

We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

6,900

Open access books available

185,000

International authors and editors

200M

Downloads

Our authors are among the

154

Countries delivered to

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Democracy, Freedom and Truth at a Time of Digital Disruption: An Equation with Three Unknowns?

Elena Danescu

Abstract

Knowledge-based societies rely to a large extent on intangible outputs and digital technologies, and these are having a growing influence on information systems, media, governance and citizenship. At the same time, the increasing role played by online platforms in manipulating transnational public debates, legitimising algorithmic non-transparent decision-making and inciting hate speech and violence through misinformation, disinformation and propaganda are warning signs of the negative repercussions such digital ecosystem can have on rule of law, political systems, free thought and critical awareness. There is a clear need for international regulation in this area. Rooted in an interdisciplinary approach, this chapter combines an examination of the theoretical, conceptual and methodological frameworks with an analysis of various relevant public and private archives. The aim is threefold: to outline the issues and challenges in terms of human (and labour) rights, freedom and democracy; to identify the regulatory provisions adopted at European and international level to promote accountability, civil participation, and digital literacy; and to identify future prospects, risks and uncertainties in the era of artificial intelligence.

Keywords: Knowledge-based societies, Democracy, Human and labour rights, Citizenship, Critical awareness, Algorithmic ecosystems, Artificial Intelligence, Digital misinformation and disinformation, Education and Media literacy, European Union, Interdisciplinarity, Digital humanities

1. Introduction

The pattern of a knowledge-based society relies to a large extent on digital technologies and intangible outputs and generates considerable transnational financial flows and gains. These technologies also play a key role in providing free access to data and information, encouraging citizen participation in public decision-making, fostering transparency and scrutiny of government action and mobilising new players capable of identifying alternative means of civic and political participation worldwide.

At the same time, the increasing impact of online platforms in manipulating transnational public debates and the surge in extremist groups using the digital ecosystem to incite hatred, hostility and violence are warning signs that these modes of communication may be having an adverse effect on democracy and that

the boundary between fact and fiction is not as clear as we may like to think. The misleading stories about the EU in 2015 following Russia's hybrid war campaign in Ukraine, the US presidential election campaign and the Brexit referendum in 2016, the theories about COVID-19 that have flooded the web since 2019, the terrorist attack against French teacher Samuel Paty on 16 October 2020 and the cyber-attack against Microsoft which seriously affected the European Banking Authority in March 2021 are just some examples that highlight these trends.

Considering that a significant proportion of the world's citizens now use online media as their main source of information, the proliferation of disinformation and the related threat of radicalism and extremism have led to a growing awareness of these issues at international and European Union (EU) level. What can be done to tackle the situation? How should democratic states with new forms of private power intervene in an algorithmic society? Where should the line be drawn between freedom of expression and media pluralism on the one hand, and intrusion and censorship of dissenting opinions on the other? How should information be defended as a fundamental right? Is there a moral or ethical code when it comes to information? How can we create an environment that is conducive to inclusive, pluralistic public debate? How can we equip citizens to develop a critical approach and take informed decisions? How can we balance innovation with the need to ensure transparency and fairness? Could we be witnessing a situation in which algorithms are "dissolving" democracy?

Drawing on the archives of international and European multilateral organisations (UN/UNESCO, the Organisation for Economic Co-operation and Development, the G7 and G20, the Council of Europe, the Organisation for Security and Co-operation in Europe and the EU Union) and several public and private stakeholders worldwide (including the International Fact Checking Network, the Ethical Journalism Network, the Future Today Institute, the European Group on Ethics in Science and New Technologies and the European Regulators Group for Audiovisual Media Services), as well as an interdisciplinary interpretation of the specialist literature (especially in the fields of history, political and legal science, sociology, economics and computer studies), this chapter sets out to answer the research questions enumerated above from a threefold perspective: a) by analysing the issues and challenges raised by the proliferation of fake news, social media and algorithms and their impact on human rights, freedom and democracy; b) by highlighting the regulatory provisions implemented in this area at European and international level and identifying their strengths and weaknesses; and c) by identifying future prospects, risks and uncertainties.

2. Freedom of information and freedom of expression: a conceptual and legal framework

Freedom of expression is a fundamental human right, recognised by the United Nations General Assembly in 1946 [1] and by the 1948 Universal Declaration of Human Rights, whose article 19 states that ["Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers [2]"].

Freedom of expression is inseparable from the principle of freedom of information, as enshrined in many international legal instruments, including the Constitution of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) (1945), which calls for the "promot[ion of] the free flow of ideas by word and image [3]" the International Covenant on Civil and Political

Rights (1966) [4] and the International Covenant on Economic, Social and Cultural Rights (1966). [5] Regional regulatory frameworks recognising freedom of expression have also emerged, such as the US Freedom of Information Act (FOIA) (1967) [6], the American Convention on Human Rights (1969) [7] and the African Charter on Human and Peoples' Rights (1987). [8]

On the European continent, the Council of Europe (CoE), a multilateral inter-governmental organisation founded in 1949 with the aim of "fostering and maintaining a European state of mind [9]" was the forerunner in the defence of freedom of information and expression as an integral part of human rights. This principle was reflected in the European Convention on Human Rights (1950) [10] and the European Court of Human Rights (ECHR), set up in 1959, whose work helped harmonise national notions of such freedoms and gradually laid the foundations for a European case law and standard in this area. In 1954, the CoE also adopted a convention to promote a European consciousness and the free movement of ideas; later, in 1961, the European Social Charter guaranteed several rights for workers, including the fundamental right to information (about working conditions, social protection, etc.). [11]

With the establishment of the European Coal and Steel Community (ECSC) [12] in 1951 and the European Economic Community (EEC) [13] and Euratom in 1957, Europe as a supranational polity was initially based around a "de facto solidarity" (to borrow Jean Monnet's expression) and interests related to economic integration; the question of human rights was not directly addressed. Nevertheless, the four fundamental freedoms of the internal market – where goods, people, services and capital are allowed to circulate freely – necessarily result in freedom of information. From 1969 onwards, the Court of Justice of the European Communities (CJEC), based in Luxembourg, made a point of interpreting Community law in the light of both fundamental rights common to the Member States and international instruments such as those of the CoE, thereby forging a Community case law and clearly confirming that human rights come under the aegis of European law. After the fall of the Berlin Wall on 9 November 1989, the enlargement of the Community to include the countries of Central and Eastern Europe, together with growing Community intervention in areas requiring the protection of fundamental rights and freedoms, encouraged the EU to adopt its own protective mechanisms. The 1992 Maastricht Treaty [14] converted the obligation to respect the principles of freedom, democracy, human rights and fundamental freedoms and the rule of law, previously applied by the European Court of Justice, into a treaty obligation for the EU and for Member States by virtue of their membership. The Treaty of Amsterdam (1997) [15] stated that ["The Union is founded on the principles of liberty, democracy, respect for human rights and fundamental freedoms, and the rule of law, principles which are common to the Member States. [16]"] In 1999, the EU set out to draw up a Charter of Fundamental Rights, which was solemnly proclaimed on 7 December 2000 by Parliament, the Commission and the Council, then proclaimed again on 12 December 2007 after being amended. [17] Its preamble clearly states that ["the Union is founded on the indivisible, universal values of human dignity, freedom, equality and solidarity; it is based on the principles of democracy and the rule of law. It places the individual at the heart of its activities, by establishing the citizenship of the Union and by creating an area of freedom, security and justice."] Article 11 of the Charter, entitled "Freedom of expression and information", stipulates that: ["1) Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers. 2) The freedom and pluralism of the media shall be respected. [18]"] The Treaty of Lisbon (2007) [19] gave the Charter "the same legal value as the Treaties", thereby making it binding for the Member States. [20]

