Neuro-Rights and New Charts of Digital Rights: A Dialogue Beyond the Limits of the Law

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ABSTRACT

In this article, the authors address some of the most pressing issues that stem from the relationship between the technological advancements of the twenty-first century and legal regulation. The development of neurotechnology and artificial intelligence (AI), while offering considerable opportunities for the betterment of social life, also poses unprecedented risks. These challenges manifest in a wide variety of topics. Areas such as human rights treaties, antitrust law, property law, and labor law are affected by these developments. The risks associated with the unregulated use of neurotechnology and AI do not cease at the sectorial stage. Some of the values upon which current democratic systems and governance models are built could be equally threatened. In anticipation of the harming potential of unmitigated technological advances, some governments and international institutions have enacted legal provisions to regulate the current digital landscape. These normative instruments, including the Chilean Constitutional Amendment and European Charts of Digital Rights, are also analyzed in the following pages. The purpose of this article is not purely descriptive,

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but rather to spark a debate among legal scholars and experts in their respective fields. The approach followed here, dialogical in its nature, may provide a model for further collaboration. It is the authors' understanding that the regulation of neurotechnology and AI requires an interdisciplinary approach that is transnational in its scope.

I. INTRODUCTION

It can be argued that one of the characteristic features of social life in the twenty-first century is the pervasiveness of technology. Words such as blockchain, AI, or data that were previously ostracized to the margins of specialised journals have now become mainstream. The technological developments that have been taking place in the last decades have changed the social, economic, and political landscape in an unapologetically and decisive way. It cannot be denied that some of these inventions have had many positive consequences. Technology has been shown to be extremely adept at fostering productivity and improving human connectivity. However, its destructive potential is equally impressive.

The consolidation of a relatively new branch of science—neurotechnology—could be added to the list of promising tools in the pursuit of human enhancement. The advancements in this area have allowed scientists to achieve an unprecedented knowledge of the way the brain functions and its structure. This information is susceptible to abuse by different subjects: unregulated corporations, autocratic governments, or other bad actors present in the global sphere. In the near future, essential values could be threatened by unregulated and inhuman technological development. The potential harm caused by the misuse of this type of technology is immeasurable: the generalized loss of privacy, the deterioration of democratic systems, and the erosion of societal bonds are part of a future in which the legal system does not adapt to accommodate the needs of citizens in the digital era. Hence, neurotechnology carries the same opportunities and risks accompanying the aforementioned advancements.

Another consequence of these technological advancements is the increasing instability of our legal systems. When faced with the prospect of an everchanging reality, such as technology, some of the cracks in traditional legal institutions are revealed. Law, both as a discipline and as a social construct, is particularly prone to outdatedness. The ossified nature of legal rules is hardly reconcilable with the imperatives derived from technological progress. The constant evolution of technology is a trend that does not show symptoms of exhaustion. This context raises many questions, some of which are presented here: What should be the

role of law in this globalized and deeply unstable context? How to strike a balance between the different, and often contradictory, interests at stake? Among the different possible options (soft law, regulation, charts of rights) what should be the preferred normative instrument to tackle these challenges?

These are some of the questions that inspired the organization of the academic seminar *Digital Transformation of Government: Towards a Digital Leviathan?*, a joint initiative between the *Indiana Journal of Global Legal Studies* and the University Carlos III de Madrid (UC3M). Even though the proposed questions do not have an easy answer, there are some principles that should guide any normative reaction to this issue. First of all, it was evident from the beginning that the solution to the many challenges posed by the surge of new technological developments worldwide demands a transnational and interdisciplinary approach based on cooperation. The following article has been written in the spirit of these considerations.

The main goal of this article is to facilitate dialogue from various areas of expertise with intersecting concerns relating to digitalization processes. Specifically, the dialogue is set up between two disciplines: neurotechnology and law, the respective fields of expertise of its two authors, Rafael Yuste and Tomás de la Quadra Salcedo. The contents of the following pages consist of an adaptation of some of the ideas that were expressed during those seminars. Their nuanced thought gives testimony to the complexity of the subject at hand, that being the task of dealing with the regulatory risks resulting from the processes of digitalization and the development of new branches of science, such as neurotechnology. To focus the debate and introduce the reader to some of the ideas that will be analysed below, the article now describes the structure and some of the main ideas that make up the core of the position of both authors.

Rafael Yuste is a renowned scholar and scientist specialised in neurotechnology, who works at Columbia University. Since the launch of the BRAIN initiative,[1] a programme aimed at developing neurotechnology to map and alter brain activity, which he inspired, he is regarded as one of the most authoritative voices in his area. His leadership of the Morningside Group has placed him in a privileged position as an interlocutor in matters related to the creation of a corpus of new legal rights. One that includes a new category of rights of which he is an ardent proponent. The concept that articulates his contribution is that of "neuro-rights." In his opinion this new category is the key to

1. *See* Alivisatos A.P. et al., *The Brain Activity Map and the Challenge of Functional Connectomics*, 74 NEURON 970, 970–74 (2012).

harmonise the contradicting interests derived from recent technological developments. Therefore, it should be the backbone of any future regulatory strategy. Such an approach, based on the principle of human dignity, could allow the scientific community to preserve the freedom required to continue with the greatly needed research that is being carried out daily (the treatment of neurological diseases that are, to this day, incurable; the enhancement of human capabilities; etc.) while erecting the necessary safeguards against the banalization of technology. As the reader will have the chance to discover, the different neuro-rights that are described by the author are an ingenious solution to the duality present in every scientific advancement of significance from its challenges to its opportunities. By the end of his presentation the author alludes to the positive experience with the Republic of Chile and the approved amendment to article 19 of the constitution of a provision aimed at protecting cerebral activity and the information drawn from it. This example is complemented by the attempt to update the Human Rights Charter by the United Nations. These examples shed an optimistic light on the position of those that advocate in favour of the consolidation of neuro-rights at the international stage.

