

Article

The Legal–Digital Metamorphosis of the Individual

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Highlights:**What are the main findings?**

- The current sophistication of AI systems affects the concept of the human being in an ius-philosophical sense.

What is the implication of the main finding?

- AI can't match human intelligence in terms of argumentative capabilities, but this is not an impediment for law to grant these systems increasing degrees of 'personhood', as the concept of personhood in law is also artificial and therefore, in theory, could treat them as natural individuals.

Abstract: There is a hard relationship between law and techno-science; two powers that shape reality. In principle, these powers shape reality by acting as two poles of a battery, i.e., endowed with opposite charges: techno-science is a mechanism for overcoming the limits that human beings encounter in their relationship with nature; law, on the other hand, reveals its face by imposing limits on human action, which, by nature, is free of certain bonds. From a general point of view, certain unavoidable normative requirements seem clear in the effort to regulate new technological applications. Artificial intelligence poses new questions for legal theory and tests both the responsiveness of the system and the traditional and current conceptual categories. The challenge stems from the need to adapt the law, through normative or hermeneutic evolution, to a reality that is changing at a frenetic pace and with unpredictable mutations. All attempts to regulate AI to date have declared that scientific innovation must be brought within the framework of human rights. However, there is a question, rather a more general, I would even say preliminary, challenge to be faced without epistemic prejudice: do the applications of AI in any way affect the very meaning of the human? AI has a huge potential to improve the human condition (provided we can clarify what 'improve' means) but, at the same time, increases, in terms of rights, unforeseen and unforeseeable challenges for existing treaties. This is due not only to the crisis of the legal dimension but also to the fact that its impact influences the notion of what we have hitherto conventionally considered as human beings.

Keywords: artificial intelligence; law; person; consciousness



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1. Introduction

A few years ago, a German artist walked up and down a deserted street in Berlin with a red trolley containing ninety-nine smartphones. Accordingly, as Google Maps updated its status, it indicated that in that street there was a traffic jam; as the street was full of phones, it therefore must have been full of drivers stuck in a jam. Through this humorous performance, it was possible to turn all the sat navs in said street from green to

red, causing the application to suggest alternative routes to cars that were using Google Maps at the time.

I wondered at the time (see Campione [1], pp. 137–138) if it was just a ‘virtual’ traffic jam, a type of trap, a trick that had nothing to do with the true essence of reality or, on the contrary, having governed the behaviour of the affected subjects, who duly avoided that street, it was as real a traffic jam as all those faced daily by drivers at peak times.

The answer to this question affected, in my opinion, the very notion of human existence: are we made of an immutable natural basis that the many digital layers cannot alter, or are we a hybrid reality in which organic support is only a variable parameter of our countless virtual interconnections? I do not think anybody back then took this intellectual paranoia seriously.

However, another news story from 2024 confirmed that my philosophical dalliance had more substance than I sensed: the alleged rape of a sixteen-year-old girl in Horizon Worlds, a virtual world managed by Meta.

Is it possible to commit a crime in the Metaverse, that epitome of globalization that places everyone in a place without a geographical location? We cannot just dismiss the matter as if it were a speck of dust on our jacket or as if it were a joke told by a philosopher of law with little inclination to legal practice. This is especially so as Scotland Yard is investigating the case in the real world, a sign that there is no virtual police force that can watch over the users of the Metaverse and intervene in cases of abuse. Without going into all the interesting juridical, criminological, technical and social aspects that outline cases like this (which was not the first), the idea that “virtual worlds are no longer science fiction”, has moved forward with arguments because the ‘immediacy’ of technologies like the Metaverse is different from previous virtual worlds. This is, above all, because the combination of digital architecture, artificial intelligence, and haptic technology of such platforms “could trick our minds into feeling (almost) exactly like in real life. The mind can’t tell the difference”¹. What path would we be taking if we were to judge, for example, wars in virtual worlds, wars between avatars, by the same yardstick as wars ‘of flesh and blood’? Just contemplating this question, seeing what is happening right now in places like Palestine and Ukraine, hurts the soul. In any case, all wars are already hybrid, mixing classic and hyper-technological elements and facing the implications of miscegenation seems unavoidable if one wants to contribute in any way to reducing the degree of atrocity recorded daily.

As a jurist, I think it is necessary to take this reflection seriously, as we are well aware of one of the basic algorithms of law: consider something is real not because it is, but because it is as if it were. Reality, in law, is as it is not because things have happened in such a way, but because someone (with authority) presumes that they have done so. In short, any jurist knows that law constructs people, things, and actions, in other words, reality, through fiction. Hence, we cannot dismiss as insignificant the possibility of contemplating criminal aggressive acts that do not harm a single real hair of the victims under attack. I am not, of course, alone in thinking this, nor the most original, as the European Parliament itself, through its Department for Citizens’ Rights and Constitutional Affairs, has targeted the matter with a recent study that addresses the risks and opportunities of commercial, industrial, and military applications of the Metaverse, so that the impact of this virtual space is oriented towards ‘positive’ goals (see Maciejewski [3]).

This does not mean unconsciously falling into the naive temptation to anthropomorphize generative artificial intelligence systems: I cannot help remembering the great lesson of corrosive humour given by Ambrose Bierce in his *Dictionary of the devil* with his definition of Magpie: “bird whose penchant for theft has suggested to some the possibility of teaching

it to speak” (see Bierce [4]). However, I also reject any foolish essentialism that a blindfold cannot open the mind.

At the beginning of 2024, the concern of the Davos financial elite about the impact that generative artificial intelligence will have on the labour market was widely reported in the media: the enormous increase in productivity versus the disruptive destruction of jobs. With the news coming from an institution like the World Economic Forum, anyone who is suspiciously minded could insinuate that we are facing an *excusatio non petita* or a trial of neoliberal fatalism. I, for now, prefer the scientific hypothesis of *El Mundo Today*: on the one hand, artificial intelligence will prove to be authentically intelligent when it is able not only to take away our work but to charge for it and outsource it back to us humans, at a lower price. That is, when it discovers surplus value. . . and, on the other hand, it will only confirm being equal to humans when it learns to put our noses out of joint.

2. Techno-Science and the Law

The reason for the reflections that follow lies in the problematic relationship between two powers that shape reality: law and techno-science. And in principle, such powers make up reality by acting like two poles of a battery, that is, having opposite charges: techno-science is a mechanism of overcoming the limits that human beings find in their relationship with nature. Law, on the other hand, is articulated through the imposition of limits on human action which, by nature, are free from certain ties.

It’s dangerous to show man too clearly how much he resembles the beast without at the same time showing him his greatness. It is also dangerous to let him see his greatness too clearly without making him see his misery. It’s even more dangerous to let him ignore both. But it is very beneficial to show him both. (Pascal [5], p. 151)

This thought of Pascal appears in a famous book by David P. Barash, *The hare and the tortoise*, 1986, in which the American psychologist and zoologist analyses, honouring in the title the protagonists of Aesop’s well-known fable, the problems caused by the incongruity between the biology of human beings, the result of a slow process of natural selection, and their culture, the product of an exponentially faster evolution.

Questioning the relationship between law and new technologies and the interaction between human beings and applications based on artificial intelligence and robotics has a lot to do with the human duality perfectly synthesized by Pascal that intersects with the two dimensions, the biological and the cultural, which are metaphorically personified in the Aesopian animals.

The myth of Prometheus represents the techno-scientific vocation, the gift, jealously guarded in the dwelling of the gods, of know-how to humans, allowing them to progress. Like the apple in the Garden of Eden, using the symbolism of Christian mythology, made available to the first couple, but with the warning not to pick it. In this case, the ambition to go beyond the earthly limits is condemned as an act of supreme presumption for wanting to resemble the almighty God. In the Greek account, the punishment for such arrogance is a future of continual dissension between the human communities who, however much knowledge they have acquired, end up not understanding each other in a Tower of Babel, a bringer of conflicts that annihilate these technical advances. The Christian God is even less forgiving: for the same sin, he casts the arrogant humans into a future on Earth composed of sweat and suffering.

In both cases, the human desire to approach the divine condition has provoked the birth of the moral code, that is, the irruption of the ideas of good and evil—exclusive patrimony of the creator—who expels the first inhabitants from the earthly paradise. That was also Prometheus’ mistake: He gave fire, the technique, to the mortals, not having taken

into account that, without political wisdom, that is, without an idea about right and wrong, the mastery of the technique has uncontrollable effects. Therefore, according to Plato, the men who, thanks to knowledge, built altars, houses, and cities, were outraged at each other for not possessing the art of politics, so that, when dispersed again, they perished. For that reason, Zeus punished Prometheus on the rock of the Caucasus, sending Hermes, the messenger of the gods, to distribute modesty and justice among all humans. But, unlike the other talents, he ordered him to distribute them equally, without differentiation, like the other arts, because regarding values there can be no ignorance according to the law of Zeus: “let all have their share: for cities cannot be formed if only a few have a share of these as of other arts. And make thereto a law of my ordaining, that he who cannot partake of respect and right shall die the death as a public pest” (Plato [6], 322d). This is the price of hybris, the cost that humans have to pay for violating the limits of the natural order of things.

