Grupo de Pesquisa



Direitos Fundamentais e Democracia na Era Digital

# A INTELIGÊNCIA ARTIFICIAL

A (DES)SERVIÇO DO ESTADO DE DIREITO

COORDENADOR José Adércio Leite Sampaio

### **ORGANIZADORAS**

Meire Furbino Lavínia Assis Bocchino Maria Jocélia Nogueira Lima







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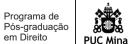
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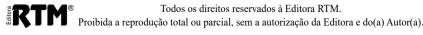
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SEÇÃO III
Mini glossário

### DIGITAL CONSTITUTIONALISM: HOW FUNDAMENTAL RIGHTS ARE TURNING DIGITAL<sup>1</sup>

Edoardo Celeste<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Assistant Professor in Law, Technology and Innovation; Coordinator of the LAW\_AND\_TECH Research Cluster, School of Law and Government, Dublin City University, Ireland.

<sup>&</sup>lt;sup>2</sup> Chapter for the book edited by Prof José Adércio Leite Sampaio (Pontificia Universidade Católica de Minas Gerais 2021)

### 1 INTRODUCTION: A NEW CONSTITUTIONAL MOMENT

A series of ongoing transformations in contemporary society are challenging existing constitutional law apparatuses.<sup>3</sup> The changes prompted by the digital revolution in relation to ourselves, our relationships with other individuals and, ultimately, in the society at large ferment under a vault of constitutional norms that have been shaped for 'analogue' communities. However, the constitutional ecosystem does not lie inert. Existing constitutional settings are being modified or integrated in a way that better addresses the transformations of the digital age. We are witnessing a new constitutional moment: a complex process of constitutionalisation is currently under way.

A multiplicity of normative counteractions is emerging to address the constitutional challenges of the digital revolution. They attempt to reaffirm our core fundamental rights in the digital context and to rebalance new asymmetries of power. The increased power of states that, through the use of digital technology, have gained even more control over the lives of their citizens. But also, the power of the new 'silicon giants',<sup>4</sup> potent multinational companies that, by managing digital products and services, *de facto* influence the way in which we enjoy our fundamental rights. A paradigmatic example is the progressive development of data protection law. An area of law that has profound constitutional implications, as it is designed to limit the power of public and private actors to control our digital body, and in parallel aims to strengthen a series of positive rights of the individuals, such as their capability to freely develop their personality in the online world.

However, interestingly, this complex process of constitutionalisation of the digital society is not concerted centrally: there is no single constitutional framer. As in a vast construction site there are several contracting companies working at the same time, so, in a globalised environment, constitutionalisation simultaneously occurs at different societal levels. Not only in the institutional perimeter of nation-states, but also beyond: on the international plane, in the private fiefs of multinational technology companies, within the civil society. The sense of this Gordian knot of multilevel normative responses can be deciphered only if these emerging constitution

<sup>&</sup>lt;sup>3</sup> This work builds on Chapter 5 of my doctoral thesis 'Digital Constitutionalism: The Internet Bills of Rights' (University College Dublin, 2020).

<sup>&</sup>lt;sup>4</sup> Stefano Rodotà, 'Una Costituzione per Internet?' [2010] Politica del diritto 337.

nal fragments are interpreted as complementary tesserae of a single mosaic. Each one surfacing with a precise mission within the constitutional ecosystem, each one compensating the shortcomings of the others in order to realise a common aim: translating the core principles of contemporary constitutionalism in the context of the digital society. Or, in other words: achieving a 'digital constitutionalism'.

The purpose of this chapter is to introduce the notion of digital constitutionalism and, in particular, to define its relationship with contemporary constitutionalism. Indeed, is digital constitutionalism a new form of constitutionalism? By adapting its core values to face the mutated context of the digital society, is the constitutional ecosystem radically changing its core tenets? Does digital constitutionalism represent a constitutional revolution, or is it rather a physiological evolution of constitutionalism in the digital age?

This chapter will proceed in four parts. Considering the great level of ambiguity and inconsistency within the scholarship, section 2 will preliminary clarify the distinction between the notion of constitutionalism and the often interchangeably used concept of constitutionalisation. Section 3 will explain that constitutionalism is a historical concept, whose main values and principles have constantly evolved, and are still evolving today. Section 4 will then introduce the concept of digital constitutionalism and will analyse the idea of projecting the values of contemporary constitutionalism in the digital age. Lastly, section 5 will assess the transformative character of digital constitutionalism. The chapter will conclude that digital constitutionalism does not represent a Copernican revolution, but a necessary evolution of contemporary constitutionalism in the context of the digital age.

### 2 CONSTITUTIONALISM VS CONSTITUTIONALISATION

Constitutionalisation and constitutionalism are not two interchangeable concepts. Unfortunately, the scholarship sometimes uses these two terms as synonyms.<sup>5</sup> Several authors attempted to systematically define the

<sup>&</sup>lt;sup>5</sup> Rossana Deplano, 'Fragmentation and Constitutionalisation of International Law: A Theoretical Inquiry' [2013] European journal of legal studies.how it affects subsequent international practice and its connection with political institutions. This article questions the validity of the use of constitutional concepts as a means for interpreting international law. An argument is made that current contributions on international constitutionalism are grounded on unstated assumptions. It is maintained that in order to restore coherence

meanings of the trio constitution-constitutionalism-constitutionalisation.<sup>6</sup> Yet, it seems that a certain nebulosity on the matter still persists.<sup>7</sup> Un-

and unity within the international legal system, interpretations of international law should be carried out through interpretive means that are specifically conceived for international law. This article shows that although constitutionalism may be featured as an autonomous concept of international law, it is not able to restore coherence and unity within the international legal system. Therefore, it cannot be regarded as a remedy to the phenomenon of fragmentation.","container-title":"European journal of legal studies","IS-SN":"1973-2937","language":"en","source":"cadmus.eui.eu","title":"Fragmentation and constitutionalisation of international law: a theoretical inquiry", "title-short":"Fragmentation and constitutionalisation of international law","author":[{"family":"Deplano","given":"Rossana"}],"accessed":{"date-parts":[["2019",8,15]]},"issued":{"date-parts":[["2013"]]}},"label":"page"}],"schema":"https://github.com/citation-style-language/schema/raw/master/csl-citation.json"}