If Rafael Yuste's exposition perfectly centres the debate by encapsulating the main challenges that society will face in the upcoming decades, the contribution of Tomás de la Quadra-Salcedo complements that of his coauthor by providing a complete analysis of the legal responses that are currently being enacted in anticipation of those same challenges. Thus, the debate that is currently taking place at the European level in relation to the guiding principles of the digital society is one of the topics that stands out from his exposition. De la Quadra-Salcedo also reflects on the evolution of the regulation on this area, and he analyses some of the previous attempts to base the legal system on individual rights adapted to the digital reality. However, his contribution to the current debate does not limit itself to a mere recollection of past regulatory proposals. After said compilation, the author introduces one of the issues that to this day perplex those that enter the debate on the regulatory needs of AI: the adequacy of previous legal categories in the digital landscape. Through a series of examples derived from diverse areas of law, he pushes forward the thesis that there is a need to recontextualize traditional legal forms and bring them to the present. In the author's opinion, it is imperative to overcome the notion that reduces the immense regulatory problems of the present to the mere concept of "data." This idea is then reinforced in the following epigraph. As it is stated by the author: "All the scenarios posed by the new digital reality require an exercise of reflection that will probably lead to the redefinition of many of the traditional rights." In the same

vein as his coauthor, de la Quadra-Salcedo concludes his exposition by remarking on the importance of an approach based on human dignity. Such a principle constitutes the founding pillar upon which the European Bill of Digital Rights is built.

The work of both authors constitutes an exemplary invitation to collaboration between different legal traditions on both sides of the Atlantic. From the birth of a new generation of rights to its positivization through the legal instrument of the charts of rights, this article attempts to delineate some normative proposals to the challenges of the twenty-first century. The concept of "neuro-rights" and the broader category of "digital rights" provide insight into the nature of a legal system respectful to human dignity and technological progress. The manner in which that future will unravel will depend exclusively on the decisions taken by public powers in the following decades. If the authors of this article are right, perhaps the best way to approach this issue is through the optics of the revolutionary creation of human rights. The path to a future in which technology is implemented for the exclusive benefit of humankind is set. Thus, the thesis of this article is that it is the moral responsibility of academics and scientists to advocate in favour of a legal and scientific culture based on humanism and technological accountability.

II. THE NEED FOR NEURO-RIGHTS: RAFAEL YUSTE[2]

I would like to begin my presentation by remarking on the importance of considering the scientific side of neuroscience and AI in the pursuit of sound and effective legal regulation. The

2. Sara Goering & Rafael Yuste, *On the Necessity of Ethical Guidelines for Novel Neurotechnologies*, 167 CELL 882, 882–85 (2016); Rafael Yuste et al., *It's Time for Neuro-Rights: New Human Rights for the Age of Neurotechnology*, 18 HORIZONS 154, 154 (2021); Cori Bargmann & Rafael Yuste, *Toward a Global BRAIN Initiative*, 168 CELL 956, 956–59 (2017); Clara Baselga-Garriga et al., *Neuro Rights: A Human Rights Solution to Ethical Issues of Neurotechnologies, in* 49 PROTECTING THE MIND: ETHICS OF SCIENCE AND TECHNOLOGY ASSESSMENT (López-Silva P & Valera L. eds., 2022); RAFAEL YUSTE, LAS NUEVAS NEUROTECNOLOGIAS Y SU IMPACTO EN LA CIENCIA, MEDICINA Y SOCIEDAD (Lecciones Cajal ed. 2019); Marcello Ienca et al., *Towards a Governance Framework for Brain Data*, 15 NEUROETHICS 20, 23–24 (2022); M.F Ramos et al., *A Technocratic Oath, in* 49 PROTECTING THE MIND: ETHICS OF SCIENCE AND TECHNOLOGY ASSESSMENT (López-Silva P & Valera L. eds., 2022); Rafael Yuste et al., *Four ethical priorities for neurotechnologies and AI*, 551 NATURE 159, 159–63 (2017); Sara Goering et al., *Recommendations for Responsible Development and Application of Neurotechnologies* 14 NEUROETHICS 365, 365–86 (2021); Alejandra Zúniga-Fajuri et al., *Neurorights in Chile: Between neuroscience and legal science, in* 4 DEVELOPMENTS IN NEUROETHICS AND BIOETHICS 165 (2021); Timo Istace, *Neurorights: The Debate About New Legal Safeguards to Protect the Mind*, 37 L. & MED. 95 (2022).

interconnectedness between law and science is becoming increasingly evident with the progressive development of new technologies and the consequent regulatory challenges that stem from this evolution. That is why I would like to thank the organisers of these seminars for taking into account the perspective of scientists. Hopefully, the interaction between scientists and leading academics specialised in human rights and legal issues more broadly is not a passing trend but rather a staple of future research projects on the impact of AI in the public sphere.

I consider that the importance of this collaboration can be better illustrated through a short story closely concerning one of the most intimidating inventions of modern history. A story whose origin can be traced back to the street where I have carried out my research as a neuroscientist during the past few years. I work at Columbia University, and my laboratory is located right in front of a building which has been included in the National Registry of Historic Places in the United States. The building I am referring to is the Pupin Hall Laboratory. The reason for the inclusion of this building in the registry is that the first atomic reactor was built in its basement. The work carried out by some of the physicists responsible for this achievement would go on to become the foundation of the Manhattan Project. The development of atomic energy changed the history of humankind in unprecedented ways.

Perhaps paradoxically, some of the physicists behind the Manhattan Project and the discovery of the processes necessary to create the atomic bomb were among the most fervent defenders of the need to regulate atomic energy. Thus, they carried out an impressive lobbying campaign aimed at the UN and the international community. Through said lobbying and the support of President Eisenhower, the UN created the Atomic Energy Commission in Vienna—an international organisation tasked with the regulation and control of atomic energy to this day. In my opinion, this story perfectly encapsulates the dual nature of science. Technological developments and science are morally neutral. They have the potential to be used for good or for bad.

With a mere change of application, technology that had the potential to bring humans to the brink of extinction allowed for the expansion of civilization. The same atomic energy that was used for devastating consequences only a decade prior could hold the promise to solve the perennial issue of energy shortages. It demonstrated the potential to provide the world with unlimited, free energy forever. If only we could figure out a way to control nuclear fission.