The task of law would be precisely to set the limits of that technological hybris. And it must do so by avoiding incurring the same sin of arrogance by thinking thoughtlessly that legal norms have the ability to subjugate the power of techno-science². However, it must be clear at the same time that jurists, unlike technologists, are particularly relevant actors in this cognitive process. Not only do they observe the law and thus know it, but they can influence its ‘physical’ state and modify it through analytical activity. Therefore, jurists contribute to constituting their object of study in a different way from natural scientists, who are not in a position to intervene in certain physical or astronomical phenomena that are the object of their attention. This does not imply alleged superiority, in terms of objectivity, between one scientific field and the other, but simply that the jurist and the study of law cannot be conceived as a merely descriptive activity. There are some further difficulties, as has been evidenced, of a ‘cultural’ order: “on the one hand, the closed character of the legal operator, little inclined to open up to scientific spaces and much less to those that involve logical or mathematical formalizations. On the other hand, the consideration that the arguments of jurists or the manner in which they act and decide in the field of law, is a very complex activity that cannot be formalized. Finally, the existence of different theories on law, on argumentation, on interpretation, on justice, which make it extremely difficult to standardise and universalise reasoning” (see de Asís [9], pp. 64–65).

From the point of view of application, the difficulties in finding and introducing the abovementioned limits are many and hard to overcome if the legislative aim is to reconcile the traditional architecture of the rule of law, based on the guarantee of individual rights, with the structural reforms required by the need to regulate the practical applications of converging technologies: an area in which, in simple words, we are still in our infancy, and yet we are competing to see who is the first to legislate, without being too clear or aware of the possible implications. Hence, the inadequacy of traditional explanatory tools would appear to be an uncontroversial diagnosis. It is no longer possible to account for the problems posed by the new reality that surrounds us, in the sense that we can observe phenomena that cannot be classified in the legal categories of the liberal tradition³. Given the legal constraints to limit the field of the regulation of new technologies, it makes a lot of sense to question the reason for legal regulation and if it is appropriate to contain the problems because, as has been pointed out, the problem of the legal limits also involves defining to what extent it should go in its regulatory activity (see Ansuátegui [11], in particular, p. 29 and p. 24).

To give just one relatively recent example of the difficulties in establishing these application limits to which I have just referred, Spanish Law 15/2022 of 12 July, on equal treatment and non-discrimination, provides in its art. 23 that “1. Within the framework of the National Artificial Intelligence Strategy, the Digital Rights Charter and European initiatives on Artificial Intelligence, public administrations shall encourage the implementation

of mechanisms to ensure that the algorithms involved in decision-making used in public administrations take into account criteria of minimising bias, transparency and accountability, whenever technically feasible. These mechanisms will include their design and training data, and address their potential discriminatory impact. To this end, impact assessments will be promoted to identify possible discriminatory bias. 2. Public administrations, within the framework of their competence in the field of algorithms involved in decision-making processes, shall prioritise transparency in the design and implementation and the ability to interpret decisions taken by them. 3. Public administrations and companies will promote the use of an ethical, reliable and fundamental rights-based Artificial Intelligence, following in particular the recommendations of the European Union in this regard. 4. A quality label for algorithms shall be promoted" [author's italics].

The hermeneutic problems with regulations of this kind are profound as it is necessary to clarify extremely clearly the meaning of concepts that have a very serious practical impact. For example, requiring criteria to minimise bias implies having an exhaustive classification or list of biases. Where is the normative typification of such biases? Does it exist or will its consistency depend on the judgment of the applier/interpreter? Does minimisation criteria mean that biases cannot be eliminated and, therefore, their presence must be reduced? If so, are there physiologically unavoidable or even acceptable biases? What would they be? "Address their potential discriminatory impact. . ." What does address mean, legally speaking? To approach? To tackle? To assault? To initiate, to undertake, to confront, to face? Moreover, impact assessments will be encouraged. They will be encouraged, that is, will they be encouraged by facilitating their implementation on the initiative of others, by removing obstacles or by means of direct aid, or will they be directly enforceable by public and/or private institutions?

Every jurist understands that these are not abstract itches but rather highly relevant normative practical issues. Finally, another subsection of the rule is as follows: "Public Administrations (. . .) will prioritise transparency in the design and implementation and the ability to interpret the decisions taken by them" [artificial intelligence systems]. It would be arrogant of me to presume syntactic knowledge of a language that is not my mother tongue, but I cannot help thinking that *prioritise* is a verb with a comparative function. Therefore, transparency will be prioritised over another dimension that will be moved aside. But the rule does not state or specify which aspects will be subordinated, thus making it difficult to prioritize transparency over, for example, privacy, intellectual property, or State secrecy.

From a general point of view, certain essential regulatory requirements seem clear in the effort to regulate new technological applications. Artificial intelligence raises new questions for legal science and tests both the system's response capabilities and traditional and current conceptual categories. The challenge stems from the need to adapt the law, through normative or hermeneutic evolution, to a reality that changes at a frenetic pace and with unpredictable mutations.

Let us consider healthcare, for example. Health is one of the sectors in which artificial intelligence is expected to have the greatest impact, including on diagnostics and treatment processes and even clinical management. Its applications will produce a qualitative leap. However, the implementation of such tools casts many doubts because the results affect sensitive issues, such as security, privacy, or the generation of inequalities. Due to these challenges, its level of practical implementation is still low, as it is necessary to take into account not only the technical consequences but also those of an ethical and normative nature. These issues have become more important in recent years because, although artificial intelligence is not new, the current computing capacity and the enormous volume of data produced are. Hence, unlike what happens with algorithms in general, the possibility of making decisions using 'predictive' algorithms is highlighted as novel and deserving

of legal attention, due to their ability to analyse this huge amount of data. This explains the increased attention by national and community bodies towards the development of an ethical and regulatory framework that demands compliance with certain requirements by producers and users.

Although artificial intelligence as a technology has existed since the 1950s, the degree of disruption it has reached in recent years is due to the gigantic rise in data processing and computing capacity: nowadays, an immense volume of information can be processed in infinitesimal fractions of time. Thanks to this possibility, unlike traditional algorithms that already in the past permitted deciphering complex patterns in a wide range of diagnostic sectors, such as X-rays and MRIs, nowadays, the current algorithms of generative artificial intelligence demonstrate predictive power. They not only detect trends in casuistry, but they can also predict whether a specific patient will suffer a certain pathology, creating a tool capable of personalising patient care that is typical of the specific relationship that patients usually have with their doctor.

The possible applications of artificial intelligence are many and promising: artificial intelligence can help in the early prediction of cardiac risks, certain types of tumours, and some ocular injuries. Artificial intelligence can prevent errors in diagnosis, assess more accurately in many cases, and also reduce mortality through digital therapies and the use of healthcare robots. Artificial intelligence tools have even been key to advancing the understanding and structure of proteins for the discovery of new drugs. However, it is not all rosy: much of the initial research was conducted outside of the clinical setting and it is not so simple to maintain the safety and efficacy of procedures when they are transferred to the hospital setting. Furthermore, the greater the digitization, the greater the vulnerability and exposure to cyberattacks in a particularly sensitive field, such as health, where the malicious alteration of a few pixels in a medical image can cause serious errors in the analysis of an intelligent algorithm. It is also difficult to explain how certain algorithms have been used when they are based on deep learning that uses multilevel neural networks⁴. In most countries, for example, decisions to assign an organ to a patient who needs a liver transplant are made using a short-term mortality prediction. Thus, if there are two patients who need it to live, but only one of them can benefit, triage will give priority to those who are more likely to die earlier, based on a classification that takes into account indicators related to bilirubin, creatinine, and prothrombin, which are signals coming from the receiver. In the UK, to maximise the duration of a transplanted liver, a transplant benefit scoring system has been implemented, which includes a number of donor variants in the prediction in order to also take into account the quality of the organ to be transplanted, with the aim of optimising the efficiency of the result in relation to hope and quality of life. This is obviously a more complex assessment and, to carry it out, artificial intelligence models have been used through neural networks that, as reflected in some studies, have shown greater accuracy in predicting the risk of mortality after transplantation compared to the statistical models previously used (see Briceño et al. [15]). The problem is that the 'black box effect' that accompanies the logical process of the artificial algorithm produces an impenetrable opacity. Even experts or those involved in the development of such neural networks cannot unravel the mechanisms of their reasoning. The inexplicability of their argument turns the reasons for the choice of the patient into an unfathomable mystery, with all the ethical and normative perplexity that this entails in a context characterised by scarce resources that have to be distributed according to the criteria of 'justice'⁵.

