the introduction of such experiments with a «digital sandbox» in several constituent entities of the Russian Federation at once could only put the formation of a uniform practice and a working legal mechanism.

Application of AI, which is introduced into the private life of persons and is capable of replacing workers, depriving them of jobs, etc., raises a great ethical problem. In the not too distant future, the introduction of AI will lead to a reorientation of the labor market, and one can see positive consequences in this: low-skilled workers will get their jobs.

V. CURRENT ISSUES OF LEGAL REGULATION OF GENOMIC INFORMATION AT THE UNIVERSAL AND REGIONAL LEVELS

In the context of the technological revolution, there is also a need to dwell on the importance of personal data protection in the field of biotechnologies in cyberspace[580]. Biological and medical research, technological developments have led to impressive advances in health care. However, these achievements raise ethical issues that affect individuals and protection of human rights and dignity[581].

[580] Danelyan A.A., Gulyaeva E.E.: International legal aspects of cybersecurity. *Moscow Journal of International Law*. 2020; (1):44-53. https://doi.org/10.24833/0869-0049-2020-1-44-53

[581] Andrey A. Danelyan, Elena E. Gulyaeva: *Actual problems of legal regulation of genomic research at the universal and regional levels* // International Legal Courier. 2021. № 6. С. 16-37.

The "Fourth Industrial Revolution"[582] has brought to life innovative technological solutions in the biological[583], physical, and digital blocks, which are prompting states to deploy more active programs to support the digital transformation that is objectively occurring throughout the world. Today, the most important elements of social life have already been moved into a virtual space with the specific temporality of new technologies, which has led to revolutionary transformations also in the system of governance (from e-government and smart cities to the Internet of Things). "This prompts the application of political incentive mechanisms (universal digitalization programs, etc.)" in the context of the emerging digital civilization[584].

In particular, in the view of the authors, the Russian Federation has a legal instrument defining the term "confidential data related to the activities of a legal entity" - Decree of the President of the Russian Federation "On approval of the list of information of confidential nature" № 188 March 6,1997[585] which specifies the list of confidential information.

In addition to outlining the facts and private events of a citizen allowing personal identification, the list includes confi-

[582] The term was introduced in 2011 as part of the German Industry 4.0 initiative as a project of the government's Hi-Tech strategy, which is based on the mobile Internet, Artificial Intelligence and learning machines. In 2016, this topic was praised at the World Economic Forum in Davos, whose president Klaus Schwab authored a bestselling book - see: Schwab, Klaus Martin: *Technologies of the Fourth Industrial Revolution = Shaping the Fourth Industrial Revolution*. M., 2018. 320 p.

[583] On achievements in the biological sphere, new possibilities of synthetic biology and legal and ethical problems related to genetic sequencing and genomic editing see: Guliaeva E.E., Trikoz E.N.: *Legal aspects of genetic research in Latin American countries* (experience of forensic genetics in Argentina) // International Legal Courier. 2020. № 3-4. July-August. p. 56-60; Tricoz E.N. Protection of human rights in the context of the development of bioethics and genomics (review of international roundtable) // Bulletin of Peoples' Friendship University of Russia. Ser. juridical sciences. 2019. T. 23. № 1. P. 141-154; Tricoz E.N., Gulyaeva E.E. Positions of the ECtHR on some issues of bioethics and genetic data // Advances in Law Studies. Scientific and Theoretical Journal. 2018. T. 6, № 4. P. 36-40.

[584] Shestakova I.G.: New temporality of digital civilization: the future has already come. *Humanities and Social Sciences*. 2019. T. 10, N° 2. P. 26.

[585] *Garant system* // URL: http://base.garant.ru/10200083/

dential information and "information related to business activities", "service data", "information about the essence of invention, utility or industrial model prior to the official release" and "vocational-related data".

In 2021, the EU European Commission approved the European Strategy for Data[586], which focuses on putting people first in the development of technology, as well as to contribute to the protection and promotion of European values and rights in the digital world according to the EU Charter of Fundamental Rights 2000[587].