This is how I would like to frame the main topic of my presentation: How to tackle regulatory challenges in instances where science advances faster than expected? How should society adapt to the

development of these new technologies?

A. Neurotechnology: A Path Toward Understanding

To answer these questions, it is important to define some of the technologies that are at the heart of the issue. Most of these inventions can be subsumed under the category of "neurotechnology." This is a term that alludes to the broad range of methods and devices that could be electronic, optical, magnetic, acoustical, or chemical in nature and that are aimed at two different objectives: (a) to merely record the activity of the brain or (b) to alter such brain activity. Neurotechnology is important for three main reasons.

First of all, its object of study is one of the most, if not the most, important organs in the human body. The brain is formed by eighty billion neurons inside the skull, whose activity is so complex that scientists have been unable to decipher some of the mysteries regarding the processes involved in its functioning. Nonetheless, these mysteries have not deterred experts from studying some of its characteristics. With current understanding, it is clear that what was historically understood as the "mind" is a product of brain activity. This activity includes all your thoughts, your memories, your imagination, your decisions, your behaviour, and your emotions. As such, the brain is inextricably linked with human identity. Some of the most promising advancements in the field relate to the invention of technologies that enable us to write and project information into the human mind. This technology is not science fiction. This sort of activity is currently being implemented in the lab and used with experimental animals. These practices allow us to further understand the way the brain works, but its utility cannot be reduced to scientific curiosity.

The second reason why the development of neurotechnology is important is the existence of numerous neurological diseases, such as Parkinson's, Alzheimer's, schizophrenia, epilepsy, depression, ALS, strokes, intellectual disability, etc., which reflect alterations of brain activity. To understand how to treat these disorders and cure patients with mental or neurological diseases, we need to further our understanding of this organ—something which poses important challenges. As it stands today, we lack the technology to delve into the brain, analyse what is happening, and change it. Bearing that in mind, medical clinical reasons can be considered another source of interest in this specific field. The development of new technologies is an urgent matter. Everyone knows at least one family member or friend that suffers from a mental or neurological disease. In fact, according to the World Health Organization (WHO), one in every eight people in the

world suffers from mental or neurological diseases with our current methods providing limited assistance.[3]

The third reason why neurotechnology is important has to do with the economy and with harnessing the potential of algorithms that are already present in our brain. By deciphering how the brain works, we may be able to create new technologies that would supersede the information technology that we currently understand as AI. So why am I participating in a panel about the implementation of AI?

B. Harmonizing AI and Neurotechnology: The Human Rights Approach

AI has the potential to decode and ultimately change brain activity. As previously mentioned, this is not just a matter of speculation or science fiction. These experiments are currently being carried out with laboratory animals as well as human patients. However, the impact of algorithms is not limited to medical trials. In the current social media landscape, where algorithms are ubiquitous, most of us, not only medical patients, are affected by these technologies. It is the case that these new technologies are now being driven by large investments throughout the world through both public and private funding. The end goal of some of the projects is to create noninvasive interfaces that interact directly with the brain. It is a step further than the development of peripheral devices, such as glasses or earphones, that were so prevalent over the last decade. This development raises many ethical and societal issues.

In response to some of the challenges posed by the application of AI technologies that could have over time a detrimental effect on society, we created the Morningside Group and organised periodic meetings at the Morningside Campus at Columbia. One of the first conclusions that was reached during the meetings was the need to implement an approach to the topic based on human rights. So why do we say that this is a human rights issue?

Neuro-Rights

We are concerned about four different types of potential abuses derived from the use of neurotechnology. As a response to these challenges, we advocate in favour of the creation of a new category of rights aimed at the protection of the minds of citizens. We designate

3. *See* WORLD HEALTH ORGANIZATION, https://www.who.int/news-room/fact-sheets/detail/mental-disorders (last visited Feb. 22, 2023).

them by the name: "neuro-rights."[4] In our opinion they could be classified in the following manner:

(a) The right to mental privacy: the content of our mental activity should not be decoded without the consent of the person subject to these new technologies. This mental privacy includes both conscious thinking and the subconscious. Most brain activity is actually subconscious; we are not even aware of its existence, yet it determines our way of life and who we are. Despite its "hidden" nature, subconscious mental activity can be deciphered in the same way, given that it is generated by neurons.

(b) The right to mental identity: consciousness and the concept of self do not come out of thin air—it is generated by the brain. It has already been proven, by recent experiments and evidence derived from clinical studies, that stimulation of the brain can cause identity changes. There are some anecdotal cases of Parkinson's patients that have deep brain stimulators that are switched on to alleviate their symptoms. These experiences prove that through stimulation personality changes may be induced. This anecdote means that, at least in principle, we should be able to change the identity of a person. This possibility clashes with one of the most fundamental principles of social life: the need to establish protections that guarantee the preservation of this inner sanctum of identity that determines who we are. The right to mental identity is intertwined with the next right on the list.

(c) The right to agency or free will: this means that human decisions belong squarely in our brains, and they should not be interfered with from the

4. *See* THE NEURORIGHTS FOUNDATION, https://neurorightsfoundation.org/ (last visited Oct. 24, 2022) (additional information available at this website).

outside through the use of new technology. Once more, the focus is placed on the idea of considering the brain as a sanctuary from external influences and intrusive external devices. As it has been stated before, none of these realities are science fiction. This intrusion is something that people already do with animals. In the group that I am part of, we can program and implant into the brains of mice images of things that they have not experienced. Nonetheless, the subjects of the experiment behave as if they had truly seen these images. We have reached these results by using optical neurotechnology.