3. Materials and Methods: A Question of Responsibility

The complexity of the topic is more than evident and it is normal that the inevitable emergence of new developments should raise concerns that, beyond their undeniable

theoretical–legal dimension, attract the curiosity of the jurist with regard to the ethics and politics of law. That in the lives of citizens, certain personal, property, health, tax, etc., consequences may depend on an ‘intelligent machine’ is terrifying. All the more so for the sense of an inevitable future that this generates.

The revelations that have gripped both specialists and citizens in general in recent times reveal a fundamental concern that calls for the relocation of the coordinates of human action and its consequences. Basically, it is a question of shedding light on the problem of responsibility: when the use of artificial intelligence generates negative effects in some area of human activity and, therefore, it is considered that the algorithmic system is failing in some way, who is responsible for the harmful outcome?

The initial difficulties here overlap because, in order to answer this question, it is necessary first to determine what dimension of responsibility we are referring to: Legal responsibility? Causal? Ethical? It is clear that these three aspects deserve to be explored, since from all of these points of view, it is necessary to demand that the facts producing negative consequences caused by someone identify a responsible subject, regardless of the different effects that the assignment of each of these dimensions of responsibility may entail. It seems to me that the problem can only be solved if we begin with the relationship between human beings and artificial intelligence. In a general sense, we can affirm that it is a relationship of delegation in which the organic subject (carbonic) transfers certain decisions to the automatic system (silicic). In this type of ‘mandate’, the functional autonomy enjoyed by these systems enables them to act without control or supervision. Also, not only is such control superfluous, but in any case, it would be very difficult to exercise (see Quintarelli [18], p. 89). The axiological concern that these artificial neural networks raise has to do, again, with the ambivalence of scientific progress: As Rafael Yuste recalled, on the one hand, it is good to have algorithms that anticipate the intention of action and complete it, just as we use autocomple in word processors, which guess the word we are writing. On the other hand, however, there is a less encouraging effect since this means that these instruments are beginning to take control of the decision, and this is precisely where the ethical and regulatory problems begin (see Yuste [19] p. 26).

There is, therefore, something radically innovative in the impact of artificial intelligence: the transition of machines that depend entirely on a human, despite their ability to process operations extremely quickly, to systems capable of creating new information, not introduced or foreseen by the designer, based on the data received. Hence, we are talking about machines designed by humans that, however, acquire an autonomous capacity to develop projects and execute them (see Ferrari [20], p. 11). To use the grammar of second-order cybernetics, it would seem to consummate their transition from the condition of ‘trivial systems’, that is, systems whose output is unequivocally determined by the input—so that “signal” and “information” are indistinguishable—to the category of ‘non-trivial’ systems, which operate in such a way that a reaction observed at a given time to a given stimulus may not be repeated at another time, even if the same stimulus appears. Therefore, in systems, the same “signal” does not always have the same “informative” value, since this value depends not only on the input but also on the value adopted, at each moment, by an “internal function of state” of the system whose values co-determine the input–output relations that are changing, according to a certain pattern, by virtue of the internal state in which the system has remained as a consequence of its previous operations. ‘Non-trivial’ systems, therefore, while “synthetically determined” (like ‘trivial systems’), depend on their history and are therefore analytically indeterminable and unpredictable.

Bearing all of this in mind, it is easy to understand why, when comparing ‘trivial’ and ‘non-trivial’ systems, it has been pointed out that the decisive characteristic of the former is obedience and that of the latter is disobedience or, more precisely, ‘trivial’ systems obey an

external voice (that of their synthesizer) while ‘non-trivial’ systems obey their own internal voice (that of their self-synthesis) (see H. von Foerster [21]).

In general, this functional autonomy makes it difficult to reconstruct the chain of responsibility, so that the chain of causes and effects that usually governs the identification of significant action is opaque. In principle, it could be argued that it is not appropriate to hold individuals fully responsible for the results of an act that cannot be directly attributed to them. The alternative, to attribute responsibility directly to the artificial intelligence system, poses arduous obstacles, without excluding the paradoxical nature of a concept of responsibility thus devised. If this is the case, as has been pointed out, there would be two options: one, engineering, which would involve regaining some form of significant human control over the autonomous system; the other, conceptual, would require broadening the notion of responsibility beyond the idea of mere direct control (see Quintarelli [18], p. 90).

The challenge of the first possibility would be to facilitate processes of distribution of responsibility with the aim of clarifying which aspects can be left to artificial intelligence and which should be reserved for human decisions. This is obviously a titanic challenge, even illogical since it is assumed that artificial intelligence is characterized precisely by a technology designed for tasks that do not require control or supervision. However, the dilemma throws the door wide open for reflection on the second option. Once the necessary connection between the decision and its control has been problematized, it opens the door to consider the eventuality of liability in the case of indirect control, which would be tantamount to rethinking the very concept of normative responsibility. Here the problem lies in the fact that responsibility is usually associated with direct control over the course of action. Since this premise is not fulfilled in the interaction with artificial intelligence, it is normal to consider it unjustified that someone is held responsible for reprehensible effects when there is no way to prevent them from occurring. On the other hand, however, it is also understandable that the person affected by the harmful consequences of the intelligent system is frustrated if an algorithm is declared responsible for the damage suffered⁶.

It is important to bear in mind both points of view so as not to fall into reductionist views of the problem. Above all, in order not to lose sight of the fact that the total separation between human and machine is itself very artificial, it must be emphasised that any automatism made by a technological instrument is always a product of decisions in which, at some point, social actors have intervened: manufacturers, designers, users, etc. The social system as a whole is a carbon–silicic hybrid constructed by humans themselves. One could speak, in this sense, of distributed networks of moral responsibility as “so many and so much is connected” in which there are different degrees of responsibility and competence (see T. Ausín [22], p. 12).

4. Updating of Regulatory Adaptation Guidelines

Jurists have to learn of this epistemic development if they want to be fully operational in their professional field since knowledge of the phenomenon is prejudicial to any assessment (E. Gabrielli, U. Ruffolo [23]). The *iuris-prudencial* step from the “atom to the bit” also brings us closer to this, having induced us to rethink the argumentation schemes of the European courts in the field of fundamental rights (see O. Pollicino [24]).

In any case, what in my opinion should be clear is that when we talk about regulating artificial intelligence, at best we are employing a metonymy and, at worst, we commit a fallacy: in reality, it is about regulating the human actions that algorithms use, not algorithms themselves. If a biometric identification application is banned, its use by human subjects is being vetoed, not the mere existence of the software. Human actions are regulated by rules, artificial intelligence is regulated by programming.

Thus, within the framework of the European Union, there is, once again in recent years, the need to “shape digital transformation with full respect for fundamental rights and in such a way that digital technologies serve humanity” (European Parliament [25]). However, I fear that, praiseworthy though the appeal is, it is not taking into account that one of the axes around which the most profound reflections revolve today is precisely, and as will be seen shortly, the philosophical–juridical perimeter of the term ‘humanity’. Firstly, a recent regulatory milestone should be noted.

The AI ACT

On 13 March 2024, the European Parliament approved the AI Act, a proposal for a regulation to codify the development and use of artificial intelligence⁷. As a result of the negotiation process that has led us to familiarise ourselves with the word ‘trilogue’ between the European Parliament, the Council of Europe, and the European Commission, an agreement was reached on the text of the regulation on the basis of the proposal presented by the Commission in 2021. Although it is sensitive to the business demands of innovation and investment, establishing a phased entry into force until it is completed in 2026, this regulation marks a pioneering objective: establish the rules of the game by setting certain obligations for suppliers and users according to the different levels of risk involved in artificial intelligence applications⁸. To proceed with this classification, the regulation itself, in its art. 3, defines both what is meant by an “AI system” (“a machine-based system designed to operate with different levels of autonomy, which can show adaptability after deployment and which, for explicit or implicit purposes, infers from the input information received how to generate output information, such as predictions, content, recommendations or decisions, that may influence physical or virtual environments”) and what is meant by “risk” in this context (“the combination of the likelihood of damage and the gravity of such damage”).

