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# The Challenges of New Technologies in the Implementation of Human Rights: an Analysis of Some Critical Issues in the Digital Era

*Jacopo Coccoli\**

## Abstract

The same rights that people have offline must also be protected online. As humanity experiences transition online, so do human rights.

In many cases, technology has represented a way to strengthen human rights. For example, it allows individuals to exercise their freedom of expression thanks to the introduction of unknown forms of communication. But technology also means that individuals' human rights are exposed to unprecedented risks, caused by the transition of these rights to the digital field. The same freedom of expression enhanced by new technologies is nowadays frequently frustrated by filtering and/or blocking content and even disconnecting access to technologies. Nonetheless, the process of transitioning human rights online is not only focused on freedom of expression, but involves many other human rights. The right to be presumed innocent until proven guilty is one of the most challenged human right in the online sphere. It's put at risk by ongoing practices of data collection for surveillance purposes without prior suspicion.

New technologies have penetrated so deeply in the present legal environment that they not only introduced new ways of approaching to traditional human rights, but also produced new rights and freedoms, which are surely intended to evolve in a constitutional direction and require further regulations by governments.

This paper aims to contribute to the discussion on the transformations that the use of new technologies is intended to determine from a legal perspective and it will clearly show how nowadays it's crucial to reinterpret the principles of indivisibility and interdependence of human rights in the light of digital innovations experienced by society.

**Keywords:** *human rights; ICT; technologies; internet; digitalization; international law*

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## Introduction

‘The same rights that people have offline must also be protected online’ (United Nations 2012b). As humanity experiences transition online, so do human rights. New technologies have found their own space in today’s society and are constantly used by individuals to carry out most of their actions.

Looking at new technologies from a legal perspective will require a preliminary understanding, that such a Copernican revolution has not only produced consequences from a socio-economic perspective, but also created problems and had inevitable repercussions on the extensive catalogue of human rights. That finding thus opens the door to a radical change in how legal experts should approach to the broader issue of human dignity protection, a change that does not fail to raise inevitable questions. Acknowledging how digital technologies have progressively taken possession of every aspect of human existence in advanced society, people are inevitable put in front of a consideration on the relationship that arises between these technologies and the protection of human rights.

Any analysis on the relationship between new technologies and human rights appear to be extremely complex and requires a preliminary understanding of two crucial premises. The first aspect deals with the time dimension and is represented by the evolutionary gap that occurs between technical progress and legal implementation procedures. Adaptation of both national and international rules to advances in science and technology is frequently perceived as being too slow and consequently inadequate to regulate new legal situations created by the developments of the latest technological innovations. The second profile, which contributes to increase the complexity of the matter, is related to the space dimension, since the technological phenomenon clearly shows a tendency to evolve at an international level. Today’s technologies are the product of a reality digitalization and often the usability process is made possible thanks to telecommunications systems and computer networks. Therefore, such an interconnection exposes individuals to potentially adverse consequences for their human rights, caused by the behaviours of people operating within other jurisdictions.

As observed by Weeramantry (1993), since the beginning of industrial society little attention had been paid to a comprehensive analysis of the relationship between technological innovations and the implementation of human rights. In fact, International Community’s attention for the relationship between new technology and development and implementation of human rights in modern society is relatively new. The debate on the issue

made its first appearance only in 1968, during the International Conference on Human Rights in Tehran, which brought to life some recommendations on this specific topic that were intended to be discussed by the United Nations General Assembly. The result was the Resolution 2450 (XXIII) which invited the Secretary General to begin a process of interdisciplinary studies, at both national and international level, in order to define appropriate standards of protection of human rights and fundamental freedoms against the potential impact of new technologies. In this last respect, the attention was mainly focused on certain critical points related to the protection of human dignity in the age of digitalization, which can be considered as still applicable at the present date.

What is more, the resolution has the force to catalyse a substantial ambivalence that seems to characterize technological innovations and that inevitably reflects on the protection of human rights in the age of digitalization. There is indeed no doubt that the technical and scientific innovations represent an unequivocal way not only to improve the living conditions of individuals, but also to strengthen the traditional perception of human rights. For example, it might be useful to recall the right to freedom of expression and the numerous possibilities for implementation that innovative forms of communication have been able to convey. It is also possible to recognize immediate benefits with regard to the right to education, to the extent of which new technologies have facilitated its use by ensuring a wider access to knowledge<sup>1</sup>.

However, digital innovations have exposed individuals' human rights to the risk of being seriously humiliated and led to the emergence of a new necessity, namely to explore new avenues for the safeguard of human dignity either creating new rights or determining a mutation of perspective in the interpretation of traditional rights. Starting from these premises, the UN resolution identified the need for a stronger protection of the human person, by focusing on the 'uses of electronics that may affect the rights of the person and limits that should be placed on such uses in a democratic society' and, more in general, on the 'balance which should be established between scientific and technological progress and the intellectual, spiritual, cultural, and moral advancement of humanity' (United Nations 1968).

New technologies thus represent an extremely delicate instrument, capable of triggering intrusive mechanisms in human rights with ambivalent results. Technical and scientific innovations which have an impact on the environment serve as an exemplifying case. Those innovations which produce

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<sup>1</sup> On the potentials of new technologies with regards to the right to education, see Haddad and Jurich 2002, 28-39.

pollution and help to determine climate changes interfere, both directly and indirectly, with the effective enjoyment of human rights, including, inter alia, the right to life, the right to health, the right to water. However, these same technologies can be used in order to reduce gas emissions, thus contributing to the full realization of individuals' human rights.

This paper wants to contribute to the discussion on the transformations that the use of new technologies is intended to determine from a legal perspective. The contribution considers the ambivalent behaviour of new technologies mentioned above as a fundamental point to properly understand which challenges they are posing in the implementation of human rights. It will be attempted to provide an overview about recent developments, using two fundamental pillars as reference points: on the one hand, the need for a reinterpretation of the traditional human rights in the light of technological innovations; on the other hand, the introduction of new human rights' categories that can be identified as a *sui generis* generation of digital rights.