(d) A general right to equality and justice in a context in which mental augmentation is part of our lives: this possibility is unavoidable. In about ten to twenty years, we will live through the creation of noninvasive devices that can connect us to the internet, something which could open the possibility of hybrid human beings. A significant part of the cognitive and mental processing of these individuals would be done from outside of their brains, using AI or external databases capable of enhancing mental processes. The application of technology aimed at the improvement of human life is not something new. Humans as a species have been improving and enhancing themselves from the beginning, from the discovery and application of fire or the invention of several instruments, such as the wheel, clothing, transportation units, and computers. Technology has the potential to improve human capabilities, but it poses a great challenge to the value of equality. The implementation of this sort of technology could have the unintended consequence of fracturing society by creating two types of human beings: humans that are augmented and humans that have not been enhanced. There is a need to establish regulations that prevent the most pernicious effects of a phenomenon that is likely

> to occur in the next couple of decades. Access to mental augmentation should be regulated under the universal principle of justice.

With all these challenges on the horizon, the need to advocate for initiatives, such as the Neuro Rights Foundation, becomes apparent. Our main goal for this project is to protect the brain and human life by updating the existing bodies of human rights currently inscribed in the international treaties that have been signed by most of the countries in the world. The addition of special provisions that will include these new neuro-rights is required so that we can enter the future with a solid protection of human nature, one that is based on a human rights approach.

The Universal Declaration and other additional human rights treaties define what it means to be human better than any other document in history.[5] They define the basic characteristics and rights of a human being. Against the backdrop of unbound technological advance, the inability of law to adapt to these changes presents itself as particularly pernicious. As society and technology changes, so should human rights. Consequently, these provisions should be updated to the standards necessary to overcome the challenges posed by technological developments that are going to change the concept of what it means to be human in a fundamental way and ready them for the twenty-first century. This is a conversation that we should start right now because these technologies have been in development for decades.

C. Conclusion: Inspiring Experiences in the Current Legal Landscape

I would like to finish my presentation with a general comment about the importance of the expansion of scientific advancement in this field. As I have tried to show, it can be argued that this scientific advancement is a human rights issue. In fact, some countries following this approach have jumped ahead. Such is the example of the Republic of Chile. Due to the efforts of its senate and its Committee of the Future, an amendment to article 19 of the constitution was approved unanimously by the senate and chamber and signed by the president of the republic. This amendment provides protection to cerebral activity

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5. G.A. Res. 217 (III) A, Universal Declaration of Human Rights (Dec. 10, 1948), https://www.ohchr.org/en/universal-declaration-of-humanrights#:~:text=The%20Universal%20Declaration%20o%20f%20Human%20Rights%20(UDHR)%20is%20a%20milestone%20,rights%20to%20be%20universally%20protected.

and the information that comes from it.[6] The amendment was approved with unanimous support from both the National Congress of Chile and the Senate. By being embedded in the constitution, it has become a human right for the Chilean people.

In the same vein, the United Nations has shown interest in the inclusion of a new provision in the existing national treaties.[7] The Neurorights Foundation is collaborating with the organisation and its current Secretary General, António Guterres, who, after his reelection last year, declared that one of his main objectives was to update the Human Rights Charter on this matter. It appears that the recognition of human rights in relation to technology is going to be part of the priorities of the UN for the next six years.

During my presentation, I have attempted to present an approach to technology through the lens of human rights. It may sound like something completely unexpected for some of you; however, this proposal is an interesting perspective on how things could be. We are in the midst of a technological revolution. The tipping point is near and the consequences of deregulation could be catastrophic. Perhaps a human rights approach, such as the one that has been introduced in these pages, might confront the future with more certainty and safeguards against all possible risks. If we are able to regulate these technologies (AI, robotics, surveillance technologies, the metaverse) within a larger framework, we will be able to capture all the possible unintended negative effects and ethical and societal consequences. A body of regulation aimed at the risk posed by neuroscience and the technologies currently applied in the field could be the spearhead for a larger Charter of Digital Human Rights that enables us to create the necessary guarantees to develop these technologies in a sensible and conscious way. Instead of waiting for the atomic bomb to be detonated, perhaps we should learn from the past and act to prevent potential problems by having our house in order. In this case, our human rights house in order.

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6. Law No. 21.383, art. 1, Octubre 25, 2021, Diario Oficial [D.O.] (Chile) (modifying the fundamental charter to establish scientific and technological development at the service of people), https://www.diariooficial.interior.gob.cl/edicionelectronica/index.php ?date=25-10-2021&edition=43086-B&v=2; Allan McCay, *Neurorights: The Chilean Constitutional Change*, AI & SOC'Y, Mar. 2, 2022, at 1, https://doi.org/10.1007/s00146-022-01396-0.

7. U.N. Secretary-General, *Roadmap for Digital Cooperation*, U.N. (June 2020).

III. NEW CHARTS OF DIGITAL RIGHTS IN THE EUROPEAN UNION AND SPAIN: TOMÁS DE LA QUADRA-SALCEDO[8]

The question with which I would like to introduce my presentation is: Why and for what purpose should there be charters of rights in Europe? Why talk about this topic? Probably because, as of January 26, 2022, the European Union released a proposal on a *Declaration on Digital Rights and Principles*[9] to reflect on the importance of digital rights at the highest European level. Among other things, the sheer scope of the challenge reveals the pressing nature of this debate. When we talk about digital rights, we are no longer talking about something that affects one country or one region but rather something that affects the entire world. The solution to the many challenges posed by the surge of new technological developments worldwide demands a transnational approach based on cooperation. My aim is to encourage such an attempt by providing collective solutions to these new problems that arise from what has been labeled as the "digital world" or "digital society."