In the approved document for Data Management in Europe, the "Health data" category is specified in a separate paragraph, which aims at: improving personalized treatments, facilitating improved health services and better medical and medication-related assistance for rare or chronic diseases, which will save about 120 billion euros per year in the EU health sector and to ensure a more effective and rapid response to the global health crisis caused by COVID-19.[588] The Commission also endorsed the proposal of Member States to adopt the Pact on research and innovation in Europe the gist of which is to become a solid basis within the EU for the new European Research Area (ERA). A potential international treaty will be based on general principles of research and innovation in Europe, including such values as freedom of scientific research, equal opportunities for all, free popularization of research and knowledge, inclusiveness and social responsibility[589].

The EU market of genomic research is developing on a large scale and very rapidly. Genetic technologies are being improved and successfully implemented. That is why there is an urgent issue of enhancing legal protection and legal guarantees of con-

[586] https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/european-data-strategy_en

[587] *European Charter of Fundamental Rights of 2000*. URL: https://www.europarl.europa.eu/charter/pdf/text_en.pdf

[588] *European data governance*. URL: https://digital-strategy.ec.europa.eu/en/policies/data-governance

[589] *Commission adopts proposal for a Pact for Research and Innovation in Europe*. URL: https://ec.europa.eu/info/news/commission-adopts-proposal-pact-research-and-innovation-europe-2021-jul-16_en

fidentiality down to the safeguards of human genomic data in EU criminal law.

In the EU, among the three pillars of *Horizon Europe*, which is the funding program for research and innovation, one pillar is devoted to global challenges and European industrial competitiveness. The cluster *Health* in this pillar stresses the need to develop health technologies, mitigate health risks, protect populations as well as promote good health and well-being of citizens.[590] There are high expectations for genomic research, which has been one of the most dynamic sectors in recent decades.

Currently, the EU countries are implementing projects aimed at collecting, researching, storing, and transmitting human genetic information with the subsequent application of the acquired data in everyday life. All new technologies and developments in the field of the human genome have been widely introduced among such areas as medicine, pharmaceuticals, industrial biotechnologies, agriculture, and forensics. With the development of omics sciences, e.g. genomics, large arrays of complex data (*Big Data*) have been accumulated. This leads to a closer interaction of legal protection mechanisms with bioinformatics and biostatistics.[591]

The application of genomic sequencing technology in a number of contexts continues to grow, ranging from the detection of crime to the identification of the causes of disease. Linked to the latter, there has been increasing interest around the use of CRISPR-Cas9 DNA editing technologies, enabling precise cutting and pasting of DNA by specialized proteins.[592]

While genomic technologies and genetic engineering are developing, the EU countries are looking for new ways and methods to ensure the biosafety of both an individual and society as

[590] *Horizon Europe*. Research and Innovation Funding Programme until 2027. How to get funding, program structure, missions, European partnerships, news and events. URL: https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en.

[591] *To know more about the activities of EuBIC* (the European Bioinformatics Community for Mass Spectrometry), see https://eubic-ms.org/.

[592] JRC F7 – Knowledge Health and Consumer Safety, Overview of EU National Legislation on Genomics / *JRC Science for Policy Report*. Luxembourg: European Commission, EUR 29404 EN, 2018. P. 6. doi:10.2760/04463.

a whole. The European community is becoming more aware of the need to effectively protect constitutional and civil human rights against the backdrop of scientific studies and their subsequent application.

It is necessary to develop effective ethical and legal ways to solve the problems arising from the introduction of genetic-data-based personalized medicine technologies into medical practices. It is also important to observe the bioethical principle of justice together with the classical "do-no-harm" principle because knowing too much about a person's genome can be harmful.[593]

In 1991, the European Group on Ethics in Science and New Technologies (*EGE*) within the European Commission was established.[594] Currently, it is working on the issues of human genome editing, the use of artificial intelligence, and potential challenges to humanity.[595]

European Commission European Group on Ethics in Science and New Technologies - EGE[596] has been established within the EU European Commission. This EU institution is currently working on the topics of Human Genome Editing, Artificial Intelligence and future potential challenges to humanity. Accordingly, in May 2021, the Group submitted a document containing **"design for values", "value-sensitive design", "ethics by design"** in the context of policy and regulation of the principle of «confidentiality» in data protection and "transpar-

[593] Furrow B., Greaney T., Johnson S., Jost, T., Schwartz R.: *Bioethics: Health Care Law and Ethics (American Casebook Series)*. West Academic Publishing, 2013.