## 1. The Evolution of Traditional Human Rights

Rethinking traditional human rights in the light of the latest developments in the technical-scientific sector is a crucial step for the protection of individuals' dignity in the digital age. Law is indeed asked to rediscover its most genuine and essential quality, namely its being a means for ensuring society's improvements. Rules come from society and follow their constant development in perfect adhesion and consistency due to their elastic nature. Reality is not a static entity, but represents a creative evolution being in endless motion. That's why the purpose of the law is to monitor all the changes and to adapt them to the new situation generated each time (Karanasiou 2012).

Starting from those considerations it is now possible to introduce the analysis about the consequences determined by the technical innovations on the traditional catalogue of human rights. There are at least two main aspects which deserve further attention with regard to the subject in question. The first aspect allows to highlight how the fundamental ambivalence that characterizes new technologies is also reflected from a legal point of view, simultaneously producing both positive and negative effects with regard to the same involved right. The second aspect concerns the potential conflict between rights that the technical and scientific innovations seems to trigger, questioning the traits of the indivisibility and interdependence that characterize human rights.

The paper will thus focus on two different rights in order to analyse the behaviour of new technologies in their interaction with human dignity: on

the one hand, the freedom of expression and its mutation in the digital era; on the other, the right to be presumed innocent until guilty and the position of people under investigations.

### *1.1. Reinterpreting the Freedom of Expression in the Light of Digital Innovations*

Focusing on the field of Information Communication Technology (ICT), among the traditional human rights freedom of expression still represents a typical example of the vulnerability of the rights before technological innovations and allows to clearly show how the latter are able to produce both positive and negative effects on situations legally protected.

As Balkin (2004, 3-4) has pointed out, a theoretical approach to the right in question conceives freedom expression as aimed at creating a democratic culture, which goes beyond the simple creation of a democracy based on representative institutions. 'Democratic culture is the culture through which ordinary citizens express themselves, and it is by no means restricted to discussions of politics. Democratic culture is 'democratic' in the sense that everyone gets to participate in it' (Balkin 1993, 1948). Freedom of expression thus represents the main tool through which allowing individuals to participate in the development of a culture which is more democratic and participatory. The right to freedom of expression is first of all interactive, as it occurs among communicating people who act as both speakers and listeners at the same time. It is also appropriative, since it originates from cultural materials and is based on the ability of a person to handle the elements of the culture, criticizing them or creating something new.

The digital era has an intrinsic power to affect the concept of democratic culture by introducing new technological structures that increase the chances for individuals and collective groups to participate in building up their own culture. Indeed, the idea that the relationship between freedom of expression and ICT is capable of producing undoubted benefits to society is widely recognized. The digitalization of communication tools and their transition online is above all an achievement in terms of innovation and awareness for society. Bertot and Jaeger and Grimes (2010) have underlined that a first positive effect might be represented by the facilitation of transparency mechanisms and the creation of effective law enforcement tools against corruption. But an even major profile of interest lies in ICT qualification as a means to expose any human rights violations. ICTs build communicative bridges between individuals and strengthen all forms of interaction, facilitating the exchange of ideas and points of view and contributing to the progress of society as a whole. The biggest innovation in this sector must be identified in the access to Internet, which is, unlike other

media, a communication tool based on interactions. Allowing the ability to share information with a number of different recipients, Internet becomes a vehicle for strengthening the right to freedom of expression of individuals<sup>2</sup>.

Nonetheless, technology also means that individuals' human rights are exposed to unprecedented risks, caused by the transition of these rights to the digital field. The same freedom of expression enhanced by new technologies is nowadays frequently frustrated by offences of different kinds, such as filtering and/or blocking content and even disconnecting access to technologies. The situation gets more complicated when it comes to the consideration that a traditional view of freedom of expression doesn't necessarily require the ability to share that expression. On the contrary, using ICT means that such self-expression is intended to be shared with a broader social community and causes a transformation from a basically private phenomenon into a mainly public one, making human rights extremely vulnerable.

The first issue that need to be examined is whether today's regulatory framework on human rights is sufficiently suitable to guarantee freedom of expression before legal situations created by new technologies.

In the European context, a *consensus* has emerged within the contexts of both the European Convention on Human Rights and the Charter of Fundamental Rights of European Union, which define freedom of expression as a right which 'shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers' (Charter of Fundamental Rights of the European Union 2007, art. 11; European Convention on Human Rights 1950, art. 10). Despite this definition is drawn to be sufficiently broad to be adapted to a number of situations, the words chosen lack any reference to the exercise of freedom of expression through modern technical and scientific instruments. For this reason, any proper solution to the problem should be found elsewhere.

In the frame of the International Covenant on Civil and Political Rights, similarly to the Universal Declaration of Human Rights, freedom of expression is considered as the 'freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of his choice' (*International*

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<sup>2</sup> Balkin (2004, 6-7) has identified four main consequences of the digital revolution. First, it drastically lowers the costs of copying and distributing information, enabling a large number of people to broadcast and publish their views cheaply and widely. Second, the digital revolution makes it easier for content to cross cultural and geographical borders. Third, new technologies lower the costs of innovating with existing information, commenting on it, and building upon it. This last aspect brings to the fourth consequence as lowering the costs of transmission, distribution, appropriation, and alteration of information democratizes expression and speech.

*Covenant on Civil and Political Rights* 1966, art. 19). Therefore, it is possible to state that the current international framework does not rule out the applicability of its regulations to new technologies and provides a starting point for further development of the discipline in the matter. In fact, the International Covenant on Civil and Political Rights boasts 168 States Parties and is conceived as crucial in the international law of human rights, thus representing one main legal standard for both traditional and digital communications relating to freedom of expression.