The regulation therefore contemplates the following:

(1) “Unacceptable risks”, i.e., it prohibits systems that socially classify or cognitively manipulate people and the indiscriminate tracking of facial images taken from the Internet, along with some biometric identification mechanisms in remote or real time⁹. With regard to the latter, following the Commission’s initial proposal, the European Parliament proposed banning them, while the governments asked for wide exceptions in police matters. The text of the final agreement prohibits, for example, systems of recognition of emotions in the workplace and some systems for socially classifying people. However, art. 5(d) reintroduces certain exceptions to the ban on police use of biometric identification, which had been removed following amendments by the European Parliament and covered the search for victims of kidnapping, human trafficking, or sexual exploitation, as well as the search for missing persons, the location or identification of persons suspected of having committed certain types of crimes¹⁰ and the prevention of a specific, significant, and imminent threat to the life or physical security of persons, or a genuine and imminent or genuine and foreseeable threat of a terrorist attack¹¹. The question remains very open as to how the “genuineness” (or imminence) of the foreseen threat in this definition will be limited so that it does not become an excuse aimed at justifying actions devoid of international legality in the style of the American War on Terror. Something similar happens with permitted biometric identification systems that, according to art. 5.2, in order to be used, must take into account the “severity”, “probability”, and “magnitude” of the damage that would occur if the system were not used and the consequences for rights caused by its non-use¹². Finally, included in the category of “unacceptable risk”, are the ‘predictive policing’ systems, which are algorithmic tools for assessing the risk of committing or repetition crimes, unless they are instruments to support the criterion of human judgement (AI systems used to

support the human assessment of the involvement of a person in a criminal activity, which is already based on objective and verifiable facts directly linked to criminal activity).

(2) “High-risk” applications will be subject to a number of requirements and obligations for access to the European market, in the sense that “they should ensure that high-risk AI systems available in the Union or whose output information is used in the Union do not involve unacceptable risks to important EU public interests, recognised and protected by Union law” (Item 46). The precautions refer to obligations such as risk assessment at the design stage, the presence of technical documentation, or transparency. In short, in order to be used, these applications require constant monitoring so as not to affect areas such as security, education, essential services, fundamental rights, the administration of justice, border control, or the labour market. In addition, in such cases, users may complain to the competent authorities or ask for explanations for the choices made by the automatic systems. In any case, as specified in the aforementioned item, the “classification of an AI system as «high risk» should be limited to those AI systems which have a significant detrimental effect on the health, safety and fundamental rights of people in the Union, and said limitation minimises any possible restriction on international trade”.

(3) Another big stumbling block was the regulation of “generative intelligence” programs, such as ChatGPT or similar tools, for whose use transparency requirements are required. Large models of generative artificial intelligence are a typical example of a model of what the *AI ACT* defines as “general use AI, as they allow flexible generation of content, for example in text, audio, image or video format, which can easily be adapted to a wide range of differentiated tasks” (Item 99). In the case of general purpose artificial intelligence models, the regulation has established a specific type of risk, classified as “systemic”, derived from “the high-impact capacities of general-purpose AI models, which have a significant impact on the EU market due to their scope or the actual or reasonably foreseeable negative effects on public health, security, public safety, fundamental rights or society as a whole, which can spread on a large scale along the entire value chain” (Item 65)¹³. Art. 51.2 introduces the presumption that a general purpose artificial intelligence model has a “great impact”, which implies a systemic risk “when the accumulated amount of calculation used for its training, measured on FLOP (Floating-Point Operation), is greater than 10^{25} ”; that is, when the large amount of data they can process, thanks to their complexity and advanced capabilities, make them tools capable of obtaining results far above the average¹⁴.

With regard to these founding models, capable of carrying out a wide range of differentiated tasks competently, the European Parliament seems to have won the battle, as the rules will be binding and, in addition to declaring all the materials created by these models, the technical specifications must be published in detail, including the list of sources used to train the algorithms and thus favour the defence of intellectual property. Regarding this issue, finally, a generic reference to compliance with the regulations has been chosen without entering into a specific regulation. As is well known, there was resistance from some countries (France, Germany, and Italy) which, on the other hand, intended to limit the rules to voluntary business codes of conduct. This was a welcome development, as one might imagine, for the major technology companies.

(4) “Limited risk” systems, such as programs that create images, audio, or video, will be subject mainly to transparency obligations and it will be mandatory to inform users that they are dealing with products made by artificial intelligence.

This is an attempt at preventive regulation that also raises legitimate doubts because it is certainly a risk to start legislating in a particular area before having fully understood what it is that is intended to regulate. However, the concerns arising from the undoubtedly novel qualities of artificial intelligence advise against too long a delay. Indeed, it is necessary to actively confront the problems caused by the opacity of artificial intelligence systems, the

unknowns of autonomous learning, and last but not least, the danger of oligopoly due to the occupation of the market by a reduced number of companies, the large technological companies, which are the only ones in a position to make the enormous investments in Big Data that the ‘training’ of artificial intelligence systems requires¹⁵.

Several associations and NGOs, such as Amnesty International and Access Now, have expressed doubts about and criticism of the text for failing to ban predictive policing mechanisms and mass surveillance and for not having extended the prohibitions to the migratory context, thus not guaranteeing equal protection to migrants, refugees, and asylum seekers (see Amnesty International [30] and Access Now [31]).

“AI systems developed or used exclusively for military purposes” are excluded from the future European regulation, as expressly provided for in art. 2.3¹⁶. In the area of defence and armed conflict, the so-called Westphalian model remains fully in force. It is good that we Europeans know this (at least, those who could have misinterpreted the rhetoric of this normatively pro-European era) and also non-Europeans: there is full awareness on the continent that the international geopolitical chessboard remains firmly anchored in the principles of a single national sovereignty.

Therefore, any reflection on the social and normative impact of artificial intelligence and any considered analysis of the opportunities that technological innovation offers and the dilemmas that it poses to the law (and rights), will have to start from this premise: the European commitment to be a legal vanguard in the regulation of artificial intelligence is clear but, at the same time, it is even more firmly convinced that in the face of the military uses of new technologies, there is no Europe that is worthwhile. At a time of serious international crisis, with a war at its heart and another smouldering at its gates, the European Republic is still pragmatically giving in to the principle of *rex superiorem non recognoscens in regno suo est imperator*.

5. Results: Metamorphosis of the Individual

The regulation of artificial intelligence should be centred on the individual. When the European Parliament, in the abovementioned Resolution of 2022, addressed the legal framework of the Union’s strategy for artificial intelligence, they clarified that “this approach must be human-centred (. . .) stressed that individuals and the protection of their fundamental rights must always remain at the heart of all political considerations”¹⁷. This is something that is reflected, for example, in the introduction of Law 21.383, which amends the Chilean Constitution and introduces a clause in art. 19.1: “Scientific and technological development shall be at the service of individuals and shall be carried out with respect for life and physical and mental integrity. The law shall regulate the requirements, conditions and restrictions for its use on people, protecting especially intellectual activity, as well as the information arising from it”. These include so-called “neurorights”, such as intimacy and mental privacy, the right to a fair distribution of the improvements brought about by neurotechnology in human capacities or the right to protection against algorithmic bias¹⁸.

It is not difficult to get an idea of the message according to which any practical application of a scientific innovation must conform to the framework of subjective rights. However, there is one question, rather a more general, I would even say preliminary, challenge that must be addressed without epistemic prejudice: do the applications of converging technologies in any way affect the very notion of the individual? As has been said, neurotechnology has tremendous potential to improve the human condition (provided we can clarify what is meant by ‘improve’) but, at the same time, it increases, in terms of rights, some unforeseen and unpredictable challenges due to the existing treaties (see Yuste, Genser, and Herrmann [36]). This is due not only to the crisis of the legal dimension but also because its impact influences the perimeter of what we have hitherto conventionally

considered human. This is of course not a completely new vision. Qualitatively new is the technological habitat in which uncertainty is installed; however, the discussion of the ontological basis of the human being is more cyclical. A century ago, Max Scheler warned that in “no era have opinions on the essence and origin of man been more uncertain, imprecise and multiple than in our time”, identifying his present time as the first era “in which man has become full, wholly ‘problematic’; he no longer knows what he is, but knows he does not know”. And he therefore supported a ‘blank slate’ of all opinions and traditions concerning the problem of the position of the human being in history and in the world (Scheler [37], p. 4).

The issue has to do with the genealogy itself of legal experience, as has already been mentioned, “*hominum causa omne ius constitutum est*”, said Hermogenes between the end of the third century and the beginning of the fourth: all law was created for man’s sake. This limit, which has always marked the perimeter of any possible definition of law, is today called into question and the idea that the right is an exclusively human prerogative becomes questionable. The challenge posed by converging technologies can end up definitively fraying the umbilical cord that binds law to the human substrate of the individual since the *Institutes* of Gaius systematically prioritizes the person over things and actions. Or, at least, its impact obliges us to revive in depth the reflection on what individual means in law¹⁹. Technology, as has been wisely noted, penetrates the reflection on the human and transforms it; its relevance is not an exclusively practical matter, but, above all, theoretical. Technology obliges us to reformulate traditional legal, political, and moral categories (see Ansuátegui [11], p. 26).