It is also worth noting that the Merger Treaty (1965) [21] gave the ECSC, the EEC and Euratom (the “European Communities”) shared institutions – the Commission, Council of Ministers, European Parliament and Court of Justice – which now had a duty to comply with transparency, accessibility and integrity, considered as “principles of good administration”. With the Declaration on the right of access to information annexed to the Treaty of Maastricht, the EU entrenched its policy of institutional transparency, affirming [“that transparency of the decision-making process strengthens the democratic nature of the institutions and the public’s confidence in the administration. The Conference accordingly recommends that the Commission submit to the Council no later than 1993 a report on measures designed to improve public access to the information available to the institutions [22]”].

The principle of freedom of information, whose origins can be traced back to the 18th century is an integral characteristic of pluralist democratic societies. [23] It states that all information held by governments and their various institutions must be public and generally accessible, and may only be withheld for a “legitimate reason” such as respect for privacy or safety issues. Some restrictions are therefore admissible, as long as they are regulated and comply with international law.

In recent decades, the right to information has been increasingly recognised worldwide and implemented by means of specific legislative instruments. This trend has been driven in particular by the Organisation for Economic Cooperation and Development (OECD), which recently launched an “Open Government” initiative with the aim of implementing legal, regulatory and institutional frameworks that encourage transparency, participation and access to information in member countries. [24] For the OECD, the right of access to information is both a driver for inclusive growth and a challenge for democracy and public governance, with the potential to promote interest in public policy issues and encourage citizens to get involved in decision-making in this area. [25] While only 13 countries had national laws on freedom of information in 1990, now some 127 countries have adopted laws on access to information. Recognising the importance of improving universal access to information and knowledge, the 2015 UNESCO General Conference, followed by the 2019 United Nations General Assembly, proclaimed an International Day for Universal Access to Information, held every year on 28 September, with the aim of strengthening open science, multilingualism, ICT and media and information literacy, and reaffirming press freedom.

As demonstrated above, freedom of information and the free circulation of ideas are inherent to respect for human rights and central to the notion of democracy. Exercising the right to access information has a twofold impact: it encourages all citizens – civil society as a whole – to get involved in the public sphere, to participate in decision-making on public policy, to scrutinise and evaluate the performances of institutions and leaders, the economic system and the use of public money (and to identify instances of corruption); and it also prompts public authorities to be more transparent and open in the exercise of public governance, more responsive to signals from citizens, more attentive to the needs and criticism of society and therefore more open to reform. One of the most effective ways of tackling poor governance is open, enlightened debate with civil society – hence the importance of easy access to comprehensive, wide-ranging and accurate information for all citizens. Freedom of information can also lead to increased accountability and efficacy in governance and can bolster public confidence.

The need to adopt legislation to ensure freedom of information represents a major challenge in democratic countries worldwide. At the same time, the mere existence of international and national legislative and regulatory frameworks guaranteeing freedom of information does not mean that these will necessarily be applied

automatically or permanently. The content and scope of laws in this area vary, and their application depends on several factors, including the wider constitutional framework, the level of dedicated funding and human resources, the dynamism of civil society, and the ability of citizens to make use of the law. Even if legal provisions do exist, freedom of information may be hindered by complicated mechanisms to access information, inappropriate management and preservation of information (including archives), excessive bureaucracy and impenetrable systems. It is therefore vital that we move from a “culture of secrecy” to a “culture of transparency” in the public sector, and that efforts are made to raise awareness among civil society of the importance of more rigorous standards when it comes to information.

3. “Information, the key to democracy”

In the contemporary cross-disciplinary sense, the concept of democracy has several interdependent dimensions, three of which are seen as foundational: citizenship, the representativeness of political leaders, and the limitation of state power by means of fundamental rights. [26, 27]

In this context, citizenship serves as a haven for democracy, reflecting the desire of citizens (states, districts, communities, even the world – “global citizens [28]”) “to act responsibly in public life [29]” to exercise their right to contribute to the way in which society is managed, and also to share their stories, culture and general concerns. [30]

The exercise of citizenship implies first and foremost the existence of a “public space”, the structure of which may be considered from four angles: 1) a(n) (intangible) political space where citizens discuss, debate, share their ideas and compare their arguments in order to try to reach a consensus on questions of general and/or overall interest [31]; 2) a social space, which gives rise to “ways of living together” and fosters a “recognition of the other [32]”; 3) an economic space, represented by “the market”, governed in principle by objective rules and mechanisms, but which may nevertheless be a sphere for collective action with a political objective [33]; 4) a (tangible) physical space, which can be divided into different spatial levels, centered around multiple networks and where multiple “possible futures” can be discerned. [34]

Over the past three decades, the physical space has gradually become a space for citizenship and politics, insofar as social, political, protest and even revolutionary movements have emerged in the streets and taken over symbolic sites (squares, parks, gardens, etc.), with the aim not only of achieving physical visibility but also of expressing ideas, exchanging experiences, spreading messages and creating symbols. As well as serving as the *agora*, the public space has therefore also become a space of public opposition. [35] Examples of this phenomenon include the Tiananmen Square protests (Beijing, 1989), the University Square/“Golaniad” protests (Bucharest, 1990), the “Arab Spring” (a series of anti-government protests, uprisings and armed rebellions that spread across much of the Arab world in 2010–2011), “Occupy Wall Street” (New York, 2011), the Gezi Park protests (Istanbul, 2013), the Umbrella Movement (Hong Kong, 2014), the Maidan Square protests (Kiev, 2014), the “Nuit debout” movement (Paris, 2016) and the “Yellow Vest” movement (France, 2018–2019).

The notion of public space is inseparable from that of civil society, which provides a framework for regular citizen engagement with the aim of reaching collective decisions on matters of public interest. [36] Civil society plays a role in [“ensuring that all content and procedures related to public decision-making are accessible in the public space, and relaying to the political space any demands made

in the public space and the various social spheres. It helps to control and balance the action of instituted powers – not just the state but also economic powers and the religious sphere. In this respect, at least in an ideal world, it represents a key place for the promotion and defence of citizens’ civil, political and social rights. [...] The workings of our democracies rely to a large extent on the distinction and complementarity between the public space, civil society and political institutions. [37]”].