[594] European Commission European Group on Ethics in Science and New Technologies. URL: https://ec.europa.eu/info/research-and-innovation/strategy/support-policy-making/scientific-support-eu-policies/ege_en

[595] *Commission Decision (EU) 2021/156 of 9 February 2021 renewing the mandate of the European Group on Ethics in Science and New Technologies*. URL: https://eur-lex.europa.eu/eli/dec/2021/156/oj

[596] European Commission *European Group on Ethics in Science and New Technologies* – EGE. URL: https://ec.europa.eu/info/research-and-innovation/strategy/support-policy-making/scientific-support-eu-policies/ege_en (дата посещения: 14.07.2021). Commission Decision (EU) 2021/156 of 9 February 2021 renewing the mandate of the European Group on Ethics in Science and New Technologies. URL: https://eur-lex.europa.eu/eli/dec/2021/156/oj

ency and fairness" in AI management. As for the experts' input such an approach should be an integral part of European, education, production, monitoring and management of innovation and new technologies. Moreover, in the recent official statement *«Values for the future: the role of ethics in European and global governance»* importance attached to the role of values and experts emphasized the central and active role of ethics in in European and world administration[597]. Very important for legal regulation in the EU is the WHO instrument called "Proposed International Guidelines on Ethical Issues in Medical Genetics and Genetic Services".

Some experts incorporate somatic rights, genetic rights, the right to access personal data, the right to be forgotten, the right not to know and not to be informed, the right to correct and clarify personal data, etc. in the fourth-generation human rights. New achievements of the fourth industrial revolution in the field of medicine and genetic engineering provide many advantages aimed at protecting human health (ZFN, CRISPR, Antisense, TALEN, etc.). However, questions arise concerning the personal rights of each citizen, public health,[598] and the principles of humanity and genetic privacy.[599]

The Council of Europe Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine (ETS No. 164) was adopted by the participating States in Oviedo (Spain) on 4 April 1996, and

[597] The Statement points to the links between ethics and fundamental rights, democracy, and the rule of law, and the document concludes with a recommendation for EU states to involve the public in policy making. It was published on June 9, 2021, and is to be discussed at the Conference on the Future of Europe. Values for the Future: The Role of Ethics in European and Global Governance. European Commission. Directorate-General for Research and Innovation. *European Group on Ethics in Science and New Technologies*. Unit 03. 2021. URL: https://ec.europa.eu/info/research-and-innovation/strategy/support-policy-making/scientific-support-eu-policies/ege_en

[598] Leenen H.J.J., Pinet G., Prims A.V.: *Trends in health legislation in Europe*. Paris: Masson for the WHO, 1986.

[599] Clayton E.W., Evans B.J., Hazel J.W., Rothstein M.A.: The law of genetic privacy: applications, implications, and limitations // *Journal of Law Bioscience*. 2019. May. Vol. 14;6(1). P.1-36. doi: 10.1093/jlb/lsz007.

enforced on 1 December 1999.[600] Under the Convention, it is important to obtain and secure the person's consent for medical intervention and donorship as well as transplantation of human cells, tissues, organs, genetic studies of the brain, and the use of information technologies in this area, including in the processing of Big Data.[601]

This Convention is the only international legally binding instrument on the protection of human rights in the biomedical and genomic field. It is aimed at ensuring respect for human rights in the context of the technological revolution and securing the rights of patients by creating their updated code.

Today, only 17 EU Member States have fully ratified this Convention (Greece, Slovenia, and Slovakia in 1998, Spain and Denmark in 1999, Portugal, Romania, and the Czech Republic in 2001, Hungary, Cyprus, Lithuania, and Estonia in 2002, Bulgaria and Croatia in 2003, Finland in 2009, Latvia in 2010, and France in 2011). However, 5 Member States have not signed (Austria, Belgium, Germany, Ireland, and Malta); and 5 States have signed but not ratified it (Italy, Luxembourg, the Netherlands, and Sweden in 1997, Poland in 1999).

