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EMERGING DIGITAL TECHNOLOGIES AND THE LAW – LEGAL CHALLENGES IN THE NEW DIGITAL AGE: RESUME OF THE MONOGRAPH[1]

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ПОЯВА ЦИФРОВИХ ТЕХНОЛОГІЙ І ПРАВО – ЮРИДИЧНІ ВИКЛИКИ В НОВУ ЦИФРОВУ ЕПОХУ: РЕЗЮМЕ МОНОГРАФІЇ

АНОТАЦІЇ (ABSTRACTS), КЛЮЧОВІ СЛОВА (KEY WORDS)

A resume of monograph "Legal Challenges in the New Digital Age", which examines existing legal concepts and destructive technologies edited by Ana Mercedes Lopez Rodriguez, Michael D. Green and Maria Lubomira Kubica, the impact of digitalization on privacy and fundamental rights, new technologies in the legal field. The importance of the problem is associated with the emergence of new actors and ways of practicing law and conflict resolution, which may distort existing legal institutions and the traditional monopoly of the State on legislation and legal enforcement.

Key words: *resume; monograph; digital technologies; legal concepts; legal institutions*

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Надане резюме монографії " Юридичні виклики в нову цифрову епоху" під редакцією Ана Мерседес Лопес Родрігес, Майкла Д. Гріна та Марії Любоміри Кубіці, в якій розглядаються існуючі правові концепції та руйнівні технології, вплив цифровізації на конфіденційність та основні права, нові технології в правовому полі. Важливість проблеми пов'язують із появою нових суб'єктів та способів здійснення юридичної діяльності та врегулювання конфліктів, що можуть порушити існуючі правові інститути та традиційну монополію держави на законодавство та правозастосування.

Ключові слова: *резюме; монографія; цифрові технології; правові концепції, правові інститути*

A new era of technology and industry has arrived, fostered by an increasing digitization and driven by three disruptive technologies: artificial intelligence (AI), blockchain and the Internet of Things (IoT). Some have called it the Fourth Industrial Revolution.

Digitizing means converting or encoding continuous data or information, such as a photographic image, a document or a book into digits. Through digitization, something real (physical, tangible) is converted into numerical data so that it can be processed by a computer for different purposes. In other words, digitization involves moving from a continuous reality to a discontinuous reality made up of bits (zeros and ones).

The increasing digitalization gives rise to profound changes in society, culture, politics, economics, business and the law. In the legal field, these developments pose numerous challenges, for example, wedging new phenomena into traditional frameworks or how to deal with new powers of control over others. And all it is happening at an un-

1 Legal Challenges in the New Digital Age
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precedented devilish pace. A rather overwhelming situation for most lawyers, used to working with traditional institutions and values. How can we contribute to a digital development that respects basic postulates of justice, equality, and equity? Is it possible to transform legal provisions and principles into mere digits, without losing a shred of meaning and content? How can we lawyers approach these challenges to become doers instead of just hearers?

We are also witnessing the emergence of new actors and ways of practicing law and conflict resolution, which may distort existing legal institutions and the traditional monopoly of the State on legislation and legal enforcement. Among the numerous existing initiatives, we can mention projects such as *Legalese* (legalese.com), a software startup that sets up mechanisms for business management without the intervention of lawyers or *Kleros* (Kleros.io), an online dispute resolution platform, that leverages blockchain and crowdsourcing to provide an efficient resolution system for a number of frequent consumer disputes in areas such as e-commerce, collaborative economy and others. It is a revolutionary development, where typical legal tasks are taken over by artificial agents – issuing awards or administrative decisions, doing legal research, or drafting contracts etc. A twist that implies much more than replacing humans with typewriters and photocopy machines; it means taking away from human beings tasks where law is understood and formed.

The recently published *Legal Challenges in the New Digital Age*, Brill, 2021, ISBN: 978-90-04-44739-4, addresses a wide range of these legal issues related to emerging technologies. Edited by Ana Mercedes Lopez Rodriguez, Michael D. Green and Maria Lubomira Kubica, with a Foreword by Gregory C. Keating, the Book's sixteen chapters are written by highly qualified international practitioners and academics from different jurisdictions.