The problem that Professor Yuste has raised in his presentation is intimately related to the great achievements and opportunities presented by intensive research aimed at mapping the brain and discovering how knowledge is created and stored. They are experiments with a vast potential to discover opportunities to cure diseases, and perhaps, even to improve human life in a more fundamental way. As with all important technological improvements, these discoveries entail many risks. This is the discussion in which we have been immersed since January 2022. We are currently at the centre of a European-level debate concerning the model of digital society that we aspire to build. What digital rights should be recognized to prevent a future in which

8. Tomás de la Quadra-Salcedo Fernández del Castillo, *¿Por Qué Una Carta de Derechos Digitales?,* REVISTA REGISTRADORES DE ESPAÑA, https://revistaregistradores.es /por-que-una-carta-de-derechos-digitales/ (last visited Oct. 24, 2022); Tomás De La Quadra-Salcedo Fernández Del Castillo et al., *Sociedad Digital y Derecho*, BOLETÍN OFFICIAL DEL ESTADO (Ministerio de Industria, Comercio y Turismo), Nov. 2018; Tomás De La Quadra-Salcedo Fernández Del Castillo et al., *Sociedad Digital y Derecho*, BOLETÍN OFFICIAL DEL ESTADO (Ministerio de Industria, Comercio y Turismo), Nov. 2018, at 21–86; Tomás De La Quadra-Salcedo Fernández Del Castillo, *La Carta de Derechos Digitales*, VIMEO (Oct. 18, 2021), https://vimeo.com/635253955; Rafael de Asís, *Sobre la Propuesta de los Neuroderechos, in* 47 DERECHOS Y LIBERTADES 51 (Dykinson ed., 2022); Diego Alejandro Borbón et al., *Critical Analysis of Neurorights to Free Will and to Equal Access to Mental Augmentation*, 6 IUS ET SCIENTIA 3 (2020); Txetxu Ausín et al., *Neuroderechos: Derechos humanos para las neurotecnologías*, 43 DIARIO LA LEY 1 (2020); Elisa Moreu, *The Regulation of Neuro-Rights*, 2 EUR. REV. OF DIGIT. ADMIN. & L. 149 (2021).

9. Commission Declaration 28, Jan. 26, 2022, European Declaration on Digital Rights and Principles for the Digital Decade.

humans become the servants of our own creations? The objective is to create a landscape in which science is used rationally for the betterment of society as a whole, a future guided by general interest.

A. Constitutionalizing Digital Rights: Past and Present

As far as the question of risks is concerned, this is not the first attempt there has been in the European Union to regulate digital rights. There was a solid project that took place earlier and deserves to be highlighted. The authors of this article are alluding to the proposal made by Professor Stefano Rodotà before the Italian Chamber of Deputies.[10] This proposal was aimed at the creation of a Constitution for the Internet[11] and inspired the Declaration of Rights and Duties on the Internet of the Commissione per i diritti e i doveri on the Internet.

The existence of alternative terminology—Constitution for the Internet/Bill of Rights for the Digital Era—bears witness to the different approaches that can be taken regarding this problem. While some scholars have argued in favour of the constitutionalization of digital society through the creation of an entirely new body of rights, others consider that the traditional legal principles are sufficient to tackle the challenges posed by this new environment. However, the question remains: Is there a need to constitutionalize this new field and establish legal guarantees? The main limitation of Professor Rodotà's proposal, if it is to be extrapolated to the present day, is that this project of constitutionalism was confined only to the margins of the internet. But, as Professor Yuste has stated in his magnificent presentation, we are no longer talking only about the internet. The challenge facing the law today is much more significant. It is essential to define the role of humans in the new digital society. A mere compilation of past regulatory proposals will not suffice.

This debate is not new. On the other side of the Atlantic, these

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10. Stefano Rodotà, *Towards a Declaration of Internet Rights,* AREA OF FREEDOM SECURITY & JUSTICE (Nov. 18, 2014) https://free-group.eu/2014/11/18/towards-a-declaration-of-internet-rights/.

11. Mauro Santaniello et al., *Mapping the Debate on Internet Constitution in the Networked Public Sphere,* 3 COMUNICAZIONE POLITICA 327, 354 (2016); NEURON EDOUARDO CELESTE, DIGITAL CONSTITUTIONALISM: THE ROLE OF INTERNET BILLS OF RIGHTS, 1 (Routledge Publishing, 2022); Internet Rights and Principles Coalition, Matthias C. Kettermann, Forza Internet Rights: IRPC Charter as Source of Inspiration for Innovative Italian Declaration of Internet Rights (Sept. 9, 2022), https://internetrightsandprinciples.org/forza-internet-rights-iprc-charter-as-source-of-inspiration-for-innovative-italian-declaration-of-internet-rights/; *see generally* Politecnico di Torino, Nexa Center for Internet & Society, (Oct. 13, 2014), https://nexa.polito.it/declaration-internet-rights.

issues have been raised for decades. As early as 2001, legislation comparable to a Digital Bill of Rights was introduced in the US Congress.[12] It was a clear precedent for the regulatory instruments that were about to be developed in the decades since. I was able to witness the development of said bill firsthand in 2011 when I was a visiting professor at the Cardozo Law School (New York), and subsequently in 2015 at the Maurer School of Law in Bloomington (Indiana). Similar projects have been developed in Europe. In particular, a German foundation presented a proposal to the European Parliament for the elaboration of a Digital Constitution for Europe.[13] Since then, there have been several attempts to undertake such a project. One of the proposals that could be highlighted is the Declaration of Digital Rights, which was approved in Spain on July 14, 2021.[14] This text has had a notable impact in Europe, possibly serving as inspiration for the European Commission's declaration published in January 2022.

B. Revising Outdated Legal Categories

Everything seems to point to the existence of a series of challenges arising from the development of new technologies that are of concern to the main political institutions of the EU. The catalogue of rights we have had up until this point in time does not seem to suffice. These shortcomings should be alleviated by incorporating new concepts, such as the notion of "neuro-rights" proposed by Professor Yuste in his presentation. This notion encompasses an important part of reality that has been overlooked until now. The previous approach based on the notion of "data" is quite poor. The current problem extends far beyond that limited concept. Consequently, solutions must go beyond the notion of simple data protection strategies. The question of identity is at stake.

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12. *See* KeepTheWebOpen, *A Digital Bill of Rights at the Personal Democracy Forum*, YOUTUBE (June 14, 2012), https://www.youtube.com/watch?v=eNkb3w8Q8Is (showing Representative Darrell Issa and Senator Ron Wyden's presentation on the Digital Bill of Rights at the Personal Democracy Forum).