More recently, civil society has become an integral part of the political decision-making process, not only through elections – the expression of direct democracy –, but also through the possibility of being consulted and sharing views on public issues – the expression of collective democracy. But if citizens are to freely form an enlightened viewpoint and make a useful contribution to the democratic process, they need to have access to information – reliable, pluralistic, independent information, drawn from diverse and varied sources and media, which they can absorb, analyse critically on the basis of their value systems, and incorporate into their own judgement. The quality and performance of democracy depends on it – as has become all too clear in the current era of “digital democracy” (Table 1).

	<i>Democracy of transparency</i>	<i>Democracy of debate</i>	<i>Democracy of consultation</i>
<i>Type of citizenship promoted</i>	Enlightened citizens who stay informed	Citizens who discuss, share ideas and compare their views with those of others	Citizens who take part in decision-making Citizens who govern
<i>Main criticism levelled at current democracy</i>	Lack of transparency in the workings of political institutions No real right to information	Public space closed or hampered by intermediaries	Leaders who are cut off from citizens and have become autonomous
<i>Prevailing direction in which information circulates; online functions given precedence</i>	Downwards Websites Mailing lists	Horizontally Forums Personal pages Email Cooperative groups Mailing lists	Upwards Email Discussion forums Electronic voting
<i>Advantages of the internet</i>	Low cost of storage and distribution Potential for custom searches Updated information	Direct horizontal communication that transcends social, organisational and geographical barriers and creates identity Reduced cost of engagement	Quick, direct, more informal access to elected representatives Less costly citizen consultations
<i>Potential for interaction with the political sphere</i>	Elected representatives with the role of informing or educating Alternative press	Elected representatives as catalysts/leaders Associations	Elected representatives in an advisory role Institutional channels for participation
<i>Frequent problems</i>	Tendency for model to lapse into mere provision of practical information Information overload	Unequal participation How to move from debates to action or decision-making	Unequal ability to make requests Security, confidentiality, authenticity of communications

Source: Vedel, T. *L'idée de démocratie électronique: Origines, visions, questions*. In Perrineau P, editor. *Le désenchantement démocratique*. Editions de l'Aube : La Tour d'Aigues ; 2003 ; 243-246. Here p.251. Our translation.

Table 1.
The key trends in electronic democracy [38].

[“Politics takes precedence over economics; Parliament is sovereign. The fourth power already exists: it is the power of information [39]”].

In 2019, under the aegis of the UN, the International Partnership on Information and Democracy was set up to promote and implement democratic principles in the global information and communication space with the aim of guaranteeing free, pluralistic, “quality reporting despite the changes resulting from new digital communication forms [40]”.

3.1 Media – at the intersection of democratic culture and technological progress

The notions of *information* and *communication* are inseparable from that of *media* (the plural of *medium*), a term whose primary definition – means of communicating information – is surrounded by multiple additional facets relating to the techniques used to process that information, to content itself and the way in which it is organised, presented and formatted, and to the regulatory frameworks governing these processes.

Characterised by varying temporalities, materialities and scales and by specific theoretical and methodological approaches, the many aspects implicit in the notion of *media* have changed considerably over time, as revealed by the emerging field of media archaeology. [41] Following on from the written word (used in the print press and also in telegraphy – the transmission of written messages), audio (for telephony and then radio broadcasts) and images (for cinematography and then television), new processes based on information and communication technologies began to be developed, driven by the emergence (1969) and global spread of the Internet, the arrival of the World Wide Web in the mid-1980s and the advent of the *information society*, bringing about a paradigm shift. [42] Non-instant communication (of written, visual or audio material) was replaced by communication in real time. [43] As new innovations gathered pace, this paved the way for information itself to circulate ever more quickly via new platforms, transforming the use of content (in both technical and social terms) and the way in which information is perceived, assimilated and consumed by the public. At the same time, [“No medium has its meaning or existence alone, but only in constant interplay with other media. [...] Radio changed the form of the news story as much as it altered the film image in the talkies. TV caused drastic changes in radio programming, and in the form of the thing or documentary novel [44]”].

The notions mentioned above relate to social phenomena: “the media represent an organisational system that takes these notions (information and communication) and incorporates them into various spheres: economic (supporting businesses), technological (boosting the quality and quantity of dissemination) and symbolic (serving citizen democracy). [45]” The following points can therefore be observed: 1) Given that all members of civil society (citizens, politicians, business-people, associations, etc.) interact with information, the media can only exist in the public space, where they target both individuals and the community, with an impact that is both global and local, general and specific. In the public space, information becomes a common good, a source of democracy. 2) Over time, information has become more than just a source of knowledge; it is a product in its own right, a commodity that is subject to economic logic and the rules of the market. For example, in the mid-19th century, the print press was able to prosper and become a “press for the masses” precisely for commercial reasons, by printing advertisements that created a link between producers and consumers (at a time when the purchasing power of the working classes was on the rise. [46]) Readers were seen as both citizens and consumers. Even if the press was structured in such a way that there was a clear separation between owners and news writers – resulting in the emergence of the

profession of *journalist* –, this nevertheless raises questions as to the way in which the media address their readership. How do they reconcile a sound business model (based on profitability, capturing market share, etc.) with the principles of objectivity, transparency and balance that are intrinsic to information? To what extent do commercial obligations and ideological, cultural and societal factors influence the media discourse and products available to the public? Is this discourse neutral or skewed by a biased perspective and a prevailing value judgement which are instilled in members of the public, thereby diverting them from their own reasoning and subjectivity?

When he wrote [“[...] for the eye sees not itself, but by reflection, by some other things [47]”] Shakespeare was making the point that we only perceive reality by the way in which it is represented. The media do not offer us a “mirror of the world” by means of a neutral transposition of a series of facts, but rather a “showcase of the world”, in other words a view determined by a specific selection of information that is prioritised and presented in a specific way. These processes [“are governed by the journalist’s *habitus*, as stimulated by changing circumstances: an event-driven view of reality, an individualistic view of the social sphere [...] and a relative allegiance to the ruling elites, with which many journalists are in contact, both because of the routines of their profession and because they belong to certain circles for decision-making and discussion that shape current events and opinions. [...] Roughly speaking, all we know of the world is what the media tell us [48]”].

3.2 Information and the need for truth

In a democracy, information is a common good, a resource belonging to the public space and to the realm of public debate, which must be based on a need for truth. But in the past twenty years, the informative role of the media has undergone a number of major shifts, which have had an impact on the very notions of *truth* and *democracy*.