<sup>6</sup> See Paul Craig, 'Constitutions, Constitutionalism, and the European Union' (2001) 7 European Law Journal 125; Anne Peters, 'Compensatory Constitutionalism: The Function and Potential of Fundamental International Norms and Structures' (2006) 19 Leiden Journal of International Law 579; Karolina Milewicz, 'Emerging Patterns of Global Constitutionalisation: Towards a Conceptual Framework' (2009) 16 Indiana Journal of Global Legal Studies 413.coupled with the EU Charter of Fundamental Rights, have fuelled the debate about a European Constitution. This paper begins by examining the nature of constitutions and constitutionalism. The focus then turns to the EU itself. It is argued that the Community has indeed been transformed into a constitutional legal order, and that the arguments to the contrary are not convincing. This does not however mean that the EU has, or should have, a European Constitution cognisable as such which draws together the constitutional articles of the Treaties, together with the constitutional principles articulated by the European Court of Justice. The di'culties with this strategy are examined in detail, and the conclusion is that we should not at present pursue this course. It would be better to draw on the valuable work done by the European University Institute in its recent study in order to simplify and consolidate the Treaties.","container--title": "European Law Journal", "DOI": "10.1111/1468-0386.00124", "ISSN": "13515993, 14680386", "issue": "2", "language": "en", "page": "125-150", "source": "Crossref", "title":"Constitutions, Constitutionalism, and the European Union", "volume":"7", "author":[{"family":"Craig","given":"Paul"}],"issued":{"date-parts":[["2001",6]]}},"label":"page","prefix":"See"},{"id":141,"uris":["http://zotero.org/users/3500466/items/ QKCI7XST"],"uri":["http://zotero.org/users/3500466/items/QKCI7XST"],"itemData":{"id":141,"type":"article-journal","abstract":"The article conceives international (or global

<sup>7</sup> See Deplano (n 3); Peer Zumbansen, 'Comparative, Global and Transnational Constitutionalism: The Emergence of a Transnational Legal-Pluralist Order' (2012) 1 Global Constitutionalism 16; Anne Peters and Klaus Armingeon, 'Introduction: Global Constitutionalism from an Interdisciplinary Perspective' (2009) 16 Indiana Journal of Global Legal Studies 385; Aoife O'Donoghue, Constitutionalism in Global Constitutionalisation (Cambridge University Press 2014).how it affects subsequent international practice and its connection with political institutions. This article questions the validity of the

doubtedly, the absence of a common definition of the notion of constitution does not help.<sup>8</sup> Moreover, the application of these terms in the fields of international law and legal sociology has amplified their degree of semantic flexibility and further nuanced the boundaries of their expressive contours.<sup>9</sup> However, it is possible to present a basic distinction between the two concepts, on which the scholarship seems to generally agree.

use of constitutional concepts as a means for interpreting international law. An argument is made that current contributions on international constitutionalism are grounded on unstated assumptions. It is maintained that in order to restore coherence and unity within the international legal system, interpretations of international law should be carried out through interpretive means that are specifically conceived for international law. This article shows that although constitutionalism may be featured as an autonomous concept of international law, it is not able to restore coherence and unity within the international legal system. Therefore, it cannot be regarded as a remedy to the phenomenon of fragmentation.","container-title":"European journal of legal studies","IS-SN":"1973-2937", "language": "en", "source": "cadmus.eui.eu", "title": "Fragmentation and constitutionalisation of international law: a theoretical inquiry", "title-short": "Fragmentation and constitutionalisation of international law", "author": [{"family": "Deplano", "given": "Rossana" \} ], "accessed": {"date-parts": [["2019", 8, 15]] \}, "issued": {"date-parts":[["2013"]]}},"label":"page","prefix":"See"},{"id":1652,"uris":["http:// zotero.org/users/3500466/items/NI89JYCY"],"uri":["http://zotero.org/users/3500466/ items/NI89JYCY"],"itemData": {"id":1652,"type":"article-journal", "abstract": "Abstract Comparative lawyers have for more than a century sought to increase the understanding of 'foreign' legal orders and regulatory systems. Despite some never fully resolved methodological questions, great advances have been made in the comparative study of different regulatory areas both in 'private' (contract, tort, corporate, labour <sup>8</sup> See Herbert John Spiro, 'Constitution', Encyclopedia Britannica (2018) <a href="https://www.">https://www.</a> britannica.com/topic/constitution-politics-and-law> accessed 23 October 2018; Roger A Shiner, 'Constitutions' in Enrico Pattaro (ed), A Treatise of Legal Philosophy and General Jurisprudence, vol 3 'Legal Institutions and Sources of Law' (Springer 2005); Dieter Grimm, Constitutionalism: Past, Present, and Future (Oxford University Press 2016); Giovanni Sartori, 'Constitutionalism: A Preliminary Discussion' (1962) 56 The American Political Science Review 853.

<sup>&</sup>lt;sup>9</sup> See Federico Fabbrini, 'The Constitutionalization of International Law: A Comparative Federal Perspective' (2013) 6 European journal of legal studies 7; Jan Klabbers, Anne Peters and Geir Ulfstein, *The Constitutionalization of International Law* (Oxford University Press 2009); Christoph B Graber, 'Bottom-up Constitutionalism: The Case of Net Neutrality' (2016) 7 Transnational Legal Theory 524; Chris Thornhill, *A Sociology of Constitutions: Constitutions and State Legitimacy in Historical-Sociological Perspective* (Cambridge University Press 2013); Gunther Teubner, *Constitutional Fragments: Societal Constitutionalism and Globalization* (Oxford University Press 2012).{\international Fragments: Societal Constitutionalism and Globalization} (Oxford University Press 2012)

The concept of constitutionalisation denotes a process. 10 The suffixisation characterises a procedure, an operation; it implies the idea of advancement, progression, and evolution. It may have occurred in the past, be still ongoing, or be advocated in a normative sense for the future. Conversely, constitutionalism is a 'theory', 11 a 'movement of thought', 12 a 'conceptual framework', 13 a 'set of values', 14 an 'ideology'. 15 Again, an analysis of the term itself can be of help. The suffixism does not imply the idea of process; it denotes a more static concept. 16 An ism is a 'a distinctive practice, system, or philosophy, typically a political ideology or an artistic movement'. 17 Neglecting for a moment the question of what the actual principles of constitutionalism – the aims of this ideology – are, one could argue that, lato sensu, constitutionalisation is the process of implementation of constitutionalism. Constitutionalisation would put into effect the values of constitutionalism or, regarded the other way around, constitutionalism would provide the principles that permeate, guide, inform constitutionalisation.18

<sup>&</sup>lt;sup>10</sup> See Girardeau A Spann, 'Constitutionalization' [2004] Saint Louis University Law Journal 709; Milewicz (n 4); Garrett Wallace Brown, 'The Constitutionalization of What?' (2012) 1 Global Constitutionalism 201; Aoife O'Donoghue, 'Alfred Verdross and the Contemporary Constitutionalization Debate' (2012) 32 Oxford Journal of Legal Studies 799; Antje Wiener and others, 'Global Constitutionalism: Human Rights, Democracy and the Rule of Law' (2012) 1 Global Constitutionalism 1.