13. *See Charter of Fundamental Digital Rights of the European Union*, WE DEMAND BASIC DIGITAL RIGHTS, http://www.digitalcharter.eu/ (Proposal of Digital Bill of Rights); *see also* Eur. Parl. Doc. (LIBE_PV(2016)1205_1) (2016) (Meeting minutes including information on Charter of Digital Fundamental Rights); *see also Committee on Civil Liberties, Justice and Home Affairs*, EUR. PARL. (May 12, 2016), https://multimedia.europarl.europa.eu/en/committee-on-civil-liberties-justice-and-home-affairs_20161205-1500-COMMITTEE-LIBE_vd (video of Parliament Session discussing Digital Fundamental Rights).

14. *Carta Derechos Digitales* [*Digital Rights Charter*], GOBIERNO DE ESPAÑA, https://www.lamoncloa.gob.es/presidente/actividades/Documents/2021/140721-Carta_Derechos_Digitales_RedEs.pdf (Spain).

The brain is the most sacred organ of the human person. If science discovers a way to connect neural networks to machines, we could find ourselves in a reality in which the subconscious itself becomes accessible to third parties, even against the individual's volition. Artificial intelligence has a dual nature—it can be used to cure diseases, transmit information, and even improve the cognitive capacities of individuals. But it can also be instrumentalized for the purpose of controlling those same subjects. All this poses much deeper challenges than the mere notion of data that has characterized the debate so far. To curb the most harmful consequences of the development of these new technologies, it is necessary to enshrine positive rights in legally binding texts. Precisely one of the first questions discussed in the preamble to the Digital Bill of Rights is whether this reality requires the recognition of new rights or whether the debate can be redirected to the classic question of human dignity—inherent to the idea of personhood—and its multiple manifestations.[15]

In this sense, traditional bills of rights would seem to have proved sufficient in the past to guarantee the protection of citizens' rights even in periods of profound social and technological change. The Spanish draft of the bill of digital rights raises some novelties, such as the adaptation of Spanish legislation on data protection to the standards required by European regulation.[16] This text also included a chapter on the issue of rights. Some of these rights are expressly mentioned, such as in the case of the right to digital disconnection. Each of these rights is accompanied by the subsequent questions. For example, the right to digital disconnection raises questions, such as the following: Is this right really a new right or is it merely an extension of the right to rest that has for decades been part of employment legislation since its initial inclusion in the Workers' Statute? Although such an interpretation is possible, it would be more accurate to state that a new law has been established as a result of the adaptation of the general principles of employment law to a new situation brought about by technological development. These are new situations that call for an innovative regulatory exercise.

The same applies to other rights, such as the right to a "digital will." The term alludes to the right of individuals to determine the way in which the digital heritage of a deceased person should be managed by their heirs. I would like to illustrate this concept with a real example. It is a case that recently arose in Germany and started an intense national debate about the limits of privacy and the ownership of accounts in

15. *Id.*
16. *Id.*

social networks. The case that sparked the debate was the possible suicide (rather than an accident) of a teenage girl in the Berlin subway.[17] After her death, her parents wanted to access the content of her social media accounts to find out what factors had led her to end her life.[18] They suspected that the mental state of their daughter could have been affected by someone from the school where she studied.[19] Facebook denied them access to her account on the platform.[20] The parents then decided to take legal action.[21] In the first instance, a Berlin court ruled in their favour.[22] The company appealed that decision of the first instance, which was overturned by the appellate court.[23] Finally, the Federal Court of Justice of Germany (Bundesgerichtshof) settled the case definitively by ruling in favour of the parents and allowing access to their daughter's Facebook account.[24]

Initially, we might think that this case could be resolved using the classic legal categories. However, the resolution reached by the court raises problems. Perhaps the teenager's account contained information and contacts that she would not have wanted her parents to know. Nowadays, the internet contains a vast amount of personal information that we might never want to see disclosed, such as our ideas, contacts, etc. Perhaps the will of the victim was that the contents of her social media accounts were never revealed to anyone, yet her right to privacy was quashed in this instance by the right of her parents to obtain material justice through an official investigation. The fact that this issue has arisen in multiple jurisdictions, with different legal systems and often contradictory guiding principles, seems to indicate that the debate is not settled yet.[25]

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17. *Facebook Ruling: German Court Grants Parents' Rights to Dead Daughter's Account*, BBC (July 12, 2018), https://www.bbc.com/news/world-europe-44804599.

18. Bundesgerichtshof [BGH] [Federal Court of Justice] July 12, 2018, III ZR 183/17 1, 2–5 (Ger.)

19. *Id.*

20. *Id.*

21. *Id.*

22. *Id.*

23. *Id.*

24. *Id.*; *Germany: Federal Court of Justice Clarifies Scope of Postmortem Access to Social Media Accounts*, LIBRARY OF CONGRESS (2020), www.loc.gov/item/global-legal-monitor/2020-09-30/germany-federal-court-of-justice-clarifies-scope-of-postmortem-access-to-social-media-accounts/.

25. Kristin Nemeth & Jorge Morais Carvalho, *Digital Inheritance in the European Union*, 6 J. EUR. CONSUMER & MKT. L. 253, 253 (2017); Giuseppe Marino, *La Successione Digitale*, 1 OSSERVATORIO DEL DIRITTO CIVILE E COMMERCIALE 165, 202 (2018); Alberto B. Lopez, *Posthumous Privacy, Decedent Intent and Post-Mortem Access to Digital Assets*, 24.1 GEO MASON L. REV., 183, 183–85 (2016).

C. Contextual Awareness and the Regulation of the Digital World: Risks and Opportunities

As a society, we must reflect on the content and implications of the notion of human dignity in this new reality. From the legal scholar's perspective, the idea of "context" is essential. Heidegger coined the term "Dasein" to refer to this notion.[26] Other philosophers have also alluded to this matter. Ortega and Gasset famously said: "*I am I and my circumstance*."[27] Our current circumstance today is determined by a world where the digital element is becoming increasingly important. The challenges posed by this new reality cannot always be circumscribed to the rigid margins of the classic idea of dignity. It is necessary to find solutions to the debate raised by the conflicting rights of the parents and their daughter.