The first shift is technological: digital technologies have prospered at a rate never before witnessed in the history of technology, bringing about changes in the production, management, dissemination and consumption of information – in short, the way in which we relate to information – for society as a whole (information professionals, politicians and citizens.) [49] A second shift involves practices and uses, which have resulted in a new type of relationship between information/media and their audience. [“The rise of social networks and their effect on mediated communication in present societies, as well as mobile communication, artificial intelligence (AI), virtual reality, and transmedia strategies, have encouraged the search for experimental and innovative responses [...] which encourages extensions of the person for services, personalisation of content, and [an] updated meaning of place and time. [50]”] A third shift has occurred in the realm of information itself, which has been democratised beyond censorship, is now shared instantly across borders [51] and has been radically liberalised, to such an extent that any individual, often anonymously, can produce and share information and opinions and can judge and take a stance on the basis of their own truths and values. Information now finds itself within a transitional ecosystem in which traditional and innovative media coexist and old concepts are co-opted to deal with new challenges. As algorithms take centre stage – in the absence of any meaningful ethical framework [52] –, information has become horizontal and fragmented; we are faced with an information overload and are rapidly reaching saturation point. [“Allowing every opinion into the public sphere and giving it serious time and consideration, far from resulting in a process that is conducive to knowledge formation, destroys its very possibility. [53]”] At the same time, the instant nature of information, [“the religion

of scoops and real time, the imperatives of concision and sensation, are conducive to stereotyped reflection, clichés and spontaneous acceptance of conventional ideas [54]”].

The proliferation of sources and the phenomena of fake news, “alternative facts”, disinformation and misinformation are becoming increasingly prevalent in public discourse, eroding the credibility of information and giving rise to scepticism, relativism and even to a “pandemic of credulous thinking. [55]” Examples include the radioactive cloud from the Chernobyl accident in 1986, which was infamously said to have “stopped” at some European borders; the false evidence of weapons of mass destruction which served as a justification for the US invasion of Iraq in 2003; and more recently, in 2016, the pro-Brexit campaign and the US presidential election campaign. Alongside the information crisis, we are also witnessing a crisis of truth, fuelled by the deeply anti-democratic idea that there is no “established truth” and that the source of information may have more value than the information itself. In the “post-truth era” [56] [“a large share of the populace is living in an epistemic space that has abandoned conventional criteria of evidence, internal consistency, and fact-seeking [57]”].

In its 2020 edition, the Reuters Institute Digital News Report– which examines long-term trends in media use worldwide and analyses the role of social media in the context of online news usage – highlights two main observations. [58] The first is that news consumption is changing – news sources on the internet are gaining in importance, especially social media, which plays a vital role among young people. The second is the rise of intermediaries – “brokers of information that position themselves between producers and consumers while altering the flow of information. [59]” An in-depth look reveals that in 2020, in many European countries, the proportion of the population using social media as a news source ranged from about 30 to 60%, and thus algorithms are becoming the dominant news source. These algorithms filter, sort, personalise, recommend and classify news content by prioritising data and opinions that corroborate existing preferences, while at the same time excluding (filtering) other content classified as non-relevant for the user. [“Intermediaries act as ‘gatekeepers’ by means of these functions. [...] This task was traditionally performed by professional mass media (newspapers, television, radio). In the digital media environment [it is] increasingly replaced by algorithmic curation [60, 61]”].

At the same time, traditional journalistic criteria (professional assessments, the market and the audience) [62] are gradually giving way to what might be referred to as “news values – such as controversy, conflict, negativity, proximity or elite people. [63]”] While traditional media outlets are aimed at society as a whole in a bid to give citizens access to reliable factual information that is cross-checked, impartial and relevant so that they can make well-considered decisions, algorithms target users/citizens individually. But relatively little is known as yet about the way in which algorithmic systems of intermediaries function – they are often referred to as “black boxes” –, and this makes it difficult to accurately assess their societal influence. [64]

Could we be witnessing a situation in which algorithms are “dissolving” democracy?

4. Europe and “algorithmic democracy”

In an increasingly globalised, competitive geopolitical context, in which innovation is seen as a key driver for economic growth, Europe is keen to give its Single Market a strong digital dimension. [65]

4.1 Completing the European single market: from digital to data

In building what it refers to as the Digital Single Market, the EU “has to get to grips with new principles and notions arising from globalisation – such as dematerialisation, deterritorialisation, cyberspace and e-governance – and find answers to new questions about the nature of work, national sovereignty and territoriality, as well as the exercise of power and of democracy. This raises unprecedented social, economic, fiscal, environmental and democratic challenges with the potential to cause societal upheaval [66]”.

Europe is facing considerable challenges. First and foremost, despite its size (513.5 million inhabitants, representing 6.9% of the world's population), its level of development (21.8% of global GDP) and its technological ambitions (2.07% of the EU's GDP in 2019), the EU still lags behind the US and China and is struggling to assert itself as a digital power. [67] It also has to grapple with the technological and economic heterogeneity and asymmetry of the Member States in their approach to the digital transition (in which Scandinavian countries and the UK, Germany and France are the leaders). And finally, multiple stakeholders acting on different levels across broad cross-cutting policy areas are generating “contradictions between techno-nationalism and techno-globalism [68]”.

At the same time, digital wealth creation is strongly concentrated in the United States and China, which together hold 75% of all patents related to blockchain technologies, 75% of the cloud computing market and 90% of the market capitalisation value of the world's 70 largest digital platforms. [69] The US holds a growing place in the daily lives of Europeans through the pervasiveness of web giants such as Google, Amazon, Facebook, Apple and Microsoft (“GAFAM”), and this has increased yet further with the arrival of a “new wave” of American giants of the digital economy – Netflix, Airbnb, Tesla and Uber (“NATU”) – and by the rise of the three largest Chinese technology companies – Baidu, Alibaba and Tencent. [70] This phenomenon is leading to new mechanisms for value creation based on knowledge and intangible assets; to the increasing dominance of networks of stakeholders over individual players; and to the emergence of new forms of sharing, creation, collaboration and consumption – especially in the realm of information. “The challenges are not just commercial, but touch the very heart of the future of Europe as a political unit mastering its own destiny [71]”.