In the EU, the doctrinal regulation of the genetic information flow is done either by various instruments adopted by the UN agencies like WHO, UNESCO, etc. or by professional healthcare and bioethics organizations like the World Medical Association, the Council for International Organizations of Medical Sciences, the European Group on Ethics in Science and New Technologies, the European Bioinformatics Community, the European Bioinformatics Institute (EMBL-EBI), the European

[600] *The Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine* (ETS No 164). URL: https://rm.coe.int/168007cf98

[601] The delegation of the Ministry of Health of the Russian Federation took part in an international conference dedicated to the twentieth anniversary of the Convention on the Protection of Human Rights and Dignity with regard to the Application of Biology and Medicine. See https://www.rosminzdrav.ru/news/2017/10/25/6331-delegatsiya-minzdrava-rossii-prinyala-uchastie-v-mezhdunarodnoy-konferentsii-posvyaschyonnoy-dvadtsatiletiyu-konventsii-o-zaschite-prav-i-dostoinstva-cheloveka-v-svyazi-s-primeneniem-dostizheniy-biologii-i-meditsiny-konventsiya-o-pravah-cheloveka-i-biomeditsine-konventsiya-oviedo. (In Russian)

Society of Human Genetics,[602] the European Society of Human Reproduction and Embryology, etc.[603]

In the context of the fourth technological revolution, there is a need to discuss the importance of personal data protection in the field of human genome research in the regional and national jurisdictions of the EU Member States as well as in the European cyberspace.[604]

Biological and medical research, together with developments in the field of biotechnologies, has led to impressive achievements in health care. However, these achievements have given rise to ethical issues that affect the protection of human rights and dignity in the field of genetics, transplantation of human organs, tissues, and embryos. This is also true for the creation of national and personalized biobanks, the use of modern technologies for building health databases, etc. This triggers not only positive legal regulation but also public discussions of the so-called *genetic responsibility*.

In the European Union, general medical and genetic data is considered personal and confidential. This status was legally fixed in the Regulation of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data.[605]

The same meaning of genetic data is stated in UN instruments. In particular, WHO defines it as confidential personal information of a special socio-psychological and medical nature,

[602] European Society of Human Genetics. URL: http://www.eshg.org

[603] European Society of Human Reproduction and Embryology. URL: http://www.eshre.eu/

[604] Danel'yan A.A., Gulyaeva E.E.: Mezhdunarodno-pravovye aspekty kiberbezopasnosti [Cybersecurity in International Law]. *Moskovskiy zhurnal mezhdunarodnogo prava* [*Moscow Journal of International Law*], 2020, no. 1, pp. 44-53. doi: 10.24833/0869-0049-2020-1-44-53

[605] European Union: *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC* (General Data Protection Regulation). URL: https://eur-lex.europa.eu/eli/reg/2016/679/oj

which is important not only for the patient himself/herself but also for a wide range of his/her relatives.[606]

At the level of the Council of Europe, the relevant provisions of Article 8 of the Convention for the Protection of Human Rights and Fundamental Freedoms are interpreted by the European Court of Human Rights. The Court has repeatedly acknowledged that the protection of personal data, including medical and genetic information, is crucial to the realization of the right to respect for private and family life. The requirement to respect the confidentiality of health data is a fundamental principle in all legal systems of the Parties to the Convention.

The Council of Europe has established stricter rules for the processing of personal information related to human genes. In particular, the issue is covered in the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data of January 28, 1981.[607] The Convention contains requirements for the principles of proportionality, transparency, minimization, and legality of the collection, processing, and storage of personal data as well as privacy by design and data protection during data processing, among other things for national security. Exceptions and restrictions are possible in accordance with the provisions of the Convention under independent control and supervision. This instrument also introduces a new category of sensitive data. This is genetic data, biometric data, and data on the ethnic origin of a person. Under Article 7 "Data security" of the Convention, appropriate security measures shall be taken for the protection of personal data stored in automated data files against accidental or unauthorized destruction or accidental loss as well as against unauthorized access, alteration, or dissemination. In addition, the Convention introduces the obligation for personal data operators to notify the authorized supervisory authority about data leaks and establishes clear legal procedures for cross-border data flows as well as the obligation for authorities to report data violations.