The Book is divided in three parts.

Part I "Existing Legal Concepts and Disruptive Technologies"

Chapter 1, on *Tort Law and New Technologies*, addresses the impact of emerging digital technologies (autonomous vehicles, AI etc.) on the field of tort liability (damage and insurance liability). Written by Eugenia Dacoronia, member of the Expert Group on Liability and New Technologies promoted by the European Commission, the Chapter reflects on the obstacles resulting from the specific characteristics of digital technologies that can hinder victims from claiming damages or result in an unfair or inefficient allocation of liability. Likewise, it recaps the most important findings of the Report on Liability for Artificial Intelligence proposed by the Expert Group on how liability regimes should be designed–and, where necessary, changed–in order to rise to the challenges emerging digital technologies.

Chapter 2, on *Geo-blocking and EU Competition Law in the Digital Era*, deals with the common feature of geo-blocking practices, namely, their territoriality. Its author, Michele Messina discusses whether the first evaluation of the (EU) Regulation 2018/302 pertaining to geo-blocking, which came into effect in December 2018, may contribute to address its negative effects. According to the author, the first evaluation of the Geo-blocking Regulation should necessarily consider the extension of its application to copyright protected content, while also considering the possible extension to audiovisual services. Copyright protected content should no longer have a national territorial extension and should ensure no more than an "appropriate remuneration" to the right holder.

Chapter 3, written by Manuel A. Gómez, is entitled *(In)fallible Smart Legal Contracts*. This Chapter analyzes whether smart contracts are real contracts from a legal point of view, as well as the relationship between smart contracts and the legal system. It also discusses the application of national legislation and some of the major treaties that govern international commerce to smart legal contracts. The author finally reflects on whether smart contracts will be a complete replacement for traditional contracts, or for all human involvement in commerce.

Chapter 4, *An Analysis on the Application of the UNCITRAL Model Law on Electronic Transferable Records on Contract Automation and Metadata*, seeks to analyze the application of the United Nations Commission on International Trade Law's ("UNCITRAL") Model Law on Electronic Transferable Record ("MLETR") on contract automation and metadata. The authors, Irene Ng and Jurij Lampič, provide a high-level overview of selected concepts in contract automation by focusing on "smart contracts" and trying to address the associated confusion. They also present a legal response to these technological developments at the international trade law level, i.e. the MLETR; and illustrate the interplay between the two on a relatively neglected feature, i.e. metadata. In doing so, this Chapter provides (i) a background on the UNCITRAL MLETR (Section 2), (ii) a high-level overview of contract automation, smart contracts and related

hybrid code-law approaches (Section 3), (iii) a definition and background on metadata (Section 4), (iv) the implementation of metadata and smart contract and corresponding issues (Section 5) and (v) an analysis of the interaction between the MLETR, metadata and smart contracts with practical scenarios of the potential of MLETR, metadata and smart contracts in commercial transactions (Section 6).

Chapter 5 is entitled *The Electronic Devices Used for Testamentary Disposition under Polish Law*. The author, Wojciech Bańczyk, discusses the influence of modern technology on the forms of testamentary disposition. The Chapter illustrates the example of Polish law, whose traditional testamentary forms are being challenged by doctrine, by some comparative analysis vis-à-vis the situation under US law in which significant legislative steps have been taken. The author also suggests some *de lege ferenda* developments, including a permissive interpretation of form requirements that should be limited to confirming actual testamentary intent and allowing electronic testaments.

Chapter 6, *EU Customs Regulation, Patent Assertion Entities and the New Surge of Abusive Practices in Europe*, deals with the phenomenon of "patent trolling". This phenomenon is no longer confined to the US, but it is now also a European reality. The Chapter's author, Matteo Dragoni, analyzes concrete actions that should be taken at the EU level in order to assess whether the regulations in place, in particular, EU Regulation 608/2013, which was designed to help IP rights holders defend themselves against counterfeiting, are still balanced in a scenario in which they can be used by Patent Assertions Entities (PAEs) to aggressively assert their rights with little or no consequences for PAEs in case the claim is later found to be without merit.