In the same way, it is necessary to give context and set the boundaries of the concept of neuro-rights proposed by Professor Yuste, which possibly constitute the most novel and disruptive principle of those implicit in the Declaration of Digital Rights. Section 26 of the text itself hosts a series of reflections on the impact of neurotechnologies.[28] These scientific developments have the potential to cure diseases, such as Alzheimer's, depression, and Parkinson's. The possibility of curing diseases is presented as something very positive and uncontroversial. However, the development of technology may have other pernicious and unintended consequences on social life.

Equality Considerations: As the American philosopher Michael Sandel showed in his work *The Case Against Perfection*,[29] one of the main challenges posed by the possibility of enhancing humans through the application of these technologies is the deterioration of the principle of equality. We run the risk of creating a society divided between individuals who have been augmented and the rest of the people. Would a society based upon such stark inequalities be considered legitimate and fair?

Human Agency: Under a model of syllogistic thinking, such as the one that currently characterises human thought, we could move toward a scenario based on endless storage and reproduction of data. Imagine the case of a person who has been enhanced since childhood. The individual's mind is connected from their early years to an almost

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26. MARTIN HEIDEGGER, BEING AND TIME 28–31 (John Macquarrie & Edward Robinson trans., Blackwell Publishers Ltd. 1st ed. 1962).

27. JOSE ORTEGA Y GASSET, MEDITACIONES DEL QUIJOTE (3d ed. 1914).

28. *Carta Derechos Digitales*, *supra* note 14, § 26.

29. MICHAEL SANDEL, THE CASE AGAINST PERFECTION: ETHICS IN THE AGE OF GENETIC ENGINEERING 10–24 (PHOTO. REPRT. 2009) (2007).

unlimited library of knowledge. Is that person really free or will they feel for their entire life dependent on the statistical and factual dictates of the machine? Such a way of thinking could be problematic from the perspective of innovation and human progress. Statistics and mere factual reproduction stagnate knowledge.

In short, all the scenarios posed by the new digital reality require an exercise of reflection that will probably lead to the redefinition of many of the traditional rights. Ideally, this process will be based on the principle of human dignity. In his essay, "The Outdatedness of Human Beings," Ghünter Anders, whose writing was motivated by the development of the atomic bomb, already anticipated this new reality and its effect on the human condition.[30] For Anders, the modern man that coexisted with the great scientific revolutions that took place in the twentieth century has become outdated; we are no longer the authors of our own destiny.

The Massachusetts Institute of Technology (MIT), in its initiative the Moral Machine, provides a very illustrative example in this regard.[31] In said initiative, people were asked for their opinion on self-driving cars. They were presented with a series of scenarios that posed serious ethical dilemmas comparable to the well-known "Trolley Problem." The questions followed this pattern: In the event of a failure of the vehicle's brakes, who should we try to avoid first, an elderly person or a mother and her children? Who should make this decision? Is it legitimate to delegate it to the machine itself or to the AI designer who governs the machine? Would this mean abdicating our responsibility as moral agents? Does this imply the deterioration or total loss of our moral status?

In addition to this issue, there are other very important risks related to the preservation of democratic institutions. As far as democracy is concerned, we have already witnessed some of the dangers derived from the implementation of these new technologies. We could observe it with the role played by social networks during the electoral campaign that led to Donald Trump occupying the White House.[32] This occurrence is in addition to the role played by Cambridge Analytica in the referendum on the United Kingdom's withdrawal from the European Union. In these electoral processes, the electorate was influenced through individually targeted propaganda aiming to exploit their political biases. This propaganda was accompanied by the

30. *See* GÜNTER ANDERS, THE OUTDATEDNESS OF HUMAN BEINGS (1956).

31. *See* MORAL MACHINE, https://www.moralmachine.net/ (last visited Oct. 29, 2022).

32. *See* Michael Landon-Murray, et al., *Disinformation in Contemporary U.S. Foreign Policy: Impacts and Ethics in an Era of Fake News, Social Media, and Artificial Intelligence*, 21 PUB. INTEGRITY 512 (2018).

targeting of specific sectors of the population to promote or discourage participation depending on the socioeconomic and political profile of their members. Democracy itself could be in danger as it was acknowledged by the Spanish Constitutional Court in its ruling, STC 76/2019, de 22 de mayo de 2019.[33]

This battle also takes place in the economic sphere, specifically through antitrust law. In recent times, significant sanctions have been imposed on large intermediaries in the market.[34] These sanctions could indicate an increase in the attempts to manipulate free competition. The existence of markets governed by free competition is essential for a democratic society. This part of the legal system makes it possible to avoid economic concentrations whereby one or a group of operators could accumulate sufficient power and influence to condition society. This problem is not merely an economic issue, but also a political problem. Only if we ensure that economic power is not in the hands of a powerful minority will we be able to say that we live in a truly free society.

Therefore, when we talk about the Digital Bill of Rights, we are not only talking about the internet. The internet is a tool that completely alters the way in which social relations have been previously organised. This new scenario opens up possibilities that need to be regulated. The group that developed the Charter of Digital Rights, in which Ricard Martinez and I have had the opportunity to participate, tries to contribute to this conversation. One of the essential dimensions to face this challenge is the following issue: how to reconcile the ethical considerations that are involved with the development of these new rights? It is necessary to develop a convincing ethical discourse that, regardless of religious conceptions, serves as a meeting point for all those involved in the resolution of the problems arising from the development of all these new technologies.

This ethical reflection is the basis of the Charter of Digital Rights, which is intended to cover all the issues that have been mentioned above: digital will, neuro-rights, competition law, etc. All these considerations should inspire the regulatory framework for the digital economy. This regulation is a prescient topic when discussing the concept of "backward compatibility," that is, the ability of new electronic

33. S.T.C. June 25, 2019 (T.C. No. 151, p. 67680–82) (Spain), https://www.boe.es/buscar/doc.php?id=BOE-A-2019-9548.

34. *See* Nicolas Petit & David J. Teece, *Innovating Big Tech Firms and Competition Policy: Favouring Dynamic Over Static Competition*, 30 INDUSTRIAL & CORP. CHANGE 1168 (2021); *see also* Xavier Vives, *El Paradigma de la Competencia en el Sector Bancario Después de la Crisis* [*The Paradigm of Competition in the Banking Sector After the Crisis*], IESE PUBLIC-PRIVATE SECTOR RESEARCH CENTER (2011).

devices to adapt to previous versions. This concept goes hand in glove with the idea of sustainability. We need to ensure that things are used for as long as possible, rather than them being discarded after their first use. The same goes for energy efficiency and other principles and values that, if left to the sole discretion of the market, could be severely undermined. The ethics of sustainability must be transferred to industry and research.