The EU is currently working to develop a technological ecosystem that will facilitate innovation; it wants to assert its “tech sovereignty” and maintain regulatory sovereignty in key areas. The bloc is cooperating at international level to harmonise rules, standards and policies within a multilateral framework (UN, UNESCO, OECD, G7, G20, CoE). A number of sensitive regulatory issues have emerged recently, all with the potential to influence democracy, including the market size of social media, how to tax intangible assets, personal data management and the question of “ethical algorithms. [72]” The EU's approach reflects its strategic objective to move from a “digital economy” to a “data economy” – its ultimate aim is to develop a single market for data within the European Single Market. [73]

4.2 A fair digital information ecosystem for the EU?

In the digital transformation of Europe, the question of disinformation (including misleading or outright false information) and its impact on democracy has become a priority for the EU since 2015. [74] The rise of populism and extremism in some countries (Austria, France, Hungary, Italy, the Czech Republic and Poland) and the campaigns for Brexit in 2016 and for the European elections

in 2019 – both of which were marred by foreign interference – have led to a growing awareness within the EU and internationally of the harmful effects on public debate, political decision-making and democracy of manipulative communication via content distribution networks, social media services, video-sharing platforms and search engines. Disinformation campaigns led by third countries, cyberattacks and interference in the electoral process all represent threats for the EU's internal security. [75] There are also privacy-related issues regarding the massive volumes of personal data collected by these platforms and the fact that it is becoming increasingly difficult to prevent third parties from storing and using them. [76]

Even if powers in the area of information lie with individual Member States, it is clear that the transnational and cross-border dimension of online disinformation makes a coordinated European approach necessary to ensure the protection of the EU's citizens, policies and institutions. In 2015, on the initiative of the European Council, the EU institutions and the European External Action Service set up the East StratCom Task Force "to address Russia's ongoing disinformation campaigns. [77]" The 2017 Joint Declaration on "Fake News," Disinformation and Propaganda provides a focused treatment of the application of international human rights standards to the phenomenon of disinformation. [78] It sets out general principles and standards and defines roles and responsibilities for states, digital intermediaries and media outlets. The document emphasises states' "positive obligation" to create an "enabling environment for freedom of expression" and identifies broad strands of public policy to this end. [79]

In June 2017, the European Parliament adopted a resolution urging the European Commission to carry out an in-depth review of the legislative and regulatory framework to limit the dissemination and spread of fake content. [80] In 2018, the European Commission's Joint Research Centre carried out a study on fake news and disinformation which revealed that two thirds of consumers of online news prefer to access it through algorithm-driven platforms (search engines, news aggregators, social media websites) and also that market power and revenue streams have shifted from news publishers to platform operators who have the data to match readers, articles and advertisements. [81]

In March 2018, the European Council addressed the question of social networks and digital platforms, reiterating the need ["to guarantee transparent practices and full protection of citizens' privacy and personal data. [82]"] The European Commission launched a comprehensive online consultation with citizens and stakeholders in 2017–2018 [83] and set up a High-Level Expert Group to advise on this matter. [84] Also worth noting are the adoption of the Directive on security of network and information systems (the NIS Directive), the General Data Protection Regulation (GDPR) and the Regulation on Cross-Border Delivery Services. [85] The entry into force of the GDPR (2018) resulted in more stringent obligations for those using personal data and stronger rights for individuals, both within and outside the EU.

In its judgement of 13 May 2014, the Court of Justice of the European Union (CJEU) ruled on a first case of the "right to be forgotten" online. [86] The Court concluded that Google was responsible for the processing of personal data that appeared on its pages. In September 2019, two other judgements handed down by the CJEU on "de-referencing" consolidated the basis of the "right to be forgotten". [87] The first judgement restricted the territorial scope of the right to de-referencing, which is limited to the EU's borders and is not binding for other countries. [88] The second judgement was related to the terms of application of search engines. Under this ruling, the personal data set out in the General Data Protection

Regulation (genetic and biometric data, data on sexual orientation, criminal offence data, etc.) are protected. But a balance needs to be found between the right to access information freely and the fundamental rights of those who request de-referencing. In the European Democracy Plan, which aims to empower citizens and build more resilient democracies across the EU (2020), the Commission sets out measures [“to promote free and fair elections, strengthen media freedom and counter disinformation. [89]”] The plan proposes measures to increase protection for journalists and tackle disinformation and interference, while fully preserving freedom of speech. In 2020, the European Digital Media Observatory (EDMO), managed by a consortium led by the European University Institute in Florence (EUI), was also set up with the aim of “creating and supporting the work of an independent multidisciplinary community capable of contributing to a deeper understanding of the disinformation phenomenon and [increasing] societal resilience to it [90]”.

The debate over the lack of sufficient safeguards, oversight measures and enforcement to adequately deal with information, which is eliciting a response from civil society, politicians, regulators and, more recently, stakeholders of the global digital economy, has given rise to a self-regulatory Code of Practice on Disinformation drafted in 2018 by representatives of online platforms, leading social networks, advertisers and the advertising industry to address the spread of online disinformation and fake news and to protect users from disinformation. [91] The code, which came into force in September 2019, sets out a number of commitments for a more transparent, trustworthy and accountable online ecosystem and includes a list of best practices that the signatories pledge to adopt to implement these commitments. Initial signatories include major online platforms (Facebook, Google, YouTube and Twitter), software providers (Mozilla), advertisers as well as a number of trade associations representing online platforms and the advertising industry. Microsoft and TikTok have now also signed the code (in May 2019 and June 2020 respectively), and like other companies have devised individual roadmaps with specific measures, methods and tools to combat disinformation that they intend to implement in all EU Member States. [92] The Commission will work in conjunction with the European Regulators Group for Audiovisual Media Services (ERGA) to monitor the effectiveness of these commitments (**Figure 1**) [93].

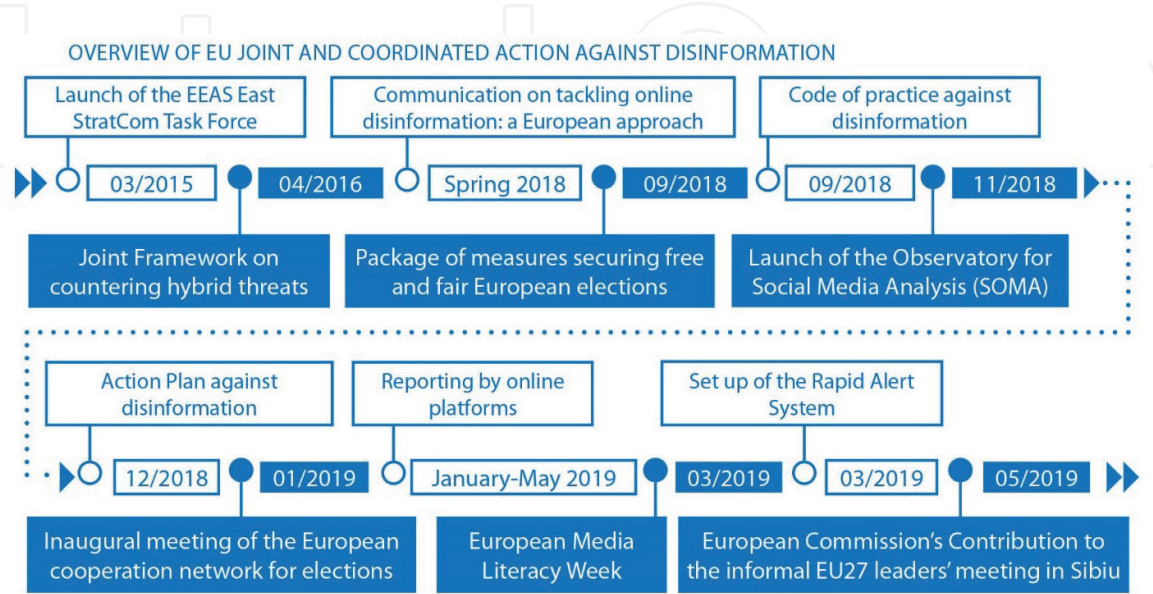


Figure 1. Overview of EU joint and coordinated action against disinformation (2015–2019). Available from: <https://ec.europa.eu/digital-single-market/en/tackling-online-disinformation>. Source: © European Union, 1995–2021.