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[606] See *Review of Ethical Issues in Medical Genetics: Report of Consultants to World Health Organization professors* Wertz D.C., Fletcher J.C., Berg K. WHO/HGN/ETH/00.4. 2003.

[607] *Complete list of the Council of Europe's treaties*. URL: http://conventions.coe.int/Treaty/en/Treaties/Html/108.htm

Article 4 of the Regulation of the European Parliament and of the Council of the European Union 2016/679 of 27 April 2016 On the protection of individuals in the processing of personal data and on the free circulation of such data and on the repeal of Directive 95/46/EC (General Regulation on the Protection of Personal Data)» by "processing" means any transaction or set of transactions involving personal data with or without automated tools such as collecting, recording, organizing, structuring, storing, modifying and changing, retrieving, counselling, use, disclosure by transferring, distribution or otherwise provision, ordering or combining, limitation, erasing or destroying.

The previously enforced Directive 2006/24/EC of the European Parliament and of the Council of 15 March 2006 on the retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks (Data Retention Directive) was revoked. On 8 April 2014, the Court of Justice of the European Union in its C-293/12 and C-594/12 Judgment declared the Directive invalid. Actually, it was declared void because its provisions contradicted the important principle of European law, which proclaims proportionality of limits on the exercise of fundamental rights.[608]

The EU pays special attention to the legal regulation of metadata processing as a tool for classifying, organizing, and characterizing data or content (so-called "data about data").[609] This includes traffic data, location-based data, etc. According to the interstate standard DIN ISO/IEC 17788-2016,[610] "data about data" is classified as "cloud service derived data" managed by the cloud computing service provider and received by the consumer of the cloud computing service through the inte-

[608] Dupan A.S. *et al. Novaya paradigma zashchity i upravleniya personal'nymi dannymi [A New Paradigm of Personal Data Protection and Management]*. Moscow, 2016, P. 27 (In Russian).

[609] See *the definition of metadata on ICANN website*. URL: https://www.icann.org/news/blog/i

[610] *The interstate standard DIN ISO/IEC 17788-2016*. URL: https://www.en-standard.eu/din-iso-iec-17788-information-technology-cloud-computing-overview-and-vocabulary-iso-iec-17788-2014/

raction with the cloud computing service. Cloud service derived data includes an event log with the information about who used the service, at what time, what functions and data types were involved, etc. There is also information about the number of authorized users and their IDs.

When assessing the appropriate protection of personal data of third countries within the European Union Regulation 2016/679, the assessors take into account the country's participation in the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data as well as participation in multilateral or regional systems for the protection of personal data and compliance with international obligations. The information is from paragraph 105 of the General Data Protection Regulation (GDPR) Preamble.

Under Articles 28 (3) and 28 (9) of the GDPR, in order to ensure data protection, a contract for the use of a cloud computing service (concluded in writing or electronically) must set out the subject-matter and duration of the processing, the nature and purpose of the processing, the type of personal data and categories of data subjects and the obligations and rights of the controller.

Chapter V "Transfer of personal data to third countries or international organizations" of the GDPR defines the procedure for cross-border transfer of personal data outside the European Union. For example, under Article 45 of the GDPR, a cross-border transfer may take place where the Commission has decided that the third country, a territory, or one or more specified sectors within that third country, or the international organization in question ensures an adequate level of protection. Moreover, such a transfer does not require any specific authorization.

A number of the EU jurisdictions provide for specific DNA databases used in criminal justice systems. These are usually designed to store DNA profiles for the identification of suspects and convicts in criminal investigations and proceedings.

The European Union and individual Member States are currently introducing criminal law regulations for the protection of personal genetic data from illegal use or forgery, from making changes to the human genome, modifying the progeny genome (the germ line), or the use of potentially harmful so-

matic gene therapies, in particular, through the use of CRISPR technologies.

Member States are supposed to refer to the Oviedo Convention, the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, the MEDICRIME Convention, and the Convention on Cybercrime. In addition, there is the European Charter of Patients' Rights (ECPR), which represents the basic rights of patients in the field of health care.

The legal landscape, regarding genomic law, human rights in the field of genetics and assisted reproductive and other biotechnologies, is evolving but still remains very heterogeneous and often contradictory.