The second critical aspect concerns the fact that the right to seek, receive and impart information and ideas of all kinds seems to become more unstable in the digital era and is easily put at risk by governments' interferences through limiting and placing restrictions on their citizens' freedom of expression. While the enormous potential and benefits of the ICT are rooted in its unique characteristics, such as its promptness and worldwide range, these unique features that facilitate individuals to broadcast information in real time and to mobilize people has also disseminated fear amongst governments. This leads to increased restrictions on the ICT and freedom of expression is frequently exposed to multi-faceted dangers: censorship across large populations or entire networks, content filtering and/or blocking, identifications of activists and critics, disconnections of the access to technologies, leaks of user information are some of the threats that can affect freedom of expression and the criminalization of legitimate expression followed by the adoption of restrictive legislation to justify such measures represent the catastrophic culmination of these practices<sup>3</sup>.

Despite the introduction in their Constitutions of a chapter dedicated to human rights protection, several States still adopt harmful policies aimed at preventing citizens from a wide utilization of ICT. The restricted view of Chinese government on freedom of expression seems to be a suitable example of that, as it shows how human rights can be exposed to unprecedented dangers in the digital era (United Nations 2011a). It uses a combination of censorship, propaganda, direct threats to troublemakers, heavy investment in home-grown media platforms. China owns one of the most complex and widespread system for controlling information on the Web and controls a content filtering mechanism, better known as 'Great Firewall'. This system's purpose is to block any access to websites containing crucial terms such as 'democracy' and 'human rights'. Although the huge

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<sup>3</sup> As Sevastik (2013) has pointed out, the use of criminal law to sanction legitimate expectation represents one of the worst forms of restriction to the right of expression. It does not only produce an intimidating effect, but also cause other human rights violations, such as arbitrary detention and torture and other forms of inhumane and degrading treatment or punishment.

dimension of the Web user community, the Chinese government created a resourceful mechanism of repression based on multiple means of censorship. Police officers block websites and monitor Internet access of individuals, paid commentator act as regular users to register any form of criticism against the government, distribution of news from other country must be approved by the State Council Information Agency. In this way, government succeeded in connecting China to the global Internet in order to benefit from international trade and investment while preventing the press from sharing too much information widely (Sevastik 2013, 8-9).

The misuse of scientific development challenges the creation of standards, practices, and monitoring systems to keep up with the technologies and threats posed by governments. Restrictions and limits by governments would benefit of the conflict between the rights that the exercise of freedom of expression is likely to cause, and are expressly covered by existing international sources. According to the International Covenant on Civil and Political Rights, the exercise of freedom of expression may therefore be subject to certain restrictions, but these shall only be such as are provided by law and are necessary:

- (a) For respect of the rights or reputations of others;
- (b) For the protection of national security or of public order (*ordre public*), or of public health or morals.

What is interesting is that, once an individual has demonstrated the existence of a restriction on freedom of expression, it is legally recognized that the burden of proof to demonstrate the legal basis for any restrictions falls on the State party. In fact, whenever the UN Human Rights Committee is appealed to consider whether a particular restriction is imposed by law, United Nations (2011b) clearly affirms that State party should provide details of the law and of actions that fall within the scope of the law. The three conditions that the State Party is required to prove can be summarized as follow: legality, legitimate objective, and necessity and proportionality.

Article 19 does not simply require that any restriction is enacted as a national law, but it should be formulated with adequate accuracy to allow individuals to behave accordingly with it. On the contrary, people in charge with the execution of these measures will have a broad discretion for the restriction of freedom of expression. As pointed out by United Nations (2016b), there are three main problems that are connected with Information Communication Technology being limited by governments and they deal with the legality condition.

First of all, it is not unusual that legal frameworks use wide legal terms that give authorities discretion to limit freedom of expression and make hard for individuals to clearly understand what is the line dividing lawful and unlawful conducts. This becomes even more uncertain when any human rights violation is a result of a restriction on the usage of digital technologies, where any legislation is far away from being completely satisfying.

Secondly, legislative processes do not offer enough time for public engagement or fail to address human rights obligations of the State. It is not unusual that governments do not take into account expressions of concern by experts nor the points of view of civil society and other stakeholders.

Lastly, judicial organisms suffer from a lack of authority necessary to evaluate claims of violations, since laws often do not provide them with it.

These brief considerations led to the final consideration that freedom of expression may be lawfully restricted only if governments demonstrate the legality of the action and its necessity and proportionality to protect a specific legitimate objective. This is a non-negotiable condition to ensure human growth. Freedom of expression is indeed 'one of the essential foundations of a democratic society and one of the basic conditions for its progress and development' (United Nations 2012c). On this last regard, it should be noted that United Nations (2014) considers the free access to technologies as a vehicle for building inclusive knowledge societies and democracies and foster intercultural dialogue, peace and good governance.

In the next years, governments will be asked to pay specific attention to the integrity of ICT and the safeguard of the digital rights. Nowadays many step ahead have been made at both legislative and judicial level. Governments has begun to adopt policies and regulations aimed to strengthen freedom of expression in the digital era. For instance, Norway has recently sponsored an initiative to promote freedom of expression and independent media, placing freedom of expression at the centre of its human rights empowering policy (Norwegian Ministry of Foreign Affairs 2016). Another interesting policy that merits to be mentioned is a US plan of establishing new regulations to protect network neutrality in the country, building a free and open Internet and ensuring continued access to any lawful content individuals choose, without restriction or interference from Internet service providers (Office of the High Commissioner for Human Rights 2015).

### *1.2. Surveillance Technologies and the Right to Be Presumed Innocent Until Guilty*

The right to be presumed innocent until proven guilty is one of the most challenged human right in the online sphere and thus merits to be focused

on. This prerogative is in fact experiencing an apparent transition that is encouraged by the growing use of surveillance technologies and practices to ensure a stricter enforcement of the laws in the criminal sector, undermining existing criminal law guarantees and constitutional freedoms.