<sup>&</sup>lt;sup>11</sup> Jeremy Waldron, 'Constitutionalism: A Skeptical View' [2010] Philip A. Hart Memorial Lecture <a href="https://scholarship.law.georgetown.edu/hartlecture/4">https://scholarship.law.georgetown.edu/hartlecture/4</a>; see also Ingolf Pernice, 'Global Constitutionalism and the Internet. Taking People Seriously.' in Stefan Kadelbach and Rainer Hofmann (eds), *Law Beyond the State: Pasts and Futures* (Campus Verlag 2016) 7 <a href="http://ssrn.com/abstract=2576697">http://ssrn.com/abstract=2576697</a>, according to whom constitutionalism is a form of 'theoretical thinking'.

<sup>&</sup>lt;sup>12</sup> Marco Bani, 'Crowdsourcing Democracy: The Case of Icelandic Social Constitutionalism' (Social Science Research Network 2012) SSRN Scholarly Paper ID 2128531 <a href="https://papers.ssrn.com/abstract=2128531">https://papers.ssrn.com/abstract=2128531</a>> accessed 15 August 2019.

<sup>&</sup>lt;sup>13</sup> Zumbansen (n 5).great advances have been made in the comparative study of different regulatory areas both in 'private' (contract, tort, corporate, labour)

<sup>&</sup>lt;sup>14</sup> O'Donoghue (n 5).

Edoardo Celeste, 'Digital Constitutionalism: A New Systematic Theorisation' (2019)
International Review of Law, Computers & Technology 76.

<sup>&</sup>lt;sup>16</sup> See Waldron (n 9); Milewicz (n 4).

<sup>&</sup>lt;sup>17</sup> Oxford Dictionary of English (Third Edition, Oxford University Press 2010).

<sup>&</sup>lt;sup>18</sup> Celeste, 'Digital Constitutionalism' (n 13).

### 3 THE VALUES OF CONSTITUTIONALISM

Constitutionalism evolves. This concept does not denote a process, as we have seen, but this does not contradict the fact that its underlying values, ideals, principles have changed over time. The notion of constitutionalism emerged at the beginning of the nineteenth century as a response to absolute monarchy and popular despotism. <sup>19</sup> It advocated the adoption of a constitution, a written legal text establishing the fundamental law of a country, and, at the same time, its primacy over the discretion of rulers. <sup>20</sup>

<sup>&</sup>lt;sup>19</sup> András Sajó and Renáta Uitz, *The Constitution of Freedom: An Introduction to Legal Constitutionalism* (Oxford University Press 2017) ch 1; Harold J Berman, *Law and Revolution. The Formation of the Western Legal Tradition* (Harvard University Press 1983); Graber (n 7).

See Milewicz (n 4); Sajó and Uitz (n 17) chs 1 and 8; Berman (n 17); Peters (n 4)."ISBN":"978-0-19-104603-2","publisher":"Oxford University Press","publisher--place":"Oxford","title":"The Constitution of Freedom: An Introduction to Legal Constitutionalism", "title-short": "The Constitution of Freedom", "author": [{"family": "-Sajó", "given": "András"}, {"family": "Uitz", "given": "Renáta"}], "accessed": {"date-parts":[["2018",10,22]]},"issued":{"date-parts":[["2017"]]}},"locator":"1and 8", "label": "chapter" \, \{"id": 1672, "uris": \["http://zotero.org/users/3500466/items/ EAKUN529"],"uri":["http://zotero.org/users/3500466/items/EAKUN529"],"itemData":{"id"::1672,"type":"book", "abstract":"The roots of modern Western legal institutions and concepts go back nine centuries to the Papal Revolution, when the Western church established its political and legal unity and its independence from emperors, kings, and feudal lords. Out of this upheaval came the Western idea of integrated legal systems consciously developed over generations and centuries. Harold J. Berman describes the main features of these systems of law, including the canon law of the church, the royal law of the major kingdoms, the urban law of the newly emerging cities, feudal law, manorial law, and mercantile law. In the coexistence and competition of these systems he finds an important source of the Western belief in the supremacy of law. Written simply and dramatically, carrying a wealth of detail for the scholar but also a fascinating story for the layman, the book grapples with wideranging questions of our heritage and our future. One of its main themes is the interaction between the Western belief in legal evolution and the periodic outbreak of apocalyptic revolutionary upheavals. Berman challenges conventional nationalist approaches to legal history, which have neglected the common foundations of all Western legal systems. He also questions conventional social theory, which has paid insufficient attention to the origin of modem Western legal systems and has therefore misjudged the nature of the crisis of the legal tradition in the twentieth century.","ISB-N":"978-0-674-02085-6","language":"en","number-of-pages":"674","publisher":"Harvard University Press", "source": "Google Books", "title": "Law and Revolution. The Formation of the Western Legal Tradition","author":[{"family":"Berman","given":"Harold J."}],"issued":{"date-parts":[["1983"]]}},"label":"page"},{"id":141,"uris":["http:// zotero.org/users/3500466/items/QKCI7XST"],"uri":["http://zotero.org/users/3500466/ items/QKCI7XST"],"itemData": {"id":141,"type": "article-journal", "abstract": "The arti-

The power of the government should be legitimated by the constitution, an expression of popular sovereignty, and should be bound by the constitution, which represents its ultimate limit.<sup>21</sup> No actor in society should detain at the same time the legislative, executive and judiciary power.<sup>22</sup> No ruler should be *absolutus*, unrestricted from the control of other institutional organs whose power derives from the constitution. At the outset, constitutionalism was an ideology, a movement of thought that claimed the values of the rule of law and the separation of power.