Above in our research is a summary of the legislation of the 28 European Union countries in the field of genomic law and the safety of genetic information. Some States of the EU have a *legal vacuum* in this sphere, but we tried to provide a description of general or specific outlines and principles, ethical indications, and general laws which do not control all areas of genomic law.

The authors come to the conclusion that there is a need for timely regulatory regulation in order to prevent threats associated with the use of artificial intelligence in the automated processing of personal data containing genetic information about a person. In the context of the technological revolution, it becomes necessary to talk about the importance of protecting personal data in the field of human genome research in cyberspace, preventing a return to eugenics and the mandatory adoption of ethical and legal norms by states.

VI. NEUROSECURITY AS AN EMERGING TREND IN INTERNATIONAL LAW

We are now witnessing a burgeoning interdisciplinary field called cyberbiosecurity, which merges cybersecurity, biosecurity and cyberphysical security in terms of biological systems[611].

[611] Murch R.: *Cyberbiosecurity: An Emerging New Discipline to Help Safeguard the Bioeconomy*. DOI:10.3389/fbioe.2018.00039

It is clear that the modern medical and biotechnological developments, from genetics and neuroscience to geriatrics and palliative care, have expanded the areas of human impact on life, converting life from a formerly natural-law category to a cultural form.

The use of electrical brain stimulation techniques, the electrode implantation in the brain, have raised concerns about the impact of these practices on the patient's personality. For example, they point out that U.S. scientists in the military department have performed a transcranial direct current stimulation (tDCS) procedure, which boosts the intellectual abilities of the staff. The devices with this technology are already commercially available on the free market. In 2011, University of California, Berkeley scientists used a brain scan to recreate images from movies that people had watched in the past. You can add to this the use of brain electrostimulation for people with Parkinson's disease. After this intervention, it is not infrequent for people to experience a loss of some self-awareness.

In September 2021, at the European Association of International Law's annual conference in Stockholm, Sweden, the issues of the effects of emotions on law enforcement were debated. No matter what position one takes on the controversy, it is clear that the emotional aspects of the use of artificial intelligence in wartime warrant serious debate and careful deliberation. Rose McDermott, professor of international relations, suggests that understanding the part human emotion plays in decision making is crucial to effective and balanced policymaking in the cyber domain[612]. It is no less important to keep thinking in the terms of both international military law and humanitarian law.

The concept of "reasonable commanders" is used in international humanitarian law, most notably in the evaluation of the proportionality principle. For proponents of the use of artificial intelligence in warfare, only the absence of emotion makes it possible to come to the most streamlined decisions. But rational commanders derive their rationality not from a lack of emotion, but rather from their capacity for feeling human emotion,

[612] Rose McDermott: 'Some Emotional Considerations in Cyber Conflict' *Journal of Cyber Policy* 4(3) (2019).

empathy, compassion, and self-esteem. From the standpoint of SASV opponents, emotions are indispensable in time of war for meaningful human control. In 2016, the States Parties to the Specific Conventional Weapons Convention created a governmental expert group on SASV, which has met in Geneva every year since then. Emotions are central to the discussion of the use of artificial intelligence in time of warfare. There is no doubt that international law experts should be actively participating in the discussion of these issues.

Right to life concepts are still struggling with the evolving status of the status of human and other life forms. The Austrian scholar Stefan Kirste believes that among the three approaches that attempt to provide an answer to the right to life's content today are: a) naturalistic theories, which view the right to life as the protection of natural human rights and pro-life interests or in other words merely employing a biology-based concept of life; b) procedural theories, which interpret the right to life as a mutual recognition form; c) what some authors refer to as "the culturological perspective," describing the right to life concept on the basis of plain language or "intuition"[613].

Topicality of the issue at hand is dictated by the following factors. The first, international research projects (BRAIN, BIOS, MKUltra, Blue Brain Project, Human Brain Project, etc.) are being actively implemented all over the world nowadays, aimed at collection, research, storage and transmission of neural information about human brain, as well as further application of data acquired in daily life. Technologies related to brain neural connections are widely employed in such sectors as the military, banking, medicine, commercial biotechnology, manufacturing, marketing, game industry, forensics, and criminalistics. At the same time, the international community lacks control over the state of the bioresource medical data collections and biomaterials for medical research. Improvements in these technologies necessitate a search for new ways and methods to ensure the personal and public safety of both the individual and society as a whole.