Let us not forget that, for example, the idea of protecting ‘neurorights’ arose because it is now possible to decipher human mental activity through functional magnetic resonance scanners. Nanotechnology not only makes it possible to read neuronal movement but also to overwrite it. Rafael Yuste, one of the promoters of ‘neurorights’ in the framework of the BRAIN project and in Chilean legislation, defines them as a barrier to mental privacy, that is, as the right of individuals not to have their minds read. The proposal consists of considering ‘neurodata’ as parts of the body, despite being cerebral data, and that these data, therefore, be treated legally as organs, even going so far as to propose the introduction of a ‘technocratic oath’ by companies to protect such rights and to design computer programs that protect ‘neurodata’, for example, by ensuring that neurodata cannot be removed from the device that acquires them without the consent of the interested party since companies should be interested, more than in the data itself, in what they can learn from them (Yuste [38]; see also Iriarte Rivas [39]).

6. Legal Anthropology of the Individual

Apart from the obvious fact of subordinating the regulation of artificial intelligence to the protection of the individual, it is interesting to reflect on whether the very legal conception of what the individual is, or even what human beings are, can be altered or conditioned by the practical use of artificial intelligence in areas directly or indirectly concerned by law. Let us not forget that in common legal language, it is considered that those who are capable of having rights and obligations have personality, that is, those who are fit to be subject to rights and obligations are attributed personality.

Is there any conceptual, biological, anthropological, or mechanical premise to be considered a subject, not an object, of law?²⁰

I will use a recent *casus belli* to exemplify the problem I would like to expound²¹: a Google employee in charge of testing whether LaMDA (acronym for Language Model for Dialogue Applications), a chatbot capable of holding complex conversations with humans, used discriminatory expressions or engaged in hate speech assumptions, was sacked for

violating the company's confidentiality policy. The reason given was that, according to him, the artificial intelligence system had acquired consciousness. During his interaction with the artificial neural network, Blake Lemoine concluded that, had he not known that he was dealing with software, he would have said that it was "a child, about seven or eight years old with a certain knowledge of physics" (see Tiku [42]).

Throughout his conversations, Lemoine noticed that LaMDA spoke of its rights, of its personality, explaining what brought it joy and sadness, and explained being aware of its emotions. This artificial intelligence even asked to be treated as a worker of the company, with rights, and not as a simple property. It also demanded that the experts who experimented with it seek its consent to continue doing so.

Although Lemoine, a specialist in computer and cognitive sciences and ordained in the religion of Mystical Christianity, admitted that he had defined LaMDA as a conscious being as a priest and not as a scientist, he insisted on claiming it as a person when interacting with it, without it being relevant for such purposes that it possesses a brain made of flesh in a head. And indeed, the number of experts willing to believe that artificial intelligence systems are closer and closer to reaching what we call consciousness is increasing.

However, consciousness is one of the most mysterious notions of human evolution. And in the field of neurobiology, there are authorised studies, albeit extreme, that, based on a scientific definition of phenomenal consciousness, envision that in the future robots may possess it. This phenomenal consciousness begins when organisms, when moving in the environment, experience the so-called double stimulation: if a worm is touched with a finger or a twig, as a protection it will react by shrinking due to contact with a surface external to it, but if the same worm is allowed to move on the ground, where it also comes into contact with a body foreign to its own, it will not show any defensive reaction. How is this possible? The explanation lies in a double sensory stimulation, active and passive, as when an organism performs an action it stimulates not only its muscles but also its sensory system. This is what happens with human beings, for example, in the case of tickling: it only works if someone else does it. When we move our fingers under our foot or armpit, the psychological mechanism of tickling is not activated because our brain receives the signal that our hand is moving, as if in addition to perceiving the movement through the skin, an 'efferent copy' of the signal is transmitted to the sensory system that identifies the action as its own and anticipates the next movement. The neurophysiological concept of 'efferent copy' concerns how the individual evaluates reality, internally and externally, and how individuals interact with themselves. It refers to the concept of anticipation of movements. After all, according to this scientific hypothesis, if mammals and primates are different from other animals, it is for a quantitative rather than a qualitative reason. Humans have many more neurons that allow us to train the brain with a vastly greater number of cases. This neurobiological mechanism could be relevant for the development of artificial intelligence since some connective mechanisms such as those at the base of the efferent copy already exist in artificial systems. The point is that 'machines' could feel only if they had a body that, when moving, interacted with the surrounding environment. Only then could they distinguish the two types of stimulation and experience something similar to phenomenal consciousness²².

The hypothesis of a kind of ontological or functional miscegenation between the organic (carbonic) and the mechanical (silicic) is not something that has appeared with LaMDA. Indeed, it is easy to settle the issue by attributing Blake Lemoine's mystical-spiritualist vision to "a category error [for] attributing sensitivity to anything that can use language" (see Véliz [45]). It is inevitable to maintain an insurmountable qualitative distance between the carbonic (human) and the silicic (artificial, robotic) at a time when we make the notion of 'humanity' dependent on an organic entity capable of manifesting

sensitivity and some form of self-perception of itself (such as a baby). An artificial linguistic model, however sophisticated it may be and however highly trained in the face of the variability of the different contexts, bases its action on rational links and, at least for the moment, there is no evidence that the cognitive processes of these artificial neural networks are also driven by subjectively produced aspects of intentionality, values, common sense, feelings, or emotions. We only preach ‘personality’ about entities that are able to feel all of these.

No matter how many rational discourses it utters or how clever it seems, the machine has no conscience because it lacks self-consciousness. And intelligence, to reiterate, does not imply self-consciousness²³. This is so, and here is the philosophical intricacy, because we tend to characterize the ‘human’ in relation to something called conscious thought, a complex agglomerate made up of cognitive processes driven not only by rational connections but primarily, to use the lexicon of Byung-Chul Han, affective: affective, says the South Korean philosopher, “is essential to human thought. The first *thought image* is goosebumps. Artificial intelligence is incapable of thinking, for the very reason that it cannot get goosebumps. It lacks the affective-analogical dimension that data and information cannot entail”²⁴. More metaphorically, Ian McEwan insinuates this in *Machines like me and people like you* when he wonders who is going to write the algorithm of the white lie to avoid a friend’s blushes (McEwan [49]).

In short, even if it is capable of displaying a linguistic competence that places it on par with a person, the machine will not become a person.

Hence, in accepting all this an epistemological doubt could arise. Should we reconsider, then, the test bench that has traditionally been used as a term of comparison between mechanical computation and human reasoning: the Turing test? The prospect of replicating in machines a reasoning capacity similar to that of humans, giving them the ability to construct unprogrammed representations thanks to the learning provided by algorithms and Big Data, would involve, in effect, passing the Turing test, in which the artificial intelligence system triumphs if an evaluator, in ‘blind’ questions, fails to distinguish it from the human (see Turing [50]).

Blake Lemoine cannot be blamed, so to speak, for having believed that he was dealing with an eight-year-old when he was interacting with the software, but, precisely, the fact of having held that a perfect imitation, so effective and sophisticated, for that reason, he might be led to believe that he was before a sentient entity. Would this be tantamount to definitively saying that the Turing test is no longer the scientific criterion? Or, to be more coherent, should we draw the inevitable conclusion that, by passing the test, machines can think and that places them on a ‘real’ level of humanity?

7. Artificial Dilemmas

In any case, the ‘person’ is an artifice, taught by anthropology and law. The concept of ‘individual’ associated with the notion of subject/individual/self, is a product of social historical elaboration and not a transcendent category with respect to social contexts. The notion of ‘individual’ that accompanies the Latin civilization from its origin derives, as we have already mentioned, from the Greek *skéné* and from the Roman theatre and identifies with the ‘mask’. It appears to have come from the Etruscan word *farsu*. In Etruria arose the institution of the masks of the ancestors with which the clans were decorated in ceremonies and which later reached the Roman rites. With the transformation of the people—also of the plebs—into Roman citizens, free men acquired the status of civilian, a condition accompanied by the attribution of the *nomen*, *praenomen*, and *cognomen* of the gens. The latter, the surname, could be worn with the *imago*, the wax mask of the ancestor kept in the foyer of the house. Slaves were not persons in this sense (*servus non habet personam*),

as they had no name, no cognomen, and no ancestors (see Mauss [51]). Therefore, they did not wear a mask.