The right to be presumed innocent is one of the major procedural safeguards in criminal proceedings of each individual jurisdiction. One clear, but short definition is replicated in art. 6, par. 2 of the ECHR, which states that 'everyone charged with a criminal offence shall be presumed innocent until proved guilty according to law' (European Convention on Human Rights 1950, art. 6, par. 2). Such a definition can be also verified in art. 48 of the Charter on Fundamental Rights of the European Union, which goes further by stating that 'respect for the rights of the defence of anyone who has been charged shall be guaranteed' (Charter of Fundamental Rights of the European Union 2007, art. 48).

The nature of the presumption of innocence is controversial, as it expresses an essential contradiction (De Jong and Van Lent 2016). Since this right is intended to ensure protection to those people who are suspected of having violated a criminal rule, the presumption of innocence can only work as guarantee for those people who are presumed to be guilty. Weigend (2014, 287) theoretically resolves this paradox by affirming that the presumption of innocence reflects a non-factual, normative character as the contradiction is erased through a *fictio iuris*.

In legal systems based on Common Law, the right to be presumed innocent until guilty represents a rule of evidence itself and a standard for future decisions (Campbell 2013). It is generally agreed that the burden of proof falls on the prosecution authority, which is required to defeat the presumption of innocence by proving that the suspect is guilty beyond a reasonable doubt. On the contrary, in those countries where the Civil Law tradition is prevalent, even though the principle of *in dubio pro reo* and the complementary elements of the presumption of innocence denote the foundations of the criminal legal structure, they are not strictly related to the evidence system. In this last regard, the presumption of innocence and the matters of the proof work in different contexts and 'a violation of the presumption of innocence in the context of proof could only occur if the law would generally require defendants to disprove the charges against them, because such a law would imply that anyone who is charged is in effect presumed to be guilty' (De Jong and Van Lent 2016, 35).

The importance of such a right is so crucial that this is not only an element qualified from a purely legal point of view, but it also stands as a moral value heavily influenced by the social and political perceptions. Therefore, the Court of Strasbourg, well aware of weaknesses and limitations that the text

of the Convention places in the application of such a human right, has tried to extend the interpretation and application of the ECHR. This process has led to recognize the existence of specific guarantees also in the stages before and after the criminal proceedings. However, an analysis of those judgments will certainly allow to comprehend how the rules on the presumption of innocence still shows inefficiencies in facing the challenges triggered by surveillance technologies.

According to Galetta (2013), modern surveillance tools have a negative impact on the right to the presumption of innocence in two different ways. First, similar practices determine a reversal in the burden of proof in criminal proceedings. It means that the defendant will be charged to prove that the evidence offered by surveillance technologies cannot be considered satisfying in proving his guilt. This reversal thus produces a raising of the innocence threshold that needs to be reached from the defendant in order to be declared not guilty.

The second key point in the relationship between surveillance technology and presumption of innocence lies in the risk that such instruments give rise to a mechanism of stigmatization, strengthening the belief that the person involved in this proceeding should be necessarily included within the category of suspects. This aspect is also confirmed by a decision of the European Court on Human Rights. In the case of *S. and Marper vs United Kingdom*, the Court has recognized that the preservation of any data collected through modern surveillance technologies (fingerprints, audio recordings, video recordings, DNA profiles) may potentially damage right to the presumption of innocence even at a later stage in the trial<sup>4</sup>.

With regard to the modern surveillance tools the ambivalent behaviour of new technologies creates the need for a balance between human rights. It should be preliminary noted that, as Eide (2007) specifically addresses, there might be three potential ways of interactions among the numerous human rights. The positive interrelationship occurs when the enjoyment of a determined group of rights represents a condition for the full satisfaction

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<sup>4</sup> 'Of particular concern in the present context is the risk of stigmatisation, stemming from the fact that persons in the position of the applicants, who have not been convicted of any offence and are entitled to the presumption of innocence, are treated in the same way as convicted persons. In this respect, the Court must bear in mind that the right of every person under the Convention to be presumed innocent includes the general rule that no suspicion regarding an accused's innocence may be voiced after his acquittal [...] It is true that the retention of the applicants' private data cannot be equated with the voicing of suspicions. Nonetheless, their perception that they are not being treated as innocent is heightened by the fact that their data are retained indefinitely in the same way as the data of convicted persons, while the data of those who have never been suspected of an offence are required to be destroyed' (*S. and Marper v. the United Kingdom*, 2008).

of different prerogatives, or an indispensable component for another right as well. A negative interrelationship characterizes those interactions where the widespread violations of one set of rights can potentially cause a damage to other human rights. Finally, the interrelationship of balancing takes place when the protection of different rights for different persons is likely to limit one set of rights in order to allow the enjoyment of another set of rights.

Indeed, the use of modern surveillance technologies is frequently conducted in the light of the need to contrast crimes and terrorism, and would find its justification in the protection of the right to security. While it cannot be imagined a criminal justice system that renounces to use these tools in both preventive and repressive operations, it is however true that an acritical and widespread use of these technologies will certainly produce a negative impact on human rights. Governments are thus called to adopt rules and measures that will ensure a suitable approach in managing this potential conflict between rights. This point is clearly underlined by Levashov (2013), who discusses the rising use of facial recognition technology in society and in law enforcement, and its legal implications. The Author affirms that despite the fact that the gathering of biometric facial data is able to cause many issues, including threats to privacy, security, and free association, the use of this emerging surveillance technology remains largely unregulated. A proper solution to the uncertain existing legal protections would thus be represented by the creation of a statute that directly addresses the concerns regarding the use of biometric information in law enforcement.