These dilemmas also apply to the area of information. Today it is said that people have access to the largest number of information sources in history. However, there is a common belief that the information to which we have access does not have sufficient guarantees of veracity and quality.[35] We do not know who is informing us. No one takes responsibility for the information they transmit. This poses serious problems. The EU has made some attempts to alleviate this situation through various pieces of regulation: The Digital Services Act,[36] the Digital Market Act,[37] and the Digital Governance Act.[38] All of them are legal texts that analyse the same issue from different perspectives. Information, which is a precondition for the proper functioning of democracy, has undeniable economic ramifications. It is an essential resource for the defence of free competition and the market.

This is not a completely new issue. In Spain, there are historical antecedents in the matter of regulation that predate the twenty-first century. In the Spanish Constitution itself, the following prescription is contained (article 18.4): "The law shall limit the use of information technology to guarantee the honour and personal and family privacy of citizens and the full exercise of their rights" (my translation).[39] Even though at that time the Spanish Constituent Assembly could not anticipate the scope of the challenge posed by new technologies, the need to regulate this area of reality was already considered. The fear that computerization, if left uncontrolled, could cause significant damage was already foreseen. This consideration shows that the legislature was aware of the destructive potential of computers. On no

35. *See* Jakob-Moritz Eberl, *Lying Press: Three Levels of Perceived Media Bias and their Relationship with Political Preferences*, 44 COMMC'NS 1 (2018).

36. Proposal for a Regulation of the European Parliament and of the Council on a Single Market for Digital Services (Digital Services Act) and amending Directive, No. 2000/0361 (COD) of 15 Dec. 2020, at 1–2.

37. Proposal for a Regulation of the European Parliament and of the Council on Contestable and Fair Markets in the Digital Sector (Digital Markets Act), No. 2020/0374 (COD) of 15 Dec. 2020, at 1–3.

38. *Proposal for a Regulation of the European Parliament and of the Council on European Data Governance (Data Governance Act)*, No. 2020/0340 (COD) of 25 Nov. 2020, at 1.

39. C.E., B.O.E. n. 311, art. 18.4, Dec. 29, 1978 (Spain).

other occasion has the legislature addressed any other human instrument in such a way—there is no mandate in the constitutional text for the legislature to limit the use of knives, for example. Normally the generic prohibition of harming others sufficed without the need to specifically relate the things that could be used to cause such harm. In regards to the internet, that was not the case. With information technology, we recognised the need to anticipate because we sensed some of the implications that the development of this type of technology could have on human life.

The courts have subsequently developed the content of some of the principles contained in this clause (personal and family honour, privacy, etc.). These are autonomous and complex rights that cannot be completely analysed from the perspective of the data. The data must be considered in conjunction with society. The demands of the Digital Constitution, or the Digital Bill of Rights, represent a global reflection on the ways in which the digital world constitutes that new scenario to which Heidegger referred when he spoke of the idea of "dasein." It is the circumstance that determines the risks to be faced. It contains this action of unveiling. The technique reveals an immanent reality in nature. Human beings were unaware of the nature and properties of water until technology revealed it. Soon reservoirs were built, and hydroelectric power was consequently discovered and exploited. What is paradoxical about the current situation and what distinguishes our era from past times is that technology is no longer a mere by-product of science. In the digital world, we no longer control technology, but it rather controls us. The machine has somehow become autonomous. Unlike in years gone by, now the technology itself creates and helps to discover with relative independence. In other words, what we must ask ourselves is what is the ethical framework that governs the driverless car? Who created this technique? Who created these ethics?

D. Conclusion: Regulation for the General Interest or Public Efforts to Tame the Digital Leviathan

These are some of the reflections that inspired the Charter of Digital Rights and that the European Union has assumed as its own in the declaration of principles and digital rights published in January 2022. Spain has drawn up its own charter since the European Declaration is more general and suffers from a lack of detail. The Spanish Charter goes into detail in specific areas, such as the right to education, social participation, neuro-rights, information, freedom of expression, and privacy. It even speaks to the question of identity. In this context, marked by the emergence of new technologies capable of permanently

altering the brain, the question of identity acquires even greater depth. Identity is no longer exclusively that with which we identify ourselves and our memories, but rather a reality that can be altered from the outside. It becomes essential to answer the question of who constructs our identity. Identity is such an important and intimate dimension of the human experience that it should not affected by anyone but ourselves. The charter addresses this question as well.

Our "Dasein," the digital world, is what conditions the interpretation of the new rights that are to be enshrined. As has been stated previously, the global context that we inhabit requires solutions on a transnational scale. At the moment, there are various approaches to the debate on the digital landscape: Chinese regulation, the European model, and US regulation all provide possible approaches to the problem. All of them respond to very different models. Personally, I believe that Europe, through its Data Protection Regulation initiative, has shown that it can be an example to follow and inspire other nation states. The Charter of Digital Rights is a firm step in the right direction. However, the truth is that, ultimately, it would be beneficial to have a joint project at the global level. In the event it is not possible to incorporate all the major international players, cooperation between the United States and Europe would be welcome, as China may want to pursue its own approach. The lack of harmony between the different countries entails risks. In a jurisdiction that is less protective and respectful of human rights, it may be possible to achieve more rapid change. However, the risk is far too great.

In conclusion, the Digital Bill of Rights is not only a commitment to the European model but also an invitation to collaboration on both sides of the Atlantic. This is why the initiative of the Indiana Journal of Global Legal Studies to raise the subject of debate with universities and other participants from both continents seems to me particularly adequate. The disturbing notion of a digital leviathan, as a metaphor that captures the problems of the digital transformation of government, is very apt. It is certainly one of the major issues that will shape the course of the twenty-first century.