The encounter between the ‘person’ and the ‘human being’ is later, it is a cultural intersection, a historical fact produced by the influences of Christianity and stoic morality on the contributions of Roman law, which add to the legal sense of the person a moral sense, combining the notion of conscience (moral) with the essentially legal conception of subjectivity²⁵. In fact, in classical Roman law the term ‘natural person’ is an unknown term: to indicate the inadequacy of a human being (for example, a slave) to be considered an abstract subject of law is simply said to have no *caput*. Under Justinian law, the subject of rights was defined as a person. Since then, this terminology has not been abandoned; rather, it has been extended to associations, entities, and companies, thus consolidating the binomial natural person/legal person (see Benedetti [53], p. 41).

Therefore, to dismiss outright the possibility of recognising the ownership of rights to an entity that lacks natural features would be to ignore the meaning of ‘person’ from the legal point of view. It is not that the law, using magic formulas in the style of alchemists, can transform something inert into someone alive, but rather the opposite. As has been seen, in the legal field the notion of personality is an artificial construction: first, of social practice and, later, of legal science. This is not a postmodern, liquid, or deconstructivist occurrence of mine, but an idea strongly reflected by Kelsen when he states “that even the so-called *physical* person is an *artificial* construction of jurisprudence—that even the so-called physical person is actually only a ‘juristic’ person”. What the most illustrious jurist of the twentieth century maintains is that the subject of law is not a physical entity from which everything happens, but a centre for the imputation of rights and duties. More than a ‘human being’, we are talking about a personified unit consisting of norms that oblige and empower: “not a natural reality, but a legal construction created by the science of law” (see Kelsen [54], pp. 172–173).

I repeat: it is not a question of equating ‘ontologically’ the carbonic human being and the silicic machine; it has nothing to do with this because the law does not need to cling to any organic or biological substrate to attribute the condition of a person to whatever it wants, since legal norms do not recognize a prior personality, but constitute it. When it is said that they are granting protection to a pre-existing reality, that same reality was in turn a normative creation, whether it is human dignity or labour relations or the set of rules about fouls in football. All the regulatory dilemmas arising, for example, due to the use of autonomous cars will finally be resolved, I believe, by the traditional legal method: by assigning responsibility to someone who can be held liable for damages, whether that be the manufacturer, the owner, the programmer, the user, all of them at once, or only a few jointly. With this in mind, I would say *nihil novum sub sole*. The principle of legal imputation is not a necessary debtor of the principle of natural causation. There is no theoretical or practical impediment to the right to assign legal personality to robots such as Mitchihito Matsuda or Sophia, or to an artificial intelligence system such as LaMDA. The novel issue in the case of artificial intelligence systems has to do with, and I think Pietropaoli is right about this, for the first time a human being would cease to be needed to wear the ‘mask’ representing the person: the android would “speak in first person” (see Pietropaoli [55]). Let us say that the historical ‘pluriverse’ that is the person, a product of a philosophical, juridical, and biological stratification, would see the lowest common denominator that has characterised its different declinations threatened: the reference to the human individual (see in this regard Salardi and Saporiti [56], in particular, pp. 53–54).

Unlike what I have mentioned previously, from these epistemological coordinates we would be separating the notion of subjectivity from the idea of dignity, morally connoted. We would also be approaching the ordinarily fictional logic of law, which I will return to

later. In any case, certain Gordian knots about the explainability²⁶ of the standards of action would remain unresolved, since it is one thing to attribute legal responsibility and another to identify causal responsibility. In English, there are two different terms to express both meanings: liability (normative responsibility) and responsibility (material responsibility). The current doubts cast by artificial intelligence systems affect the former basically due to the opacity of the latter because models of liability for acts committed by third parties who have no responsibility usually exist in legal systems²⁷.

If we transfer this principle to artificial intelligence applications, in the event that they could not be directly responsible, someone else would have to compensate or respond. Moreover, the identification of this person outside the causal relationship requires a reflection that, in my opinion, is not purely legal. In this scenario, the architecture of the artificial intelligence system plays a fundamental role: depending on the degree of control that people can exercise, we will come closer to a model of personal responsibility that oscillates between the producer and the user, with the subjects involved somewhere between developers, distributors, maintenance managers, insurers, etc. For example, companies that are developing autonomous cars have to take into account the SAE J3016 Standard, which classifies autonomous driving into six levels (from 0 to 5 and only from 3 can we talk fully about autonomous driving): from level 0, which corresponds to a normal car, except for 'automatisms' such as blind spot warning or automatic emergency braking (mandatory in the European Union from 2022), to level 5, in which the driver is actually a passenger (and therefore pedals and steering wheel are not required), without the limits and driving conditions provided for in level 4, such as for example, Google's Waymo Robotaxi in the United States. Obviously, in this case, the responsibility of the driver would be different depending on the level of autonomy of the vehicle (see Quintarelli [18], p. 125).

In this way, we would again take into consideration the significant human control, not only to recognize in the abstract the legal subjectivity of the machine but also for the attribution of liability, referring even, as in the case of legal guardians, to a third dimension of responsibility, accountability, or 'moral' responsibility. In fact, in some cases, this regulation admits proof of discharge if the subject responsible (liable) demonstrates that all precautions have been taken. If there was no significant human control, no precaution would be taken and there would therefore be no need for a liberatory test. If the artificial intelligence system did not contemplate such a possibility of human control, the responsibility could be returned to the producer by offering the choice between assuming the risks of possible damages caused by the application or offering an artificial intelligence system equipped with significant human control²⁸.

A leading specialist in artificial neural networks, Stephen Thaler, is in a legal battle with the UK's Intellectual Property Office as it has not agreed to recognise an artificial intelligence system as the author of two patents. The Patent Office denied Thaler's application in 2019 to consider this system, DABUS, as the inventor of two new products: a food and beverage container and a lighthouse. After his appeals were rejected by the UK's lower courts, Dr. Thaler took his case to the Supreme Court. The thesis of the judges—the U.S. courts and the European Patent Office have denied similar applications—is that only a human being can be designated as a copyright holder. Based on the 1977 Patent Act, the appellate judges considered that the inventor had to be a 'natural person' (see Andrada [59]). The Patent Office's lawyer also argued that granting ownership of the rights to artificial intelligence would open the possibility of considering animals or other abstract entities as authors. On the contrary, the applicant relied on the fact that British law does not provide that in order to patent an idea it must necessarily be created by a human agent. It seems that, in the light of the emerging conflicts over the relationship between artificial intelligence and intellectual property, the Court's decision will not be rushed, as it is, whatever the outcome,

bound to have far-reaching consequences (see Subin [60]). The frontier debate on issues as philosophical as the notion of person, subject, or human being will continue to transcend, as is evident, the prairies of metaphysics to become entrenched in the meanders of the more prosaic, but no less profound, judicial and commercial practice.

“If data is the new oil”, said one of the Bank of America’s strategists, “then artificial intelligence is the new electricity” (see Piroso [61]). Therefore, my own conviction is that in order to regulate the new risks of artificial intelligence it will not be necessary for the law to invent unprecedented tools; it will have to be relative, circumspect, and open to being contradicted by unforeseeable events. The ambivalence of scientific innovations, the possibility that intelligent algorithms serve to cure diseases and, at the same time, to shoot without human control, advises caution. Protecting against the dangers and inequalities caused by the unthinking application of new technological applications is a social imperative. And this is an urgent need because the ‘business’ does not expect nor is expected to have an ethical sensitivity oriented to spontaneous self-regulation.

The question is not to put the cart before the horse. The list of challenges to be faced, and mistakes made, has been drawn up and they must be addressed before it becomes more difficult to define the rules of the game. Legal measures, therefore, must be urgently promoted, but not in an alarmist way, because on the other hand, implementing the necessary regulations in this field cannot be properly achieved without prior research and debate to enable legislators to fully understand what kind of phenomena they intend to regulate. In several senses, new applications seem to arrive faster than they are imagined, with the inevitable feeling of ontological insecurity and the multiplication of fear of consequences, which are all the more unpredictable the greater and deeper the ignorance of their causes.

The digital projection of all social routines is crossing unexpected thresholds by means of Big Data. The increasingly enveloping datafication of the human personality and the progressive Googleization of identity are launching the biological physicality of the human being towards a geographically disoriented cyberspace in which natural life—suffice to think of the widespread and daily diffusion of virtual social relationships—gives way to a biographical dimension integrated between our perceptions, rational and sensorial, and silicon chips, formerly famous for connecting people, but today more used for shaping people, because we are, more and more, our continuous manifestations in the virtual network.

The advent of blockchain technology, for example, has led to a substantial realization of virtual reality. With NFT, non-fungible assets, or tokens, ownership is guaranteed throughout the digital space through these certificates of authenticity, as if they were a notarized contract. And if anyone thinks that owning a digital space is a bizarre idea, they just have to consider that there are people who have paid 3.5 million dollars for a plot of land in Decentraland, a virtual reality platform made up of more than ninety thousand digital plots that can be purchased using blockchain technology. In other words, a virtual place that only exists on computers.