This normative vision of society championed by the original constitutionalism was subsequently enriched with other ideals. Democracy definitively supplanted other forms of government and established itself as a foundational value.<sup>23</sup> Besides a negative, limitative approach, claiming the restriction of the power of rulers by law and the institution of a system of checks and balances, constitutionalism also developed a positive aspect, pivoting around individual empowerment.<sup>24</sup> In this way, the ultimate mission of constitutionalism, the limitation of power, was reoriented towards the protection of fundamental rights and, ultimately, the safeguarding of human dignity.<sup>25</sup>

Looking back before the nineteenth century, one could identify forms of constitutionalism within other ages. One could talk of a Greek or Roman constitutionalism, for instance.<sup>26</sup> However, this intellectual exercise is only possible analogically and by extension. Gerhard Casper rightly

cle conceives international (or global

<sup>&</sup>lt;sup>21</sup> See Waldron (n 9); András Sajó, *Limiting Government: An Introduction to Constitutionalism* (Central European University Press 1999); Wil Waluchow, 'Constitutionalism' in Edward N Zalta (ed), *The Stanford Encyclopedia of Philosophy* (Spring 2018, Metaphysics Research Lab, Stanford University 2018) <a href="https://plato.stanford.edu/archives/spr2018/entries/constitutionalism/">https://plato.stanford.edu/archives/spr2018/entries/constitutionalism/</a> accessed 16 August 2019; Peters (n 4)."plainCitation":"See Waldron (n 9

<sup>&</sup>lt;sup>22</sup> See Richard Bellamy, 'Constitutionalism', *Encyclopædia Britannica* (2019) <a href="https://www.britannica.com/topic/constitutionalism">https://www.britannica.com/topic/constitutionalism</a>> accessed 16 August 2019.

<sup>&</sup>lt;sup>23</sup> See Sajó and Uitz (n 17) ch 3; Nicholas W Barber, *The Principles of Constitutionalism* (Oxford University Press 2018) ch 6; see also Pernice (n 9).

<sup>&</sup>lt;sup>24</sup> See Barber (n 21) ch 1; Waldron (n 9).

<sup>&</sup>lt;sup>25</sup> See Sajó and Uitz (n 17) chs 1 and 10; Milewicz (n 4); Pernice (n 9).

<sup>&</sup>lt;sup>26</sup> See Charles Howard McIlwain, *Constitutionalism: Ancient and Modern* (Amagi, originally published by Cornell University Press, 1947, 2007).

observed that constitutionalism does not refer simply to having a constitution, but to having a particular kind of constitution.<sup>27</sup>

When one thinks of constitutionalism, one generally implies the values underlying contemporary constitutionalism, the ideology that progressively developed from the big revolutions of the end of the eighteenth century. Constitutionalism is today synonymous with the values of democracy, the rule of law and the separation of powers. Constitutionalism is associated with the idea of the protection of all fundamental rights that have been gradually recognised over the past few centuries, be they civil, political, socio-economic or cultural. However, what today no longer holds true is the necessary connection of the idea of constitutionalism with the nation state.

The values of constitutionalism historically ripened in the context of the state.<sup>29</sup> However, over the past few decades, in a society that has become increasingly more global, the centrality of the state has faded due to the emergence of other dominant actors in the transnational context.<sup>30</sup> The scholarship has therefore started to transplant the constitutional conceptual machinery beyond the state, including the concept of constitutionalism.<sup>31</sup> The myth of the compulsory link between constitutionalism and the state is debunked.<sup>32</sup> As Hamann and Ruiz Fabri state, today 'it appears that any polity can be endowed with or can acquire constitutional features'.<sup>33</sup> Consequently, the constitutional ecosystem becomes plural, composite and fragmented.<sup>34</sup> If the values of constitutionalism remain the same in their

<sup>&</sup>lt;sup>27</sup> Gerhard Casper, 'Constitutionalism' in Leonard W Levy, Karst L Kenneth and Dennis J Mahoney (eds), *Encyclopedia of the American Constitution* (1986th edn, Macmillan) 474.

<sup>&</sup>lt;sup>28</sup> See Sajó and Uitz (n 17) chs 1 and 10.

<sup>&</sup>lt;sup>29</sup> See Grimm (n 6).

<sup>&</sup>lt;sup>30</sup> See Petra Dobner and Martin Loughlin (eds), *The Twilight of Constitutionalism?* (Oxford University Press 2010).

<sup>31</sup> See Grimm (n 6) ch VII and VIII.

<sup>&</sup>lt;sup>32</sup> See Ulrich K Preuss, 'Disconnecting Constitutions from Statehood: Is Global Constitutionalism a Viable Concept?' in Petra Dobner and Martin Loughlin (eds), *The Twilight of Constitutionalism*? (Oxford University Press 2010).

A Hamann and H Ruiz Fabri, 'Transnational Networks and Constitutionalism' (2008)International Journal of Constitutional Law 481, 503.

<sup>&</sup>lt;sup>34</sup> Neil Walker, 'The Idea of Constitutional Pluralism' (2002) 65 The Modern Law Review 317; Teubner (n 7); see also Paul Blokker, 'Modern Constitutionalism and the Chal-

essence, their articulation in specific contexts, within and beyond the state, necessarily becomes 'polymorphic'.<sup>35</sup>

### 4 DIGITAL CONSTITUTIONALISM

Contemporary constitutionalism was not extracted from the rock of history as a monolithic marble block. Constitutionalism developed more like an onion. Its inner fundamental values progressively shaped further external layers: principles budding to face the emerging complexities of the society. In the words of Chris Thornhill:

Constitutional norms are constructed as layers within the evolving inclusionary structure of the political system; new constitutional norms are articulated, progressively, as society's political system is exposed to challenges and demands, which it cannot absorb, and as it requires additional normative complexity to sustain its functions of inclusion. The key to understanding constitutions, in consequence, is to examine constitutional norms as a historically constructed,

lenges of Complex Pluralism' in Gerard Delanty and Stephen P Turner (eds), *Routledge International Handbook of Contemporary Social and Political Theory* (Routledge 2011) <a href="https://papers.ssrn.com/abstract=1719258">https://papers.ssrn.com/abstract=1719258</a>> accessed 22 August 2018."plainCitation":"-Neil Walker, 'The Idea of Constitutional Pluralism' (2002)