At the same time, the Commission is working to raise awareness of the intentions, objectives, sources and tools of disinformation and to highlight our own vulnerability in this area. [“It is essential to understand how and why citizens, and sometimes entire communities, are drawn to disinformation narratives and define a comprehensive answer to this phenomenon. [94]”] In this regard, an independent European network of fact-checkers is working to develop common methods, exchange best practices and achieve the broadest possible coverage of factual corrections EU-wide, in accordance with a strict International Fact Checking Network Code of Principles. [95] A secure European online platform on disinformation will take shape to support the network of fact-checkers and relevant academic researchers with cross-border data collection and analysis, as well as access to data across the Member States. [96]

A number of stakeholders, including the Media Pluralism Monitor (run by the Centre for Media Pluralism and Media Freedom in Florence), EDMO and the academic community, are working in synergy to develop a sound scientific methodology which could help identify key EU-wide vulnerabilities. [97] A further step is to empower EU citizens to better identify and deal with disinformation and undesired content (as hate speech, child pornography, elements of pro-terrorism guidance or proselytism) through online media education and digital literacy. [98]

5. Charting an uncertain future

Information technology and the use of algorithms, big data and AI – all of which have already proved their worth in terms of economic growth, employment, innovation and improving quality of life – are set to play an increasing part in the development and workings of society and individuals.

While the positive potential of these factors has not yet been fully identified and harnessed, it is important to consider their impact on democracy, human rights (which overlap with wider ethical concerns) and the rule of law [99], as well as their influence on individual behaviour and thought. [100] How can we know, for example, whether a person's vote – the ultimate expression of democracy – reflects a deep individual conviction or merely the influence of algorithms, or even manipulative fake news? If big data produces knowledge that is devoid of concepts and is not based on any preliminary hypothesis, will it merely result in “expertise without experts”? If so, who will take responsibility for it? Won't this deprive citizens of the right to debate and decide? How can we safeguard the integrity of democratic principles? Recommendations by computers may have an air of rationality or infallibility, and people might blindly follow them. [“The human being may often be led to ‘rubber stamp’ an algorithmically prepared decision, not having the time, context or skills to make an adequate decision in the individual case. [101]”] Although they are portrayed as [“neutral tools of economic progress and social advancement, digital technologies have acquired an aura of ungovernability. [...] In a rapidly unfolding datafied world, the integration of digital intelligence needs to be rooted in frameworks of accountability, where social intent guides the appropriation of technology [102]”].

In recent years, this issue has been high on the agenda of many European [103] and international multilateral stakeholders [104] which are reflecting on the need for common understanding of concepts and principles, and appropriate transnational regulation in the area of AI, with the participation of all segments of society – governments, public and private key actors, experts, practitioners and citizens. [105] States need to adopt interdisciplinary strategies to address the risks to democracy and human rights – and workers rights – posed by machine learning. [106] They should specifically legislate against forms of “illegitimate interference”,

including forms of persuasion and intrusion that compromise democratic principles, and they should encourage public debate on the subject. [“[...] Governments should keep an eye of emerging disruptive technologies such as deep learning and generative adversarial networks (GANs), which make it possible to manipulate images and video so well that it becomes difficult, if not impossible, to distinguish manipulated them from authentic ones. Apps like FakeApp and Lyrebird have made the production of “deep fakes” accessible to anyone. [107]”] AI needs to be grounded in human rights principles, and states need to update and enforce data protection regulations with respect to machine learning technologies and to promote policies that create a diverse and pluralistic information environment, including the regulation of technology monopolies in the domain of AI. [108]

It is clear that in the years to come, journalism will be permeated by AI – computational journalism and computer-assisted reporting; i-teams for algorithms and data; natural language generation for reading levels; computational photography; and journalism as a service [109] – and [“the advent of deep fakes and generative adversarial networks may accelerate this trend.”] This will give rise to new cross-disciplinary challenges – technological, editorial, philosophical and ethical –, which will only be resolved by a combination of research, politics, cybersecurity, moral standards and education.

This new ecosystem raises various long-term issues. First, it may impose a dominant culture, or even a single way of thinking (English is already virtually ubiquitous as the language of communication in this environment, and certain world views are particularly dominant). On the other hand, paradoxically, in this unfettered digital environment, the notion of borders and boundaries may suddenly rear its head in the form of standards and accessibility. In this context, digital education and media literacy are essential. The main responsibility lies with academia, since the key is not just the acquisition of digital know-how, but more importantly the development of a critical approach (not only to identity “fake news” but also to appraise “real” news stories) and a genuine ability for analytical thought, and a willingness to apply these skills. [“Critical thinking and discerning consumption of meaningful content, in a technoscape full of falsehoods remains an important challenge and policies that advocate critical media and digital literacy in schools and institutions in this context will be a positive move [110]”].

6. Conclusion

The multidimensional paradigm that is emerging in today's competitive geopolitical environment is driven by a number of factors, including the primacy of intangible assets in value creation; the growing transnational and international dimension of production, consumption and innovation; the prevalence of networks of stakeholders over individual players; the transition from human labour to AI; and the need to harmonise rules, standards and policies within a multilateral framework. [111] The development of big data, data mining, algorithmic analysis and predictive profiling raises unique challenges for the rule of law, human rights, sovereignty and democracy.

These structural shifts will have a long-term impact on social and cultural practices, interpersonal and societal relations, the public space, citizenship and the exercise of democracy. In our digital world, there is a gap between the protection of freedom of expression and opinion and the reality of a globalised public space where, in the absence of appropriate regulations, anyone can interfere, often anonymously. Powers that were once the preserve of the state are now delegated to private structures or state entities in other countries.

In Europe, traditional media is subject to wide-ranging rules on impartiality, pluralism, cultural diversity and harmful content. Democracy in the EU depends on the existence of free and independent media. The emergence of a virtual media environment, with its arsenal of “fake news”, “alternative facts” and disinformation, is generating new risks and uncertainty for society, especially since it is deeply intertwined with the broader digital ecosystem, in which technologies and tactics will continue to evolve. The exposure of citizens to large-scale disinformation represents a major challenge.