A law recently adopted in the Russian Federation imposes a duty on Internet providers to decrypt communications, apparently requiring the establishment of encryption back doors that will likely disproportionately undermine all users' security. Both the United Kingdom and France have proposed to provide their law enforcement and intelligence officials with the authority to require companies to grant them access to encrypted communications of their users. Brazil prohibits anonymity entirely as a matter of constitutional law online and offline. Even though these efforts are intended to prevent terrorism or guarantee public order, governments are required to demonstrate that surveillance practices represent necessary or proportionate measures in the light of the specific threats that can be possibly caused to human rights (United Nations 2016b).

Otherwise, a first conclusion may be drawn by considering that 'there is little point in the State seeking to create a society free from crime and secure against terrorist threats if the overall cost is a severe loss of personal freedom and the introduction of Orwellian, authoritarian government' (Goold 2010, 46).

## 2. The Protection of Human Dignity in Modern Societies: a New Generation of Digital Human Rights

As already mentioned in the beginning of this paper, there are some notable challenges in fully comprehending the complex and extensive threats to human rights in the digital sphere. New technologies have penetrated so deeply in the present legal environment that they not only introduced new ways of approaching to traditional human rights, but also produced new rights and freedoms, which are surely intended to evolve in a constitutional direction and require further regulations by governments.

Any reflection on human rights requires to refer not only to the protection ensured by the implementation of specific regulatory and institutional procedures, but also to those emerging factual situations and individual aspirations from which rises the demand for new human rights. This acknowledgement comes from the theoretical consideration according to which, when social changes occur, they bring with them unexplored concerns and values, demonstrating a general *consensus* from those social and moral pressures aimed at recognizing a new human right (Marmor 2005). In this last regard, Beitz (2011) relates the conceptualization of human rights to their expected political role, confirming what is stated above: the social role shall thus be perceived as a legal foundation for justifying and specifying the content of the human rights concept.

This section analyses the hypothesis of recognizing the existence of new human rights, as innovations are gradually developed. It specifically addresses those rights that are considered crucial in the enhancement of human dignity in the digital era, namely the protection of personal data and the right to benefit from advances in science and technology. An autonomous space will be also reserved to a consideration dealing with the right to Internet access, which has not been generally recognized by International Community yet and thus represents an evolving topic within the customary international law.

### 2.1. Brief Considerations on The Protection of Personal Data: the EU Context

Modern technologies have determined new challenges in the contemporary society, interfering with both content data and transactional traffic data. Personal data is always in motion and its specificity is undoubtedly put at risk.

For example, commercial service providers routinely collect and store such data to advance their business analytics for advertising and other purposes. Recent surveillance scandals in the United States and the United

Kingdom have shown how government security agencies operate with far-ranging extrajudicial powers that are not publicly disclosed. This difficulty in identifying where and how abuse is being carried out impedes civil society's ability to know the true nature, modes, and extent of such abuses. Such practices immediately pinpoint a violation of the right to the protection of personal data, which can be identified as the digital rights par excellence.

Protection of personal data has been officially recognized as a human right thanks to the innovations carried out by the Charter of Fundamental Rights of the European Union. In fact, it states that

'everyone has the right to the protection of personal data concerning him or her. Such data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified. Compliance with these rules shall be subject to control by an independent authority' (Charter of Fundamental Rights of the European Union 2007, art. 8).

The need to ensure respect for individuals' privacy has represented a vehicle for significant innovations in the contexts of international courts operating at regional level. Consider the European Convention on Human Rights in which the right to protection of personal data is not identified as an autonomous right. The solution adopted by the Court in Strasbourg has been to bring any violations of this right under the protection of article 8 of the ECHR dealing with the respect for private and family life<sup>5</sup>. It provides that this right may be eligible to cover unlawful collections of personal data anytime those interfere with the private lives of individuals. In order to determine whether the use of such information is likely to violate the European Convention, the Court has developed some criteria to evaluate it, by stating that 'the Court will have due regard to the specific context in which the information at issue has been recorded and retained, the nature of the records, the way in which these records are used and processed and the results that may be obtained'<sup>6</sup>.

Based on this change of perspectives, the Court was able to rely on the applicability of article 8 ECHR to ensure protection to different situations,

<sup>5</sup> '1. Everyone has the right to respect for his private and family life, his home and his correspondence. 2. There shall be no interference by a public authority with the exercise of this right except such as in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others' (European Convention on Human Rights 1950, art. 8).

<sup>6</sup> *S. and Marper v. the United Kingdom*, 2008.

such as the detention of health-related data<sup>7</sup>, the communications tapings, recording of phone calls and secret surveillance<sup>8</sup>, but also the diffusion and the access to personal data<sup>9</sup>.

The topic of personal data protection is extremely complex and it would require a specific paper to examine in depth this intriguing field. The most recent steps ahead moved in the field of personal data protection legal frameworks show that International Community awareness on the significance of this issue is getting stronger. In order to prove this specific attention, it might be useful to consider two remarkable on-going innovations in the European area.

On April 2016 it has been approved the General Data Protection Regulation 2016/679 with the intention to strengthen data protection for individuals and to ensure the free movement of such data within the European Union. It will come into force on the 25<sup>th</sup> May 2018 and as a Regulation, it will have general application being binding in its entirety and directly applicable in all Member States. Introducing such a legislation within the European Union will thus guarantee a uniform and consistent regulation of the personal data protection. One of the most significant changes concerns the right to data portability, which is defined as

‘the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided’ (European Union 2016, art. 20).

Other noteworthy innovations are represented by the codification of the right to rectification<sup>10</sup>, which will allow individuals to correct any inaccurate personal data concerning them, and the right to erasure<sup>11</sup>, which creates an

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<sup>7</sup> See *L.H. v. Latvia*, 2014).

<sup>8</sup> See *R.E. v. the United Kingdom*, 2015).

<sup>9</sup> See *S. and Marper v. the United Kingdom*, 2008.

<sup>10</sup> ‘The data subject shall have the right to obtain from the controller without undue delay the rectification of inaccurate personal data concerning him or her. Taking into account the purposes of the processing, the data subject shall have the right to have incomplete personal data completed, including by means of providing a supplementary statement’ (European Union 2016, art. 16).