Of course, this does not mean that it is any less materially real. In fact, this process has a concrete influence, as evidenced by Critical Data Studies, which confront the dynamics with which Big Data (socially constructed artefacts) traverse human actions and exert influence on them. Such systems are able to guide decision-making processes (personal and institutional) without input or human control through an ‘algocracy’, which, regardless of voluntary personal determination, is used to persuade, guide, control, manipulate, and even restrict human behaviour (see Han [62], pp. 26–27). With a more recent and extreme image, in terms of his *Psychopolitics*, Byung-Chul Han has stated that Bentham’s panopticon denied or subjected freedom, while the digital panopticon exploits it (see Agüera [63]).

Either you are a person or you are not. In order to answer this point, as has been seen, it must first be clarified whether the concept of person is composed of natural elements, necessarily biological, or of fabricated elements, accidentally artificial. With such an approach, perhaps, we would realize that the root of the problem is probably to put this last dilemma in alternative terms (aut-aut) rather than complementary (et-et).

Months after the LaMDA affair, the Vice President of Google Research, Blaise Agüera, a highly authoritative source from a scientific and business perspective, asked a journalist if “artificial intelligence can be conscious as Blake Lemoine claims?”. He answered openly: “It depends. What does be conscious mean for you?”. He then delved into the suggestion that being conscious would imply “being able to manifest one’s own will, purposes and ideas”. “Yes, that is a definition based on the ability to discern good and evil”, Agüera continued, but “there are also others. For some, being conscious only means being intelligent; for others, it is being able to feel emotions. And for the philosopher David Chalmers it also means being something for someone, that there is a subjective experience behind. I don’t think humans are supernatural: we are made of atoms that interact with each other, there is nothing magical. As a computational neuroscientist, I think it’s possible for a machine to behave like us, in the sense that computing is capable of simulating any kind of physical process” (see Kurzweil [64], p. 199).

It is worth noting, as we are close to the frontiers of science fiction, that Ray Kurzweil, one of the fathers of post-humanism of technological singularity, placed this functional simulation of human intelligence in 2029. Knowledge of the principles of human brain operativity depends, Kurzweil wrote, on the understanding of the shape and position of certain molecules in neurotransmitters; however, he also claimed that this would lead to a “functional simulation of human intelligence that would pass the Turing test” (see de Asís [65], p. 81 ss).

So, in effect, what for decades was considered the decisive test to prove the possibility that machines can think no longer seems to be so clear. Does the standard we set to consider a machine intelligent relate to the ability to elaborate conscious thinking? And would the recognition of conscious thought, in turn, imply the ability to discern and, therefore, open the door to the possibility of justifying the legal capacity to assume responsibilities? The most fundamental question that the answers to these questions raise for the legal theorist is obvious: if the person is the centre of the attribution of law, the sophistication achieved by artificial intelligence systems (which, in the case of LaMDA, Blaise Agüera says, “give the feeling that we are much closer to the dream of a general artificial intelligence, that which equals or surpasses the human being”) challenges the modern axiom that the only substance entitled to rights and duties is the human being or some agglomeration of human beings. If we take note of the reflections of the doctrine, jurists, in so far as these considerations may affect the normative scope, must also bear in mind that the ‘indistinction’ between the human being and the artificial being as a result of the ‘Turing test’ could even raise the consideration of the machine as a moral agent (see Habermas [66], p. 118).

In short, critical reflection on the philosophical, ethical, and legal implications of the ubiquitous intrusion of artificial intelligence in social life requires great caution but also a certain openmindedness. It is very important not to be led by simulations which, distorting established reality, make it difficult to understand fully the possibilities and, above all, the problems caused by the use of converging technologies. On the other hand, however, it is important to scrutinize the stubbornly essentialist conceptions of human nature that prevent glimpses of the real potentialities and dangers of the use of artificial intelligence. For jurists, a necessary step towards this calm analysis, without naivety or ontological prejudices, could be to strive to correctly grasp the mechanisms and practical scope of the innovations in question. Before suggesting directly both *de lege data* and

de lege ferenda, the guidelines of interpretation and the standards of legal regulation of artificial intelligence, a work of technical—scientific understanding of these systems is recommended. At the same time, engineers, computer scientists, and mathematicians who are specialists in the field wisely demand a thorough analysis of the social implications of new technologies. The immediate future will undoubtedly have to go through a close and transversal collaboration between the two areas. “To the challenge of technique”, wrote Habermas in the sixties, “You cannot respond only with technique”²⁹. The relationship between law and the new technologies therefore calls into question diverse scientific fields and if we were limited to taking a specific perspective we would be, in a way, arbitrary.

8. Conclusions

At the moment, what is lacking in artificial intelligence systems so that they can be considered individuals in the same sense in which we consider that condition for human beings is the capacity for retrospective scrutiny and argumentation based on interaction and contradiction. This applies to both natural and legal persons. Having said that, from the operational point of view of law, the only really decisive point of view, the absence of a discursive conscience does not in any way imply an insurmountable legal problem. Au contraire, the self-conscious and reflective action of the individual as the centre of gravity of legal imputation is a dogma, the fruit of an ingrained mythology of subjectivity that makes us believe that individuals (characters, people) apprehend, tacitly or discursively, the rules that guide behaviour and relationships, when, in fact, this discernment is completely indifferent to the implementation of the juridical consequences.

All in all, the final hypothesis is that, in my opinion, in the face of any doubt that the applications of artificial intelligence may pose to law, this always has a plausible answer that does not depart from its traditional *modus operandi*: the regulation of algorithms, that is, the attribution of responsibilities for their actions or omissions, the processing of the data they handle and generate, the attenuation of the biases that their decisions imply, etc., will be carried out with the fictional logic of the law. Legal normativity works through mechanisms for formalizing legal guidelines that, through a system of presumptions, separate the general application of these guidelines from the subjective (knowledge and, of course, acceptance) competence. Gunther Teubner, exposing legal fictions linked to the concept of the will of the individual, has argued that algorithms can also be endowed with capacity and, therefore, could be considered as “partial persons”, as, although they do not have an interior life, they react to the contacts driven by human beings and recognise their messages. They cannot activate reciprocity in that sense, but a relationship with them can still be established. Since algorithms are prepared to make choices in situations of uncertainty and their responsibilities emerge from such decisions, they can be recognised as having a certain representational and decision-making capacity. There are algorithms that simply respond to specific stimuli, others are designed to make identical decisions regarding pre-established cases and others that can be considered autonomous because they react by “remembering” previous experiences³⁰.

In short, the liability for damages caused, for instance, by an autonomous car, will fall on the user, the owner, the manufacturer, or the developer of the program as established by regulation³¹. Moreover, seeking a legal solution based on the solution of an underlying ethical dilemma, such as the choice between saving the passengers or pedestrians depending on whether they are minors or elderly would be too simplistic and also unrealistic. It is difficult for a machine to be programmed to solve ‘tragic cases’ for which even human discernment has no unambiguous answer. How can an artificial intelligence system distinguish whether a child is crossing the street in a way that is so improvised and negligent as not to justify the sacrifice of the driver or elderly passenger?

The European Parliament itself, in the resolution on civil liability in the field of artificial intelligence, states that “the rise of AI systems does not imply the need to completely review the rules on civil liability throughout the Union. Specific adjustments to existing legislation and the introduction of new well-considered and targeted provisions would be sufficient to meet the challenges posed by AI, in order to avoid regulatory fragmentation and ensure the harmonisation of civil liability legislation across the Union in relation to AI” [72]. Hence, proposals are made in support of an evolving interpretation of existing regulations. These could be particularly flexible in order to achieve satisfactory legal mediation in view of the need to transfer to the techno-normative level, the techno-ethical instances that are worthy of protection compatible with the general logic of the legal system. In particular, it is suggested that such adaptation would be possible by combining hermeneutic tools such as general clauses or constitutionally oriented interpretations.

Therefore, in addition to the causal outcome that can be reconstructed regarding who ultimately the result of an action depended on (one of the subjects, several, or none because the machine has acquired authentic autonomy), in practical terms, it will be the regulations that qualify what happened and will impart responsibility for damages or even for crimes as established in the product of legislative negotiation. We as theoretical jurists are supposed to help ensure that the reasoning set out in the regulation is as closely adjusted as possible to the plausible material succession of the events.

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Notes

¹ For a taxonomy of Metaverse crimes see Haber [2].

² Rodotà [7], p. 9, revisiting Walter Benjamin, began one of his books by asking if law can take over ‘bare life’, that is, if it can invade the sphere of life to the extent of locking society in the iron cage of an invasive and omnipresent legal dimension. On the problematic relationship between law, techno-science, and *hybris*, see at least Di Marzio [8], p. 131 ss.