Tackling this phenomenon will require a coordinated effort on the part of governments, institutions, traditional media outlets and social media platforms, users, civil society and the academic community. The EU aim to take the lead in raising public awareness about disinformation. Its long-term action in this area is based on several strands: 1) cooperation between platforms and public authorities, including mobilising and coordinating fact-checkers; 2) an incremental approach to regulation, combining self-regulation (including “citizen regulation”) and co-regulation, in a way that supports diversity and pluralism (increased exposure to non-mainstream content) and promotes transparency (e.g. with “cyber nudges”) and shared practices; 3) a proactive media policy that encourages responsible behaviour in conveying information to end users and a more sustainable evolution of the online news market; and 4) a long-term strategy for digital education, media literacy and broad user empowerment.

Acknowledgements


I would like to thank my colleague Sarah Cooper for contributing her linguistic expertise to this chapter.

Author details

Elena Danescu
Luxembourg Centre for Contemporary and Digital History, University of
Luxembourg, Luxembourg

*Address all correspondence to: elena.danescu@uni.lu

IntechOpen

© 2021 The Author(s). Licensee IntechOpen. This chapter is distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. 

References

- [1] United Nations. Calling of an international Conference on freedom of information. Reports of the Third and Fifth Committees: Resolution (document A/229 and A/261); 1946 December 14. Available from: <https://undocs.org/fr/A/PV.65>
- [2] Adopted on 10 December 1948 in Paris by the United Nations General Assembly. Available from: <https://www.un.org/en/universal-declaration-human-rights/>
- [3] Constitution of the United Nations Educational, Scientific and Cultural Organization, adopted in London on 16 November 1945, Art. I, 2(a). Available from: <https://unesdoc.unesco.org/ark:/48223/pf0000372956/PDF/372956eng.pdf.multi.page=6>. [Accessed: 2021-05-27]
- [4] This Covenant, concluded in New York on 16 December 1966, is a complement to the 1948 Charter. Available from: <https://treaties.un.org/doc/Publication/UNTS/Volume%20999/volume-999-I-14668-French.pdf>. [Accessed: 2021-05-27]
- [5] International Covenant on Economic, Social and Cultural Rights, adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966. Available from: <https://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx>. [Accessed: 2021-05-27]
- [6] Since 1967, the Freedom of Information Act (FOIA) has provided the [American] public the right to request access to records from any federal agency. Federal agencies are required to disclose any information requested under the FOIA unless it falls under one of nine exemptions which protect interests such as personal privacy, national security, and law enforcement. Available from: <https://www.foia.gov/about.html>. [Accessed: 2021-05-27]
- [7] Multilateral American Convention on Human Rights. Pact of San José, Costa Rica. Signed at San José, Costa Rica, on 22 November 1969. Available from: <https://treaties.un.org/doc/Publication/UNTS/Volume%201144/volume-1144-I-17955-French.pdf>. [Accessed: 2021-05-27]
- [8] This Charter was adopted on 27 June 1981 in Nairobi, Kenya, at the 18th Assembly of the Organisation of African Unity. Available from: https://www.un.org/fr/africa/osaa/pdf/au/afr_charter_human_people_rights_1981f.pdf. [Accessed: 2021-05-27]
- [9] Statement by Joseph Bech, Luxembourg Foreign Minister (London, 5 May 1949), emphasising the need for the nations of Europe to set out on the path of unification of the continent. Archives Nationales du Luxembourg, Luxembourg. Organisations internationales. Conseil de l'Europe – Constitution. Conférence sur la création d'un Conseil de l'Europe – Londres du 3 au 5 mai 1949, AE 12379.
- [10] Council of Europe, Convention for the Protection of Human Rights and Fundamental Freedoms, signed on 4 November 1950. Article 10 – Freedom of expression: [“1) Everyone has the right to freedom of expression. This right shall include freedom to hold opinions and to receive and impart information and ideas without interference by public authority and regardless of frontiers. This article shall not prevent States from requiring the licensing of broadcasting, television or cinema enterprises. 2) The exercise of these freedoms, since it carries with it duties and responsibilities, may be subject to such formalities, conditions, restrictions or penalties as are prescribed by law and

are necessary in a democratic society, in the interests of national security, territorial integrity or public safety, for the prevention of disorder or crime, for the protection of health or morals, for the protection of the reputation or rights of others, for preventing the disclosure of information received in confidence, or for maintaining the authority and impartiality of the judiciary.”] Available from: https://www.echr.coe.int/Documents/Convention_ENG.pdf. [Accessed: 2021-05-27]

[11] Council of Europe, European Social Charter, opened for signature in Turin on 18 October 1961, entered into force on 28 February 1965. Art. 21: The right to information and consultation. The European Committee of Social Rights (ECSR) is the body responsible for monitoring compliance in the states party to the Charter. The Social Charter was revised in 1996. Available from: <http://www.coe.int>. [Accessed: 2021-05-27]

[12] Treaty establishing the European Coal and Steel Community (Treaty of Paris); 1951 April 18.

[13] Treaty establishing the European Economic Community (Treaty of Rome); 1957 March 25.

[14] Treaty on European Union (Maastricht Treaty); 1992 February 07. Available from: https://europa.eu/european-union/sites/europaeu/files/docs/body/treaty_on_european_union_en.pdf

[15] Treaty of Amsterdam amending the Treaty on European Union, the Treaties establishing the European Communities and certain related acts; 1997 October 02.

[16] Treaty of Amsterdam, 8. Article F (a), p. 8. Available from: https://europa.eu/european-union/sites/europaeu/files/docs/body/treaty_of_amsterdam_en.pdf. [Accessed: 2021-05-27]

[17] Charter of Fundamental Rights of the European Union. Official Journal of the European Union (C326/391), Luxembourg: OPEU, 2012.

[18] Ibid.

[19] The Treaty of Lisbon (the Reform Treaty); 2007 December 13.

[20] The Charter became binding for 25 of the 28 Member States, since Poland, the Czech Republic and the United Kingdom (which left the EU on 31 January 2020) were granted an “opt-out” clause. The British, supported by Denmark, Ireland, the Netherlands and Sweden, also secured that the Charter would not give new powers to the EU. The Charter was not legally incorporated into the Treaty of Lisbon; instead it was annexed in the form of a declaration.

[21] Treaty establishing a Single Council and a Single Commission of the European Communities, Brussels; 1965 April 08.