<sup>11</sup> ‘The data subject shall have the right to obtain from the controller the erasure of personal data concerning him or her without undue delay and the controller shall have the obligation to erase personal data without undue delay where one of the following grounds applies: (a) the personal data are no longer necessary in relation to the purposes for which they were collected or otherwise processed; (b) the data subject withdraws consent on which the processing is based according to point (a) of article 6(1), or point (a) of article 9(2), and where there is no other legal ground for the processing; (c) the data subject objects to the processing pursuant to article 21(1) and there are no overriding legitimate grounds for the processing, or the data subject objects to the processing pursuant to article 21(2); (d) the

obligation for the personal data controller to erase such data without undue delay when requested by the owner.

The second key aspect that testifies the current relevance of personal data protection is the European Parliament recent approval of the new EU – US Agreement on Personal Data Protection. Its primary goal is to guarantee high and mandatory standards for the protection of personal data which is exchanged between the EU and US police and judicial bodies for the prevention, discovery, investigation and legal prosecution of crimes, including terrorism. The agreement covers the transfer of all personal data like names, addresses and criminal records and it will ensure that citizens will have the right to be informed in the case of violations related to the security of personal data, incorrect information will be set right and they will be able to receive legal aid in court.

## *2.2. Rediscovering the Right to Benefit from Advances in Science and Technology*

While expressing concerns with threats to human rights resulting from developments in science and technology, the United Nations recognized the ambitious human right of everyone to benefit from advances in science and technology. Even though covered by both the Universal Declaration of Human Rights (UDHR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR), such a human right hardly received much of attention from States, UN bodies and scholars.

In fact, the role of science in societies and its benefits and potential danger were debated in various international meetings, but they barely obtain an autonomous space in a human rights forum. Nowadays, within a world that is increasingly turning to science and technology for solutions to socio-economic and development problems, elaborating the human right to enjoy the benefits of scientific progress and its applications appears to be an adequate answer to the strengthening of the link between science and human rights.

Art. 15 of the ICESCR includes among the others the right to enjoy the benefits of scientific progress and its applications by stating that:

‘The States Parties to the present Covenant recognize the right of everyone:

- a) To take part in cultural life;
- b) To enjoy the benefits of scientific progress and its applications;

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personal data have been unlawfully processed; (e) the personal data have to be erased for compliance with a legal obligation in Union or Member State law to which the controller is subject; (f) the personal data have been collected in relation to the offer of information society services referred to in article 8(1)’ (European Union 2016, art., 17).

c) To benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for the conservation, the development and the diffusion of science and culture.

The States Parties to the present Covenant undertake to respect the freedom indispensable for scientific research and creative activity.

The States Parties to the present Covenant recognize the benefits to be derived from the encouragement and development of international contacts and co-operation in the scientific and cultural fields' (International Covenant on Economic, Social and Cultural Rights 1966, art. 15).

This article addresses two complementary dimensions of this right: on the one hand, the right of individuals to enjoy the benefits of scientific advancement; on the other, the rights of scientists to freely conduct science and to have the results of their work protected. In this last respect, it implies the right or freedom to assess and choose the preferred path of scientific and technological development. With regard to the right of individuals to enjoy the benefits of scientific advancement, it implies, for example, the right of access to scientific and technological advancement. Moreover, among the elements of the right to benefit from advances in science and technology the protection from possible harmful effects of science and international cooperation have acquired their independent space (Chapman 2009, 10-20).

While there is still possibility for developing clear norms and delineating rights and obligations of individuals and States in this regard, it is generally recognized that governments have an obligation to ensure the realization of this right. These obligations can be considered both positive and negative, as it may result by reading the various paragraphs of art. 15, ICESCR. To cite an example of positive obligation, States are asked to adopt or adjust national legislation as well as legal, administrative procedures in order to ensure recognition of this right in the national legal order. At the same time, the article provides that States should respect the necessary freedoms for scientific research, which is constructed as a negative obligation<sup>12</sup>.

With regard to the right to benefit of advances of science and technology the UN have adopted a noteworthy theory called 'the tripartite theory of

<sup>12</sup> The Special Rapporteur in the field of cultural rights has identified four general obligations for governments: 'access to the benefits of science by everyone, without discrimination; opportunities for all to contribute to the scientific enterprise and freedom indispensable for scientific research; participation of individuals and communities in decision-making; and an enabling environment fostering the conservation, development and diffusion of science and technology' (United Nations 2012a).

State obligations', which classifies positive and negative obligations into three different types, namely the obligation to respect, to protect and to fulfil<sup>13</sup>.

The obligation to respect means that States should refrain from interfering with the enjoyment of the right and thus requires States parties not to take any measures that result in violating the right. Specifically, governments must respect the necessary freedoms for conducting scientific research such as freedom of thought, to hold opinions, and to seek, receive and impart information and at the same time do not have to violate the right of scientists, like the freedom to undertake research and to report their results (UNESCO 2009). Such obligations should also include the autonomy of higher education institutions and the freedom of faculty and students to, *inter alia*, express opinions about the institution or system in which they work, and to fulfil their functions without discrimination or fear of repression.

The obligation to protect requires measures by the State to ensure that private entities or individuals do not deprive individuals of their own rights. Governments' duties should include to ensure that all relevant interests are balanced in the advancement of scientific progress and in accordance with human rights; to take measures to prevent and preclude the use by third parties of science and technology to the detriment of human rights; and to ensure the protection of the human rights of people subject to research activities (United Nations 1975). One remarkable proposal comes from Chapman (2009), whose suggestion is that to apply the precautionary principle to the development of new technologies in such a way as to protect populations from the harmful impacts of science and technology.