<sup>35</sup> See Walker (n 32).nor more comprehensively challenged than it is today. The development of new constitutional settlements and languages at state and post-state level has to be balanced against the deepening of a formidable range of sceptical attitudes. These include the claim that constitutionalism remains too state-centered, overstates its capacity to shape political community, exhibits an inherent normative bias against social developments associated with the politics of difference, provides a language easily susceptible to ideological manipulation and, that, consequent upon these challenges, it increasingly represents a fractured and debased conceptual currency. A rehabilitated language of constitutionalism would meet these challenges through a version of constitutional pluralism. Constitutional pluralism recognises that in the post-Westphalian world there exists a range of different constitutional sites and processes configured in a heterarchical rather than a hierarchical pattern, and seeks to develop a number of empirical indices and normative criteria which allow us to understand this emerging configuration and assess the legitimacy of its development.","container-title":"The Modern Law Review","DOI":"10.1111/1468-2230.00383","ISSN":"1468-2230","issue":"3","language":"en","page":"317-359","source":"Wiley Online Library","title":"The Idea of Pluralism", "volume": "65", "author": [{"family": "Walker", "given": "-Constitutional Neil"}],"issued":{"date-parts":[["2002"]]}},"prefix":"See"}],"schema":"https://github. com/citation-style-language/schema/raw/master/csl-citation.json"}

adaptive apparatus, which is closely correlated with distinct *inclusionary pressures* in society.<sup>36</sup>

Today, analogue constitutional principles cannot anymore solve all the challenges of the digital society. The external shape of constitutionalism necessarily changes again. New constitutional layers are progressively added to those already in existence. Novel principles emerge to articulate the fundamental values of constitutionalism in light of the problematic issues of contemporary society.<sup>37</sup> The scale of transformation prompted by the advent of the digital revolution is such that one can neatly distinguish the multiplicity of new normative layers embracing or even incorporating older ones. A fresh sprout within the constitutionalist theory: what one could call 'digital constitutionalism'.

Digital constitutionalism is a useful shorthand to denote the theoretical strand that advocates for the translation of the core values of constitutionalism in the context of the digital society.<sup>38</sup> At first sight, however,

Thornhill (n 7) 9, original emphasis. Chris Thornhill examines the social role and legitimating status of constitutions from the first quasi-constitutional documents of medieval Europe, through the classical period of revolutionary constitutionalism, to recent processes of constitutional transition. A Sociology of Constitutions explores the reasons why modern societies require constitutions and constitutional norms and presents a distinctive socionormative analysis of the constitutional preconditions of political legitimacy\".","collection-number":"Book, Whole","event-place":"Cambridge","ISBN":"052111621X","publisher":"Cambridge University Press","publisher-place":"Cambridge","title":"A sociology of constitutions: constitutions and state legitimacy in historical-sociological perspective", "author":[{"family":"Thornhill","given":"Chris"}],"issued":{"date-part-s":[["2013"]]}},"locator":"9","label":"page","suffix":", original emphasis"}],"schema":"https://github.com/citation-style-language/schema/raw/master/csl-citation.json"}

<sup>&</sup>lt;sup>37</sup> Cf. Osvaldo Saldías, 'Patterns of Legalization in the Internet: Do We Need a Constitutional Theory for Internet Law?' (Social Science Research Network 2012) SSRN Scholarly Paper ID 1942161 paras 5–6 <a href="https://papers.ssrn.com/abstract=1942161">https://papers.ssrn.com/abstract=1942161</a> accessed 19 August 2019.

such a descriptor could appear as misleading.<sup>39</sup> The adjective 'digital' does not directly qualify the substantive 'constitutionalism'. It is not akin to expressions such as 'democratic constitutionalism' or 'liberal constitutionalism' in which, respectively, democracy and liberalism characterise a newly acquired orientation of the theory of constitutionalism.<sup>40</sup> 'Digital' is

<sup>&</sup>lt;sup>39</sup> See Edoardo Celeste, 'What Is Digital Constitutionalism?' (*HIIG Science Blog*, 31 July 2018) <a href="https://www.hiig.de/en/what-is-digital-constitutionalism/">https://www.hiig.de/en/what-is-digital-constitutionalism/</a>> accessed 31 August 2018."plainCitation": "See Edoardo Celeste, 'What Is Digital Constitutionalism?' (HIIG Science Blog, 31 July 2018)

See Blokker (n 32); Michael W Dowdle and Michael Wilkinson (eds), Constitutionalism beyond Liberalism (Cambridge University Press 2016), political, and legal theory. At the same time, the nature, form, and distinct functions of the constitution in - and increasingly also beyond - modern democratic societies is an evermore frequent object of dispute. Notwithstanding the identification of a global trend, of the last half century or so, of convergence to an 'amplified' form of modern constitutionalism around a form of 'new constitutionalism', more recent trends of pluralization seem to provoke profound changes in the nature of modern constitutionalism and its theorization. While the trends in some ways seem to amplify legalistic and monistic tendencies, they also indicate strong corrosive and diversifying implications for the modern constitutional template. The trends discussed are the fragmentation of sovereignty, cultural pluralism, and substantive or interpretative pluralism. The argument is that the challenges of complex pluralism undermine many of the constraining features of modern constitutionalism, but, while in some cases forms of autonomy and democratic participation are strengthened, in many others, constitutional pluralism tends to further compromise the democratic dimension of constitutionalism. In a normative sense, the chapter critically discusses a number of theoretical reflections on these challenges, and in particular emphasises those approaches that search for the potential reinforcement of participatory, open-ended, and inclusive dimensions in the current constitutional predicament.","container-title":"Routledge International Handbook of Contemporary Social and Political Theory", "event-place": "Abingdon-York", "language": "en", "page": "406-416", "publisher": "Routledge", "publisher--place": "Abingdon-New York", "source": "papers.ssrn.com", "title": "Modern Constitutionalism and the Challenges of Complex Pluralism","URL":"https://papers.ssrn.com/ abstract=1719258", "author": [{"family": "Blokker", "given": "Paul"}], "editor": [{"family":"Delanty", "given": "Gerard" }, {"family": "Turner", "given": "Stephen cessed":{"date-parts":[["2018",8,22]]},"issued":{"date-parts":[["2011"]]}},"label":"page","prefix":"See"},{"id":171,"uris":["http://zotero.org/users/3500466/items/ YY724G67"],"uri":["http://zotero.org/users/3500466/items/YY724G67"],"itemData":{"id":171,"type":"book","call-number":"K3165 .C6239 2016","event-place":"Cambridge-New York","ISBN":"978-1-107-11275-9","publisher":"Cambridge University Press","publisher-place":"Cambridge-New York","source":"Library of Congress IS-BN","title":"Constitutionalism beyond liberalism","editor":[{"family":"Dowdle","given": "Michael W." }, {"family": "Wilkinson", "given": "Michael" }], "issued": {"date-parts":[["2016"]]}}, "label": "page"}], "schema": "https://github.com/citation-style-language/ schema/raw/master/csl-citation.json"}

rather an adverbial conveying the idea that one is referring to that strand of the constitutional theory that seeks to articulate principles for the digital society.<sup>41</sup> Similarly, the scholarship has talked of 'global' or 'international' constitutionalism, which Anne Peters defines as:

a strand of thought (an outlook or perspective) and a political agenda which advocate the application of constitutional principles, such as the rule of law, checks and balances, human rights protection, and democracy, in the international legal sphere in order to improve the effectivity and the fairness of the international legal order.<sup>42</sup>