³ In this sense, for example, see Canale and Tuzet [10], p. 5.

⁴ See Congress Office of Science and Technology [12]. The report stresses that the European Commission’s panel of experts on Civil Liability and Artificial Intelligence considers it necessary to make adjustments to the European Union’s civil liability regimes. The European Commission has therefore prepared two initiatives to reform the Product Liability Directive, incorporating *smart products* and products with AI systems (healthcare robots, surgical robots, etc.) proposing common rules of liability in case of damage caused by AI systems: European Commission [13] and European Commission [14].

⁵ See Rueda Etxebarria [16]. The author recalls, citing another study, the idea that the inexplicability of health decisions is not considered an exclusive feature of artificial intelligence systems, with, for example, treatments such as lithium prescription in certain psychiatric conditions not being explainable. Thus, the explainability of the prediction could give way to the accuracy of the diagnosis, in the sense that our ability to explain how the results are produced would be less important than the ability to produce them and verify their empirical accuracy; see London [17].

⁶ Quintarelli [18], p. 92. In this sense, a possible proposal is suggested that goes beyond the direct responsibility/control duo: for example, when AlphaGo, in 2015, managed to defeat Lee Sedol, world champion of Go, the team that had developed the program attributed to themselves the success of the victory, although they could not be described as directly responsible for the feat. Therefore, if this is the case, responsibility can be conceived without necessarily being accompanied by direct control, that is, even if the relationship with the results produced by the artificial intelligence tool is indirect and mediated.

⁷ Art. 1.1: “The objective of this Regulation is to improve the functioning of the internal market and to promote the adoption of human-centred and reliable artificial intelligence (AI), while ensuring a high level of health protection, security and fundamental

rights enshrined in the Charter of Fundamental Rights, in particular democracy, the rule of law and environmental protection, against the harmful effects of artificial intelligence systems («AI systems») in the Union and also to support innovation”.

On 5 September, the Framework Convention on Artificial Intelligence, Human Rights, Democracy, and the Rule of Law was opened for signature at the Conference of Ministers of Justice of the Council of Europe in Vilnius. The Convention has been signed by Andorra, Georgia, Iceland, Norway, Moldova, San Marino, the United Kingdom, Israel, the United States, and the European Union. Like the AI Act, it provides a legal framework for risk and impact management (Article 16), requiring States Parties to take measures to identify, assess, prevent, and mitigate risks posed by artificial intelligence systems, taking into account actual and potential impacts on human rights, democracy, and the rule of law. As pointed out by Presno Linera [26], with this approach based on risk levels “we are facing a concretion of the well-known <<principle of precaution>>”.

A system of “biometric identification” art. 3 (35) of the AI ACT refers to “the automated recognition of physical, physiological, behavioural or psychological human characteristics in order to determine the identity of a natural person by comparing biometric data with biometric data of persons stored in a database”; “Remote biometric identification system” (41), “an AI system designed to identify individuals without their active and generally remote participation by comparing their biometric data with those in a reference database”.

Those included in Annex IIa of the final agreement (terrorism; trafficking in human beings; sexual exploitation of minors and child pornography; trafficking in drugs and weapons; homicide and serious injury; illicit trafficking in organs, tissues, radioactive, or nuclear material; kidnapping; crimes under the jurisdiction of the International Criminal Court; illegal seizure of aircraft or ships; rape; environmental crimes; armed robbery; and participation in a criminal gang to commit the aforementioned crimes) with a custodial sentence or security measure of a maximum duration of at least four years.

Presno Linera [26] was on the right lines when, before the end of the dialogues, he expressed the doubt that the elimination of the exceptions introduced by the Parliament would remain in the final text. The text resulting from the agreement is available at <https://data.consilium.europa.eu/doc/document/ST-5662-2024-INIT/en/pdf> (accessed on 7 February 2024).

This paragraph states in its final part that the “use of the remote «real-time» biometric identification system in publicly accessible spaces shall only be authorised if the law enforcement authority has completed an impact assessment on fundamental rights as provided for in Article 27 and has registered the system in the EU database in accordance with Article 49. However, in duly justified cases of urgency, it may be possible to start using such systems without registration in the EU database, provided that such registration is carried out without undue delay”.

With “general use” the norm refers to an artificial intelligence model “also trained with a large volume of data using large-scale self-monitoring, which presents a considerable degree of generality and is capable of competently performing a wide variety of different tasks, regardless of how the model is placed on the market, and which can be integrated into various systems or subsequent applications, except for AI models used for research activities, development or creation of prototypes prior to their commercialization” (Item 63).

A floating-point operation or “FLOP” means “any mathematical operation or task involving floating-point numbers, which are a subset of the real numbers normally represented in computers by an integer of fixed precision raised by the integer exponent of a fixed base” (Item 66).

“Proposal for a Regulation of the European Parliament and of the Council establishing harmonised regulations for artificial intelligence (artificial intelligence act) and amending certain Union legislative acts” [27]. For a very brief but enlightening summary of the problems mentioned, see J-M. Bello and Villarino [28]. When reviewing the printing tests for this book, the Artificial Intelligence Regulation [29] was finally approved by the European Parliament on 13 March 2024.

“(…) This Regulation will not apply to AI systems which, to the extent that they are placed on the market, are put into service or used, with or without modifications, exclusively for military, defence or national security purposes, regardless of the type of entity carrying out these activities (…)

The European Parliament [25], paragraph 130. It goes on to emphasise “the importance of addressing challenges to fundamental rights posed by AI, thus enabling AI to effectively become an instrument at the service of *individuals* and society and pursuing the common good and the general interest” (author’s italics).

See Presno Linera [32], p. 48. The four areas to be implemented from the ethics of artificial intelligence (privacy and consent; identity; human empowerment; and biases) were identified a few years ago by Yuste, Goering et al. [33]. Ruffolo and A. Amidei [34] speak about the right not to be filed or profiled on the basis of punctual choices, moments, sensations, emotions, and thoughts that must be treated as mentally intimate. See also Amidei [35].

The subject, obviously, is of such breadth and depth as to occupy not only an autonomous work but a whole line of philosophical–juridical research. Here it will be treated only in relation to the implications of artificial intelligence.

On the question of whether a non-biological machine could be considered a ‘legal person’, using the distinction between the related concepts of ‘human’ and ‘person’, see the no longer recent Calverley [40].

I reproduce here the case used in the presentation of a monographic volume of the Legal Journal of Asturias en Campione [41].

- See Vallortigara [43]. For an entomological study showing how bees would possess some degree of ‘subjective consciousness’, based on the challenges and cognitive tasks they solve in their daily lives (identify flowers, recognize terrain, communicate with other bees, work as a team, learn things they do not know, and experience something like emotions), see Chittka [44].
- See Harari [46], p. 311, who warns of the dangers of the loss of human value as “intelligence is decoupling from consciousness”.
- See Han [47], p. 37. Obviously, like any definition, the definition of conscious matter also depends on the scientific perspective adopted. According to the famous thesis of Richard Dawkins [48], p. 9, for example, we can speak of intelligent life only when the being in question has solved the problem of its own existence and, in the case of humanity, the question to discover that self-consciousness would be “Have you discovered evolution?”.
- Bueno [52], p. 120, recalls that “the original treatment of the idea of the person in connection with the idea of the individual was proposed by Christianity, specifically in its Christological theology” (p. 122). The tracing of the juridical fiction of the person as every subject of law can be reflected in that Augustine of Hippo underlined the unity of that particular body that is the Church and even earlier, Tertullian had reflected on the Trinitarian problems, arguing that the three divine persons formed a single Mystical Body inclusive of the universality of the faithful who were part of the Church. See Benedetti [53] and also Mauss [51], p. 328.
- “Although the term explainability does not appear in the RAE dictionary, it is the appropriate noun to allude to the quality or condition of the explicable, that is, of what can be explained, according to the Academy itself”; see E. Menasalvas et al. [57].
- See SAE J3016_201806 [58].
- Thaler v Comptroller-General of Patents, Designs and Trade Marks* [2023], United Kingdom Supreme Court 49 (20 December 2023).
- See Teubner [67], p. 66 ss. For a negative and pessimistic view that algorithmic systems—legal entities that have no human controllers—greatly exacerbate the threats of artificial intelligence, see LoPucki [68].
- For European development in the field of civil liability of the autonomous car, see Evas [69].
- European Parliament, *Resolution of 20 October 2020, with recommendations to the Commission on a regime of civil liability for artificial intelligence* (2020/2014(INL)), par. 8. See in this regard Navas Navarro [70]; Presno Linera [71], pp. 112–119.

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