Fulfilment incorporates both an obligation to facilitate and an obligation to provide and includes measures to realize and ensure the right to be taken by States. Governments' responsibilities are to disseminate scientific information to the public; to provide quality science education; to create opportunities for meaningful public participation in decision-making related to science; and to facilitate international cooperation and assistance in science; to adopt a legal and policy framework and to establish institutions to promote the development and diffusion of science; to promote access to the benefits of science on a non-discrimination basis; and to monitor, respond to and inform the public of the potential harmful effects of science and technology.

While the right to benefit from advances in science and technology may not be a well-known human right and may not be considered to be the

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<sup>13</sup> 'The right to adequate food, like any other human right, imposes three types or levels of obligations on States parties: the obligations to respect, to protect and to fulfil' (United Nations 1999).

most persuasive in guaranteeing human dignity, it should be noted that its relevance is undoubtedly growing. States are thus required to follow and accept this right as part of the set of international human rights norms. A further exploration of the normative content and State obligations of the right in regard may be considered as a key point in order to have this right better implemented and consequently secure a general *consensus* in the perspective of its applicability<sup>14</sup>.

### *2.3. The Right to Internet Access: State of Play and Perspectives on Future Developments*

Any digital-oriented human right approach cannot help to address the critical role of Internet in the contemporary society and thus a deep understanding of its main infrastructure is required. Internet, as a human phenomenon, clearly shows an evolutionary inclination, that moves in both an extraterritorial and a sectorial direction. It affects not only the daily life of the individual, but also the world economy, politics and – last but not least – the law.

Internet is nowadays a fundamental necessity of modern society. The first step towards understanding the net architecture is to realize that it feeds on abundant information being routed around its nodes. The modality of expression on website is based on two-way communication, namely making the end-user not only a passive recipient of information but also an active publisher. The Web architecture is crucial for today's knowledge-based economy as it nurtures competitiveness and innovation, promoting development and social inclusion. It strengthens democracy and affects human rights, by enhancing for example the freedom of expression.

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<sup>14</sup> The next step may be to properly identify which State obligations, from among the many suggested, should be considered as minimum core obligations. As the AAAS Science and Human Rights Coalition (2013) has observed, these obligations may be summarized as follows: (a) Take legislative and any other necessary steps to guarantee non-discrimination and gender equality in the enactment of the right to enjoy the benefits of scientific progress and its applications, both individually and collectively; (b) Take legislative and any other necessary steps to prohibit OR prevent the violation of human rights by scientific progress and its applications; (c) Adopt the measures necessary to protect and address the needs of marginalized and vulnerable populations, including with regard to funding, determining research priorities and the conduct of science; (d) Create a participatory environment for the conservation, development and diffusion of science and technology, including equal access and participation for all, as well as capacity-building and education; (e) Take steps to protect scientific freedom, including freedom of expression and opinion, freedom of association, freedom of movement, and freedom from economic, religious and other influences; (f) Eliminate barriers or obstacles to international cooperation in science and adopt measures to facilitate international scientific exchange and technology transfer.

At the moment, the entire legal scenario is associated with the so called 'legal horizon of the Internet', which implies that legal experts need to adopt a digital approach in solving legal problems: in fact, they are required to adapt criminal law to computer crimes, private law to on-line transactions, and this new challenge characterizes other law fields, such as administrative law and procedural law (Frosini 2000, 271-273).

It should be noted that such universal service on the one hand does not allow a general access to all to all the individuals, on the other the access already granted is extremely limited. Nowadays the debate is mainly focused on digital divide, a term coined to describe the gap between people with effective access to digital and information technologies and people whose access is limited or completely absent. The digital divide has both a geographic (urban versus rural areas and developed versus underdeveloped regions) and social (digital literacy, access for vulnerable groups or language barriers) dimension and can be caused by physical obstacles, infrastructural inefficiencies or the so called 'information technology analphabetism'. Governments are firstly required to adopt policies in order to remove any obstacle that will impede the full development of the human person in the digital world.

As noted by the United Nations (2011a), access to the Internet presents two parallel dimensions. One component is the access to online content, without any restrictions except in a few limited cases permitted under international human rights law. The second element is the availability of the necessary infrastructure and information communication technologies, such as cables, modems, computers and software, to access the Internet in the first place. Even when Internet access is already guaranteed, new and controversial issues emerge. The main concern deals with the risk of limitations that characterizes the free exercise of human rights. There is indeed a contrast between the idea that Internet is an open space without regulations and the concern of an outrageous interference from public powers. In this context, the greatest challenge of the law is to operate a balance between security of users and respect for their freedom without resorting to disproportionate measures of protection between individual freedom and public interests.

When this balance is not successfully achieved, States are naturally pushed to adopt policies which disrupts Internet and telecommunications services. Similar offences may include shutdowns of entire networks, blockings of website and platforms and suspensions of mobile services and they are usually conducted in the name of national security and public order. To cite an example, in 2014 Turkey has restricted access online in advance of elections, taking concerning measures to prevent access to YouTube a week after Twitter was shut down. The explanation provided by the government

was that such restrictions could have undermined the legitimacy of the electoral process and called into question the guarantees of free and fair exercise of people's civil and political rights, but the consequences were extremely harmful in terms of implementation of human rights (Office of the High Commissioner for Human Rights, 2014).

'The Internet has become an indispensable tool for realizing a range of human rights, combating inequality, and accelerating development and human progress, ensuring universal access to the Internet should be a priority for all States' (United Nations 2011a). Each State is asked to develop a concrete and effective policy to make the Internet widely available, accessible and affordable to all segments of population. At a national level, where the infrastructure for Internet access is present, States should support initiatives to ensure that online information can be accessed in a meaningful way by all sectors of the population, including persons with disabilities and persons belonging to linguistic minorities. At the international level, governments are expected to facilitate technology transfer to developing States, and to integrate effective programs to facilitate universal Internet access in their development and assistance policies.