In these terms, Celeste, 'What Is Digital Constitutionalism?' (n 37); Celeste, 'Digital Constitutionalism' (n 13).the incessant development of digital technology and its disruptive impact on contemporary society have affected the relative equilibrium of the constitutional ecosystem. A series of normative counteractions are emerging to face the challenges of digital technology and restore a condition of relative equilibrium. Edoardo Celeste argues that digital constitutionalism is...", "container-title": "HIIG Science Blog", "language": "en-US", "title": "What is digital constitutionalism?", "URL": "https:// www.hiig.de/en/what-is-digital-constitutionalism/", "author":[{"family":"Celeste", "given": "Edoardo" \}, "accessed": \{"date-parts": [["2018", 8, 31]] \}, "issued": \{"date-parts":[["2018",7,31]]}},"label":"page","prefix":"In these terms,"},{"id":656,"uris":["http:// zotero.org/users/3500466/items/IYW8UIVS"],"uri":["http://zotero.org/users/3500466/ items/IYW8UIVS"],"itemData": {"id":656,"type":"article-journal","container-title":"International Review of Law, Computers & Technology","DOI":"10.1080/13600 869.2019.1562604", "ISSN": "1360-0869, 1364-6885", "issue": "1", "language": "en", "page":"76-99", "source": "Crossref", "title": "Digital constitutionalism: a new systematic theorisation","title-short":"Digital constitutionalism", "volume": "33", "author": [{"-bel":"page"}], "schema": "https://github.com/citation-style-language/schema/raw/master/ csl-citation.json"}

Peters (n 4) 583.the many meanings of those concepts have not yet been fully explored and disentangled. The paper suggests a specific understanding of those concepts. It highlights various aspects and elements of micro- and macro-constitutionalization in international law, and identifies anti-constitutionalist trends. On this basis, the paper finds that, although no international constitution in a formal sense exists, fundamental norms in the international legal order do fulfill constitutional functions. Because those norms can reasonably be qualified as having a constitutional quality, they may not be summarily discarded in the event of a conflict with domestic constitutional law. Because the relevant norms form a transnational constitutional network, and cannot be aligned in an abstract hierarchy, conflict-solution requires a balancing of interests in the concrete case. Finally, because constitutionalism historically and prescriptively means to ask for a legitimate constitution, a constitutionalist reading of the international legal order provokes the question of its legitimacy. This question is pressing, because state sovereignty and consent are – on good grounds – no longer accepted as the sole source of legitimacy of international law. International constitutionalism – as understood in this paper – does not ask for

The notion of 'digital constitutionalism', and, more broadly, the idea of projecting constitutionalism in the context of the digital environment, is not new. However, the scholarship employed this concept in an inconsistent way.<sup>43</sup> Fitzgerald talked of 'informational constitutionalism' to denote state law, in particular in the fields of intellectual property, competition, contracts and privacy, aiming to limit the power of tech companies to self-regulate.<sup>44</sup> For Berman, 'constitutive constitutionalism' advocates for an expansion of the reach of US constitutional law to encompass those pri-

state-like forms of legitimacy of a world government, but stimulates the search for new mechanisms to strengthen the legitimacy of global governance.","container-title":"Leiden Journal of International Law", "language": "en", "page": "579-610", "source": "papers. ssrn.com", "title": "Compensatory Constitutionalism: The Function and Potential of Fundamental International Norms and Structures", "title-short": "Compensatory Constitutionalism", "volume": "19", "author": [{"family": "Peters", "given": "Anne"}], "issued": {"date-parts":[["2006"]]}},"locator":"583","label":"page"}],"schema":"https://github.com/ citation-style-language/schema/raw/master/csl-citation.json"} Digital constitutionalism and global constitutionalism have different points in common, such as the identification of constitutional patterns beyond the state. On the same point, see Edoardo Celeste, 'Terms of Service and Bills of Rights: New Mechanisms of Constitutionalisation in the Social Media Environment?' (2019) 33 International Review of Law, Computers & Technology 122, para 4.1 ff. However, they remain distinct concepts with a different focus: the first one on the digital society, while the latter on the international legal sphere. On this point, see Vagias Karavas, 'Review Essay - Some Remarks on the Constitutionalisation of Cyberspace' (2012) 3 German Law Journal <a href="http://www.germanlawjournal.com/">http://www.germanlawjournal.com/</a> index.php?pageID=11&artID=219>. More generally on global and international constitutionalism, see, ex multis, Jan Klabbers, 'Constitutionalism Lite' (2004) 1 International Organizations Law Review 31; Ronald MacDonald and Douglas Johnston (eds), Towards World Constitutionalism: Issues in the Legal Ordering of the World Community (Brill 2005); Peters (n 4); CEJ Schwöbel, 'Situating the Debate on Global Constitutionalism' (2010) 8 International Journal of Constitutional Law 611; Thomas Kleinlein, 'Between Myths and Norms: Constructivist Constitutionalism and the Potential of Constitutional Principles in International Law' (2012) 81 Nordic Journal of International Law 79; Anne Peters, 'Global Constitutionalism' in Michael T Gibbons (ed), The Encyclopedia of Political Thought (John Wiley & Sons 2014). {\\if} Towards World Constitutionalism: Issues in the Legal Ordering of the World Community} (Brill 2005

<sup>&</sup>lt;sup>43</sup> For a comprehensive and detailed analysis of the literature on the topic, see Celeste, 'Digital Constitutionalism' (n 13).