Part II "The Impact of Digitalization on Privacy and Fundamental Rights"

Chapter 7, on *General Data Protection Regulation, Fundamental Rights and Private International Law*, examines the scope of Directive 95/46 and of Regulation 2016/679 on the protection of individuals regarding the processing of personal data and the free movement of such data using the categories of private international law and trying to explain the reasons and the consequences of the unilateral attitude of the EU legislator. According to its author, Giulia Rossolillo, this attitude originates from the will to protect European values and fundamental rights and imply a lack of trust in the standards of protection offered by extra-EU legislations, which obliges anyone who wants to access EU market to adjust his conduct to EU standards. However, when the consequences of the application of the GDPR are at stake, as recently underlined by the Court of Justice, the point of view of third States must be considered and the effects of the application of the Data Protection Regulation are limited to the territory of the member States.

Chapter 8, called *Legal and Ethical Implications of eHealth Big Data—A Comparative Perspective between Japan and Catalonia*, provides a comparative overview of two parallel developments which are taking place regarding so-called medical data, medical electronic data, or eHealth data, as it is also called, in Japan and in the Catalonia region (Spain). This chapter shows how different projects have been developed in parallel in each country to extract value from digital data related to patients' health. According to its author, Albert Ruda, despite differences with respect to the languages, cultures and the economies and societies of both Japan and Catalonia, eHealth poses similar problems from a legal perspective. The paper thus describes how some of those difficulties may be overcome by good planning and management on the part of the parties in charge of the development of the eHealth data project. In particular, it describes the steps taken to deploy a digital system to make so-called 'secondary use'—i.e., non-clinical use—of eHealth data possible and even economically profitable. To achieve this, first a section is devoted to the so-called 'health data explosion'. After that, the chapter analyses the Catalan case and the Japanese case.

In Chapter 9, under the heading *Artificial Intelligence in Criminal Courts: Opportunity or Threat?*, Luca Lupària Donati discusses the pros and the cons of three fields of application of algorithms in criminal justice: (i) facial recognition technology, that uses an algorithm to create a template by analysing images of human faces in order to identify or verify a person's identity; (ii) predictive policing tools, that can be used to make inferences about the commission of future crimes on many different levels; and (iii) risk assessment instruments, that are statistical models used to predict the probability of a particular future outcome and that have especially gained importance in pre-trial detention and release decisions. The Chapter deals with the application of these three fields in different national systems (such as the US and the UK), and focus on the guarantees that have to be granted and followed in utilizing AI tools in criminal courts, police

stations, public prosecutor offices, to achieve a balance between efficiency and fundamental rights.

Chapter 10, entitled *Coping with Identity Theft and Fear of Identity Theft in the Digital Age*, explores the effect of identity theft and fear of online identity theft on home users' online protection motivation. Discerning the relationship between prior victimization experiences and fear of identity is another goal of this Chapter. To these ends, the dataset of Crime Survey for England and Wales 2018/2019 are analyzed. The research applies Bayesian Structural Equation Modelling (Bayesian SEM) analysis method to test four hypotheses informed by prior research. Based on these theoretical perspectives, the author, Naci Akdemir, proposes that higher levels of fear of identity theft, which is impacted by previous cybercrime victimization and particular demographic characteristics, increases perceived risk of repeat victimization, thereby motivating users to employ coping strategies.

The issue of *Algorithmic Dispute Resolution* is discussed in Chapter 11. The author, Rafael Carlos del Rosal Carmona analyzes if a decision made by an algorithm could possibly be considered an arbitral award. The chapter studies this question in the context of international awards, which benefit from a relatively favorable enforcement regime with some common rules and principles. Even though there are many potential legal problems that could arise, this chapter focuses on issues related to the scope of the disputes and of the procedures, the necessary requirements of impartiality and independence, and concerns about public policy and arbitrability. For each of these points, the author explains the relevant rules and principles in arbitration, and explores if they could be applicable to algorithmic dispute resolution.