The most recent national and international human rights rules stand for the development of a right to Internet access and seem to demonstrate the existence of a widespread *consensus* for its recognition, allowing technology to become a right itself. According to Lim Y. J. and Sexton S. E. (2012), legal systems should incorporate six essential elements in order to elevate as a protected human right a person's freedom to the Internet: a proportionate response, constitutional protections or detailed legislative regulations, a neutral body, a judicial review, transparency and an international approach. Internet as a human right becomes an instrument through which people can achieve their other human rights. For this specific reason, it merits the respect accorded to other human rights and other media. Despite the absence of a clear international framework, it should be noted that there might be a growing *opinio iuris* as several States have already begun to recognize Internet as a human right.

Three jurisdictions have already constitutionalized a positive obligation to ensure connectivity. The Greek Constitution states that 'all persons have the right to participate in the Information Society. Facilitation of access to electronically transmitted information, as well as of the production, exchange and diffusion thereof, constitutes an obligation of the State, always in observance of the guarantees of' privacy, personal data and secrecy of correspondence (The Constitution of Greece, art. 5a). In *Decision no. 580* (2009), the French Constitutional Court affirmed that access to the Internet is to be considered as a human right by declaring that freedom of expression

implies freedom to access public online communication services. A similar verdict has been reached by the Constitutional Court of Costa Rica whose *Decision no. 12790* (2010) has stated that, in the context of the information society, it is imposed on public authorities for the benefit of the governed to promote and ensure in universal form, access to these new technologies.

Other countries have made an interesting step forward in ensuring the Internet access through their ordinary legislation. Estonia indeed adopted a law declaring Internet access as a human right. Finland and Spain consider the Internet access as a universal service. Moreover, both Finland and Spain have set the minimum rate of a functional Internet access as a universal service by passing a legislation stating that every Internet connection needs to have a speed of at least one Megabit per second. Netherland has been the first country in EU to pass a legislation on net neutrality, which is a revolutionary principle according to which Internet Service Providers (ISPs) are requested to manage all lawful Internet content (data or 'traffic' carried on their networks when data is requested by end-users) in a neutral manner.

Such developments prove that Internet access as a human right still represents a heated debate<sup>15</sup>. At international level, progresses have been made by UN which have recently adopted a resolution whose goal is to increase Internet access as it facilitates opportunities and grants access to education and related tools. This document claims with confidence that Internet access shall be consider as a human right, by affirming 'the importance of applying a comprehensive human rights-based approach in providing and in expanding access to Internet and requests all States to make efforts to bridge the many forms of digital divides' (United Nations 2016a).

The resolution is a significant political commitment by States and represents a chance to enhance international human right law with regard of Internet access. UN seem to make a step forward in filling up with contents the container represented by this emerging right, identifying a series of behaviour that governments are called to implement.

Governments are required to make efforts to bridge the many forms of digital divides. A specific attention is given to gender digital divide and the enhancement of the use of enabling technology, in particular information and communications technology, to promote the empowerment of all women and girls. States are also encouraged to take appropriate measures to promote the design, development, production and distribution of information and communications technologies and systems, including assistive and adaptive technologies, that are accessible to persons with disabilities.

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<sup>15</sup> 'Perhaps the real point is not whether or not access to the Internet is a human right, but rather that ordinary people now simply demand it' (Liddicoat 2012).

According to the UN resolution, embracing a comprehensive human rights-based approach in providing and in expanding access to Internet means that governments address security concerns on the Internet in accordance with their obligations to protect freedom of expression, privacy and other human rights online. State policies in the digital field should desist from measures to intentionally prevent or disrupt access to or dissemination of information online, including measures to shut down the Internet or part of the Internet at any time, specifically when access to information is critical, such as during an election, or in the aftermath of a terrorist attack.

Finally, as one of the main occurring social changes, Internet bring with it unexplored concerns and values which the international legal framework is inevitably asked to address. The most recent developments in the present field seem to confirm the international customary law is ready to accept those rules which recognize access to the Web as a human right. This transition may positively contribute to the current human rights framework, bringing the protection to the use of the Internet to a higher level (De Hert and Kloza 2012, 9). Any concerns related to digital access (censorship policies, digital divide, universal connectivity) could be addressed by one single drafted new right. Regardless of the debate on benefits and disadvantages, any formalization of this human right cannot be performed without considering that 'the core values of the Internet pioneers are deeply rooted in the belief that the human condition can be enhanced through the reduction of communication and information barriers' (Internet Society 2012, 1). In preserving these unique enabling qualities of the Internet, governments will be required to find a balance between enforcing the laws that are in place and guaranteeing fundamental rights. This equilibrium shall be found in the right to Internet access.

## **Conclusions**

These brief considerations clearly show how nowadays it is crucial to reinterpret the principles of indivisibility and interdependence of human rights in the light of digital innovations experienced by society. In fact, any tendency to attribute to new technologies static and immutable features shall be considered completely wrong. That happens when the net is associated with unsupported democratic virtues or, on the contrary, when digital technologies are perceived as totalitarian tools that put at risk democracy through control, surveillance and manipulation practices. Even though technology cannot be considered entirely neutral, it has to be examined with regard of the economic, social and political context in which it spreads out. As technologies have repeatedly changed through the years, their

effects on people's life and societies will mostly depend on how they will be shaped under many factors' influences, regarding which a major role will be certainly played by law.

Thus a fundamental rights approach has to be made strong. Although human rights should not be treated lightly, when moving to the technology field being too fundamentalist about fundamental or human rights could be dangerous either. These rights are far from being static. They evolve, simply because they reflect developments in the society, rather than eternal truths or state of beings of human kind.

The first step the International Community will be asked to make is promoting regulatory processes that could move as faster as the introduction of digital tools, trying to prevent the conflicts and ensuring an appropriate balance between human rights. Only in this way, will human rights in the digital sphere be able to contribute altogether to the realization of people's human dignity and the relationship between new technologies and human rights will be able to become a constructive partnership.

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