<sup>&</sup>lt;sup>44</sup> See Brian Fitzgerald, 'Software as Discourse? A Constitutionalism for Information Society' (1999) 24 Alternative Law Journal 144.

vate actors.<sup>45</sup> In Suzor, 'digital constitutionalism' is a project seeking to articulate a set of limits on private powers that affect how individuals can enjoy their rights in the digital world. The values of state constitutional law would inform the adoption of ordinary statutes imposing a series of minimal guarantees that tech companies should respect in self-regulating their products and services.<sup>46</sup> Karavas praised a form of digital constitutionalism without the state, or, at least, with its intervention kept to a minimum. The communities of cyberspace should be able to self-constitutionalise themselves in a bottom-up and incremental way. State judges should play only a maieutic role, socratically teaching what the basic rules in creating valid constitutional norms are.<sup>47</sup> Redeker, Gill and Gasser, lastly, employed the notion of digital constitutionalism to connect the emergence of a series of non-binding declarations of Internet rights which aim to set limits on both public and private power in the digital context.<sup>48</sup>

At first sight, all of these interpretations of digital constitutionalism appear different. However, they are not incompatible as, if comprehensively regarded, they reveal themselves as multiple facets of a broader unitary picture. <sup>49</sup> They all deal with the issue of the limitation of power of dominant actors and, when considered together, they recognise the existence of a plurality of normative instruments translating constitutional values in the digital society, both emerging in the state context, such as constitutional and ordinary law, and beyond, as in the case of private companies'

<sup>&</sup>lt;sup>45</sup> Paul Berman, 'Cyberspace and the State Action Debate: The Cultural Value of Applying Constitutional Norms to "Private" Regulation' (2000) 71 University of Colorado Law Review 1263. According to the so-called 'state action doctrine', US constitutional law only applies to the conduct of public actors.

<sup>&</sup>lt;sup>46</sup> See Nicolas Suzor, 'Digital Constitutionalism and the Role of the Rule of Law in the Governance of Virtual Communities' (phd, Queensland University of Technology 2010) <a href="https://eprints.qut.edu.au/37636/">https://eprints.qut.edu.au/37636/</a> accessed 30 August 2018; Nicolas Suzor, 'The Role of the Rule of Law in Virtual Communities' (2010) 25 Berkeley Technology Law Journal 1817.

<sup>&</sup>lt;sup>47</sup> See Vagias Karavas, 'Governance of Virtual Worlds and the Quest for a Digital Contitution' in Christoph B Graber and Mira Burri-Nenova, *Governance of Digital Game Environments and Cultural Diversity: Transdisciplinary Enquiries* (Edward Elgar Publishing 2010).

<sup>&</sup>lt;sup>48</sup> Dennis Redeker, Lex Gill and Urs Gasser, 'Towards Digital Constitutionalism? Mapping Attempts to Craft an Internet Bill of Rights' (2018) 80 International Communication Gazette 302; for a critical analysis, see Celeste, 'Digital Constitutionalism' (n 13).

<sup>&</sup>lt;sup>49</sup> See Celeste, 'Digital Constitutionalism' (n 13) para 4.

self-regulation. Ultimately, these various readings provide plausibility for the wider vision that sees digital constitutionalism as the theoretical strand of contemporary constitutionalism that is adapting core constitutional values to the needs of the digital society. Digital constitutionalism advocates the perpetuation of foundational principles, such as the rule of law, the separation of powers, democracy and the protection of human rights, in the mutated scenario of the digital society. It triggers a complex process of constitutionalisation of the virtual environment, which occurs through a multiplicity of constitutional counteractions, both within and beyond the state. Century-old values are translated in normative principles that can speak to the new social reality. Digital constitutionalism reiterates that digital technology does not create any secluded world where individuals are not entitled to their quintessential guarantees.

### 5 CONCLUSION: A NEW CONSTITUTIONALISM?

Digital constitutionalism represents the conceptual lymph of the current constitutional moment. It normatively advocates a reconfiguration of the constitutional framework. Analogue norms are no longer able to address the full range of complexities of the virtual environment. A series of normative counteractions are emerging to implement the principles of a constitutionalism rethought for the digital age. The current constitutional moment, too, has a 'transformative impact'.<sup>50</sup> Core constitutional values are generalised and subsequently re-specified in light of the characteristics of the contemporary society.<sup>51</sup> Constitutionalism is translated in a language that speaks to the actors of the virtual environment. In this way, old principles become more easily applicable in new societal contexts. Further corollaries, and even novel norms emerge to express foundational constitutional values in the digital society.

<sup>&</sup>lt;sup>50</sup> JHH Weiler, The Constitution of Europe: 'Do the New Clothes Have An Emperor?' And Other Essays on European Integration (Cambridge University Press 1999) 4.

The idea of a process of generalisation and re-specification of constitutional principles was first advanced in Gunther Teubner, 'Societal Constitutionalism; Alternatives to State-Centred Constitutional Theory?' in Christian Joerges, Inger-Johanne Sand and Gunther Teubner (eds), *Transnational Governance and Constitutionalism. International Studies in the Theory of Private Law* (Hart 2004); see also Teubner (n 7); Celeste, 'Digital Constitutionalism' (n 13).

This process of constitutionalisation is still ongoing; yet, it is legitimate to ask: are we facing an evolution or a revolution of contemporary constitutionalism? Is reshaping constitutionalism for the digital age merely a way to enhance its fitness vis-à-vis the mutated conditions of the social reality? Or does it imply a more radical change of paradigm?

Two decades ago, Fitzgerald wrote:

Once upon a time it was thought (and taught) that constitutionalism was a legal and political concept that defined the exercise of power by national public institutions. So much has changed. Nowadays constitutionalism must be defined more broadly to encompass the exercise of power in the private sphere by, amongst others, corporations, groups and individuals and the growing significance of international institutions (including multinational corporations (MNCs)) to our daily lives.<sup>52</sup>

The extended scope of digital constitutionalism in comparison with its analogue version could be mentioned as apparent evidence of the revolutionary nature of the current constitutional moment. Constitutionalism is no longer anchored to the nation state. In the digital age, it promotes ways to limit the power of all dominant actors, be they public or private.<sup>53</sup> Overlooking the capability of non-state actors to affect individual rights would be anachronistic, and would ultimately fail to safeguard human dignity, which can be equally violated by public and private hands.<sup>54</sup>

According to Suzor, the present circumstances would necessarily require

[...] a new constitutionalism – a new way of thinking about the power that technology companies wield and the discretion they exercise over our lives. To constitutionalize power means to impose limits on how rules are made and enforced. Constitutionalism is the difference between lawlessness

<sup>&</sup>lt;sup>52</sup> Fitzgerald (n 42).