[613] Stephan Kirste: *The Right to life as a Right to Self-Determination about one's life*. Universitat Salzburg. Pp. 19-43.

The need thus arises for the international community to realize the concept of "neurotechnology's responsible growth" and the challenges posed by the necessity to respect the constitutional and civil rights that may result from scientific studies and their eventual practical use.

Secondly, neural connectivity research in the human brain poses a range of both legal and social, ethical and moral problems. Neuroethics stands out as one of the modern trends in metaethics. Obvious advantages of the mentioned research are often accompanied by potential risks for human health and society, environment and ecology. The speed of progress of genetic and neuroscience research developments, including the application of artificial intelligence, has alarmed not only the international community, but has caused a number of prominent biotechnology scientists (D. Baltimore, P. Berg, D. Dudna and others) to put their research on hold and to request similar action from other scientists until a set of legal, ethical and technical standards in the area in question is formulated.

Thirdly, given the velocity of development and the expanding scope of human brain research, the legal regulation of this area is subject to ongoing alterations[614]. For instance, every year not only new tendencies in the human brain research emerge, but also legal regulation boundaries are expanding, and therefore a necessity for legal research and subsequent formation of a special regulatory framework is emerging[615]. The formation of new branches of law takes place at the interdisciplinary junction, as Professor V.S. Nersesyants notes.

It is becoming a serious threat today to have third parties gain access not only to our private information, but to our thoughts as well. Neuroscience technologies applied in neurobiology

[614] Juan Antonio Travieso, Angelo Viglianisi Ferraro, Elena Trikoz, Elena Gulyaeva: *Bioethical Aspects of The Institution of Human Rights in Latin America* // Racionalidad, Derecho Y Ciudadanía [livro eletronico] / Organizacao Ricardo Mauricio Freire Soares… [et al.]. Salvador, BA: Direito Levado a Serio, 2021. 177 p. – Pp. 89-101. ISBN 978-65-87020-20-4

[615] Yastrebova A.Y., Gulyaeva E.E.: The right to health in the system of international legal protection of human rights at the universal and regional level. *Moscow Journal of International Law*. 2021;(2):99-121. https://doi.org/10.24833/0869-0049-2021-2-99-121

could allow this to happen in the not-too-distant future. While legal regulation of the use of neurotechnology may not seem necessary at the moment, for now, as long as they are being used only for mapping and altering human brain activity, it is becoming a pressing issue and a cause for concern. Potential changes will occur in the international academic community as information about the human brain's neural activity is displayed and fully deciphered by researchers. Crossing of neurotechnology (NeuroNet) and law, new challenges and threats, emergence of new categories of human rights emerging in neurobiology require legal regulation [616].

Chile became officially the first state in the world to propose a bill with four main aspects of human rights protection: protecting data of the human mind or NeuroData; setting limits on neurotechnology of reading and writing in the brain especially; creating equitable distribution and availability of these technologies; and imposing legal limits on neuroalgorithms.[617]

Ultimately, the IBC report recommends that UNESCO take the lead in assuring all people the right to have their brain functioning protected and in guaranteeing that data recorded are not used, disclosed or passed on to third parties outside their informed and explicit consent. Currently, there are international discussions led by UNESCO to elaborate broad guidelines for international legal instruments to regulate the field of neurotechnology.

Therefore, there is a need in the international community to create a regulatory framework that includes the legal basis for limiting the use of neurotechnology, the legitimacy criteria for the use of modern medical technology on people, as well as providing full protection of the rights and fundamental freedoms of patients through the responsible promotion of neurotechnology, both in domestic and international law.

[616] UN expert on extreme poverty and human rights, Professor Philip Alston, in particular, recalled the enormous "potential" for human rights violations offered to states by the introduction of biometric ID cards.

[617] Chile becomes first country to pass neuro-rights law https://www.jurist.org/news/2021/10/chile-becomes-first-country-to-pass-neuro-rights-law/