The last Chapter of Part II, Chapter 12, deals with the topic *Social Media as Monitoring Tools in the Workplace. A Threat to Employees' Right to a Private Life?* Here, Stefania Casiglia assesses the effective protection of the right to privacy in the workplace. Monitoring powers can be supported by the so-called "Social Web", through which it is possible to check workers' performance and behavior, even outside the workplace and working hours, making it easier to result in an unjustified violation of their right to privacy. To find a proper balance between privacy in the workplace and surveillance, the peculiar features of the present social media galaxy are stressed, focusing on how the use of social media is both liable to compromise the stability of the employment relationship and, consequently, to be usefully exploited by employers, to check employees' performance and conduct. The analysis of the specific privacy issues stemming from social media monitoring in the workplace moves to several critical considerations developed regarding the capability of the current international and European regulatory framework on the matter to guarantee the effective protection of the right to privacy in the workplace. The final aim is to outline new criteria which must be considered when balancing the right to privacy in the workplace and the social media monitoring powers of the employee and which consider the pervasive character of such monitoring operations and the peculiar weakness of the employee as a social media user.

Part III "Implementing New Technologies in the Legal Field"

In Chapter 13, I examine different ways in which blockchain may be applied for social good, including the protection of human rights. Blockchain is a disruptive technology which offers transparency that could improve human rights practices in several ways. It has the potential to enable individuals and communities to redesign their interactions in politics, business, and society in general, with an unprecedented degree of disintermediation, using decentralized technologies, which are not based on trust. Consequently, I reflect on how blockchain has the potential to help create a just society, redistribute wealth, strengthen human rights and assist in humanitarian issues. Attention is, however, paid to the potential dangers of producing greater inequality, for the billions of people that remain offline.

Chapter 14 is entitled *The Spoken Word, the Written Word and the Digital Word*. Here, Flavia Loureiro argues that the digital word needs to be thought of, as a new reality, as an *aliud*, and, to that extent, to be addressed autonomously, taking into account its idiosyncrasies and, above all, mandatorily re-weighing the balance between the instruments that aim to collect it for use in criminal proceedings and the fundamental guarantees of citizens.

In Chapter 15, called *Personalization of Consumer Contracts—Should We Personalize Interpretation Rules?,* Katarzyna Południak-Gierz addresses issues related to decoding the content of a contract concluded with the use of personalizing mechanisms (i.e. a personalized agreement) between an entrepreneur and a consumer. In these contracts, technology affects the traditional way of deciding on the wording of the contract. Accordingly, the Chapter attempts to verify whether these changes may deem current interpretation stand-

ards inadequate. To propose an interpretation guideline for personalized consumer contracts, chosen regulatory and doctrinal approaches are examined, their weaknesses are identified, and the optimal procedure is sought. Firstly, the effects of applying current rules on interpretation [stemming from Art. 2 of Directive (EC) 1999/44 on certain aspects of the sale of consumer goods and associated guarantees towards personalized consumer contracts are assessed. The results of the analysis are contrasted with the possible outcome of applying the new rules on the conformity of Directive (EU) 2019/770 on certain aspects concerning contracts for the supply of digital content and digital services and of Directive (EU) 2019/771 on certain aspects concerning contracts for the sale of goods. The Chapter evaluates the adequacy of these groups of regulations for the interpretation of personalized agreements. Finally, the innovatory approach is shown, based on the *granular law* idea.

To conclude, Chapter 16, under the heading *The Fate of Law as Technology and Technology as Legal Reasoning. The Red Queen Effect in Smart Cities*, examines smart cities in the context of the Sustainable Developments Goals. In this regard, the author, María Luisa Gómez Jiménez, proposes a new theory to explain the lack of fulfilment of public goals for those facing the technological challenge in the political arena. Two key examples illustrate her proposal. The first has to do with the idea of "resilience" and the second with the idea of interface and social networks. These examples enable the author to detect a so-called the *Red Queen Effect* in Public Law with a specific projection in the phenomenon of Smart cities.

Familiarity with the intricacies of emerging technologies is essential for judges, practitioners, legal staff, business people and scholars. Accordingly, this Book's combination of highly thought-provoking topics and in-depth analysis will prove indispensable to all interested parties.

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