<sup>53</sup> See Fitzgerald (n 42).

<sup>&</sup>lt;sup>54</sup> Celeste, 'Digital Constitutionalism' (n 13) para 3.5 and 4.2; see also Redeker, Gill and Gasser (n 46); cf. Lex Gill, Dennis Redeker and Urs Gasser, 'Towards Digital Constitutionalism? Mapping Attempts to Craft an Internet Bill of Rights' (2015) Berkman Center Research Publication No 2015-15 <a href="https://papers.ssrn.com/abstract=2687120">https://papers.ssrn.com/abstract=2687120</a> accessed 30 August 2018, where a conception of digital constitutionalism still anchored to the idea of limitation of power of public actors is present.

and a system of rules that are fairly, equally, and predictably applied. We should expect the technology companies that rule over us to take on the hard work, now, to develop their own constitutional protections that can help ensure that *our* rights are protected.<sup>55</sup>

One is also tempted to evoke the advent of a new form of constitutionalism because constitutional moments generally represent the apex of a transformative process. Adaptations and transformations have always been integral components of the vital cycle of constitutionalism. However, today, constitutional counteractions emerge in response to a digital revolution that is violently shaking the existing constitutional architecture. Existing constitutional norms, which were shaped for an analogue society, are under unprecedented stress. One therefore envisages the need for immediate, drastic transformations. Digital constitutionalism would represent an appeal to urgently take a remedial action: a last minute, normative SOS. Teubner indeed observes:

The functionally differentiated society appears to ignore earlier chances of self-correction; to ignore the fact that sensible observers draw attention to the impending danger with warnings and incantations. In the self-energizing processes of maximizing sub-rationalities, self-correction seems to be possible only at the very last minute. The similarity with individual addiction therapies is obvious: 'Hit the bottom!' It must be one minute before midnight. Only then, today's addiction society has a chance of self-correction. Only then is the understanding lucid enough, the suffering severe enough, the will to change strong enough, to allow a radical change of course. [...] The Kuhnian paradigm shift in science appears to be a similar phenomenon, where aberrations from the current dominant paradigms are dismissed as anomalies until the point where the 'theory-catastrophe' forces a paradigm shift.57

If the digital revolution is regarded as a looming and inexorable cataclysm, the extent of the constitutional change is dramatized too. The constitutional ecosystem has still to fully realise the severity of the storm that

<sup>&</sup>lt;sup>55</sup> Nicolas Suzor, *Lawless. The Secret Rules That Govern Our Digital Lives* (Cambridge University Press 2019) 9, original emphasis.

<sup>&</sup>lt;sup>56</sup> See Teubner (n 7) 82.

<sup>&</sup>lt;sup>57</sup> Teubner (n 7) 82.

it has started to navigate. It has waited until the last minute to understand the necessity to react against the challenges of the digital revolution, and now one has the impression that the normative transformations needed will represent a Copernican revolution.

Certainly, the emergence of constitutional counteractions is not evidence that supports the vision of a constitutional ecosystem that is riding the digital revolution on the crest of the wave – this is true. However, from an objective standpoint, the current constitutional moment does not represent a radical upheaval.<sup>58</sup> We are not facing a change of paradigm that is indelibly transforming the shape of our constitutional identity. We are not witnessing a transition from democracy to technocracy, for example.<sup>59</sup> Digital constitutionalism does not advocate a *tabula rasa* of our core constitutional values. On the contrary, it is deeply rooted in these foundational principles.

Digital constitutionalism champions their translation in the context of the digital society. Innovation, of course, occurs — it suffices to think to the fact that digital constitutionalism seeks to limit the power of private actors too. The societal context unavoidably imposes similar changes. However, this does not subvert the original constitutional paradigm founded on the values of democracy, the rule of law, the separation of powers, and the protection of human rights. Digital constitutionalism perpetuates these constitutional principles in a mutated social reality: in the digital society, the DNA of contemporary constitutionalism is ultimately preserved.

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<sup>&</sup>lt;sup>58</sup> See Celeste, 'Digital Constitutionalism' (n 13) para 2.

<sup>&</sup>lt;sup>59</sup> See Emilio Castorina, 'Scienza, tecnica e diritto costituzionale' [2015] Rivista AIC <a href="http://www.rivistaaic.it/la-scienza-costituzionalistica-nelle-transizioni-istituziona-li-e-sociali.html">http://www.rivistaaic.it/la-scienza-costituzionalistica-nelle-transizioni-istituziona-li-e-sociali.html</a>>.

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Vive-se em uma "sociedade em rede" em que o virtual assume protagonismo e dita regras comportamentais. A Revolução 3.0 traz novas condições de vida, e os mecanismos digitais parecem mudar os rumos da humanidade. Não se sabe bem para onde. Os smartphones se atualizam constantemente para trazer facilidades em serviços e economizar tempo gasto em tarefas cotidianas, enquanto, por outro lado, os variados tipos de uso da rede mundial de computadores absorvem o tempo dos usuários em entretenimentos e propagação de informações nem sempre verdadeiras. A sociedade de informação é também a sociedade da desinformação. Os empregos ou equivalentes funcionais são sublocados em atividades arriscadas e com rebaixamento da proteção social, excepcionados aqueles que se encontram no topo das carreiras das *big techs*. Estas, por sua vez, invadem o imaginário e manipulam o consumidor, ao induzir a compras infindáveis, já que a privacidade é disponibilizada gratuitamente.

Nem o relógio convencional, nem o relógio cronológico determinam mais a passagem exata do tempo. O humano emprestou seu protótipo para o desenvolvimento de um novo tipo de inteligência, quiçá superior ao originário, a inteligência artificial (IA). A cada dia, o humano é mais invadido pela máquina, a falar-se de transumanismo, cujo resultado (e riscos) ainda é indefinido.

O Estado Democrático de Direito sofre as ameaças constantes das novas formas de persuasão, ditadas pelo poder das grandes empresas, que estão a impor um sistema regido pelos algoritmos. O real e o virtual, o fato e o *fake*, se fundem em um só tempo e espaço, levantando sombras sobre o futuro. É necessário o direcionamento das novas tecnologias para promoção da democracia, dos direitos humanos e da sustentabilidade.

Os capítulos desta obra propõem uma visão crítica sobre essas várias nuances, perspectivas, riscos e potencialidades. É, de fato, uma leitura inquietante, mas, ao mesmo tempo, reveladora da necessidade de se adequar aos novos tempos e, por isso, obrigatória.

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