[22] Treaty on European Union (Treaty of Maastricht). Declaration No 17 on the right of access to information. 1992 February 07. Available from : https://www.cvce.eu/en/obj/treaty_on_european_union_declaration_no_17_on_the_right_of_access_to_information_maastricht_7_february_1992-en-c93fe321-0e77-43a0-b316-d0d45635ff98.html. [Accessed: 2021-05-27]

[23] The European continent was a pioneer in the legal recognition of the right to access information. In 1766, Sweden gave all citizens the right to access public information; this was reaffirmed in 1974 with the Freedom of the Press Act, which guaranteed the right of access to official information and documents. Legislation in other countries is much more recent: the right to information was recognised in the Spanish constitution in 1978, the same year as in France, and subsequently in

Italy in 1990, in the United Kingdom in 2005 and in Germany in 2006. On the history of freedom of expression, see particularly Morange, J. *Histoire et liberté d'expression*. Les Cahiers de droit. 53 (4). 2012 ; 715-737. Available from: <https://doi.org/10.7202/1013004ar>. [Accessed: 2021-05-27]

[24] OECD. *Open Government: The Global Context and the Way Forward*. OECD Publisher: Paris; 2017. Available from: https://www.oecd-ilibrary.org/governance/open-government_9789264268104-en. [Accessed: 2021-05-27]

[25] OECD. *Government at a Glance 2019*. 2019 November 14. Available from: <https://www.oecd.org/gov/government-at-a-glance-22214399.htm>. [Accessed: 2021-05-27]

[26] The title of the chapter 3 is taken from the article by Sauvy A. *L'information, clef de la démocratie*. *Revue française de science politique*. 1(1-2). 1951; 26- 39.

[27] See in particular: Dahl R. A. *Democracy and its critics*. New Haven, CT: Yale University Press; 1989; Fuchs D. *The political culture paradigm*. In Dalton R J, Klingemann H-D, editors. *The Oxford handbook of political behaviour*. Oxford University Press: Oxford; 2007; 161-184. Fuchs D, Roller E. *Demokratiekonzeptionen der Bürger und demokratische Gemeinschaftsorientierungen*. In Schubert S, Weiss A, editors. *Demokratie jenseits des Westens*. Nomos Verlag: Baden-Baden; 2016; 296-317. Munck, G. L. *What is democracy? A reconceptualization of the quality of democracy*. *Democratization*, 23/1 (2016); 1-26.

[28] "A global citizen is someone who identifies with being part of an emerging world community and whose actions contribute to building this

community's values and practices." Ronald C. I. *What does it mean to be a global citizen?*. *Kosmos* ; 2012. Available from: <http://www.kosmosjournal.org/article/what-does-it-mean-to-be-a-global-citizen>. [Accessed: 2021-05-27]. See also Torres C T. *Global citizenship and global universities: the age of global interdependence and cosmopolitanism*. *European Journal of Education Research, Development and Policy*, vol. 50, no. 3 (2015); 262– 279.

[29] Touraine A. *Qu'est-ce que la démocratie?* Éditions Fayard : Paris ; 1994 ; 107.

[30] Ibid., p. 102. Touraine distinguishes between the notions of "citizenship" and "nationality". ["The latter means belonging to a national state, while the former establishes the right to participate, directly or indirectly, in the management of society. Nationality creates a solidarity of duty; citizenship confers rights."] See also Leydet D. *Citizenship*. In Zalta E N, editor. *The Stanford Encyclopedia of Philosophy*; 2014. Available from: <https://plato.stanford.edu/>. [Accessed: 2021-05-27]

[31] Habermans J. *L'Espace public : archéologie de la publicité comme dimension constitutive de la société bourgeoise*. Payot : Paris ; 1978.

[32] Sennett R. *Les tyrannies de l'intimité*. Payot : Paris ; 1979.

[33] Cf. Pitseys J. *Démocratie et citoyenneté*. In *Dossiers du CRISP*, no. 88 (1) ; 2017 ; 9-113. Available from: <https://www.cairn.info/revue-dossiers-du-crisp-2017-1-page-9.htm>. [Accessed: 2021-05-27]. Elster J. *The Market and the Forum: Three Varieties of Political Theory*. In Christiano T. *Philosophy and Democracy. An Anthology*. Oxford University Press; Oxford; 2003; 140.

[34] Cf. Zepf M. *Concertar, gouverner et concevoir les espaces publics urbains*. Presses polytechniques universitaires

Romandes : Lausanne ; 2004. Callon M, Lascoumes P, Barthe, Y. Agir dans un monde incertain. Essai sur la démocratie technique. Seuil : Paris ; 2001.

[35] Cf. Négot O. L'espace public oppositionnel. Payot : Paris ; 2007. See also Neumann A. L'espace public oppositionnel: lorsque l'oïkos danse à l'agora. Cahiers Sens public, 15-16(1-2) (2013) ; 55-67. Available from: <https://www.cairn.info/revue-cahiers-sens-public-2013-1-page-55.htm>. [Accessed: 2021-05-27]

[36] The notion of "civil society", the definition of which has continued to evolve in the light of the ever-changing theoretical and socio-economic contexts of recent decades, relates to ideas of civility, civilisation, counter-power, the voluntary sector, etc. See Pirotte G. La Notion de société civile. La Découverte: Paris ; 2007 ; Gutmann A, Thompson D. Democracy and Disagreement. Belknap Press: London; 1998. Hall J A. In Search of Civil Society. In Hall J A, editor. Civil Society. Theory. History. Comparison. Polity Press: Cambridge, 1996.

[37] Pirotte G. Engagement citoyen et société civile. *SociologieS [en ligne]* ; 2009 ; 68. Available from: <https://journals.openedition.org/sociologies/3017>. [Accessed: 2021-05-27]

[38] Vedel, T. L'idée de démocratie électronique: Origines, visions, questions. In Perrineau P, editor. Le désenchantement démocratique. Editions de l'Aube : La Tour d'Aigues ; 2003 ; 243-246. Here p.251. Our translation.

[39] Sauvy A. L'information, clef de la démocratie ; 1951 ; 39.

[40] In September 2019, at the 74th UN General Assembly, 38 member states signed this historic inter-governmental commitment initiated by Reporters Without Borders (RSF) to promote

democratic principles in the online public arena. Available from: <https://multilateralism.org/wp-content/uploads/2020/04/international-partnership-for-information-and-democracy.pdf>. [Accessed: 2021-05-27]

[41] Parikka J. Media Archeology: Approaches, Applications, and Implications. University of California Press: Berkeley, 2011; Blandin C, Robinet F, Schafer V. editors. Penser l'histoire des médias. CNRS : Paris ; 2019; Fickers A, Griset P., editors. Communicating Europe. Technologies, Information, Events. Palgrave Macmillan: London; 2019.

[42] Abate J. Inventing Internet. MIT Press: Massachusetts; 1999; Ryan J. A History of the Internet and the Digital Future. Reaktion Books: London; 2010.

[43] See in particular Mersch D. Medientheorien zu Einführung. Junfermann-Verlag: Hamburg; 2021; Ernst W. Media Archaeography. Method and Machine versus History and Narrative of Media. In Huhtamo E, Parikka J, editors. Media Archaeology: Approaches, Applications, and Implication. University of California Press: Berkeley; 2011; 239-255; Zielinski S. Deep Time of the Media: Toward an Archaeology of Hearing and Seeing by Technical Means. MIT Press: Massachusetts; 2006.

[44] McLuhan M. Understanding media: The extensions of man. Ginko Press: New York ; 2003 (1964), [43, 78].

[45] Charaudeau P. Introduction. Les médias et l'information. De Boeck Supérieur : Paris/Louvain-la-Neuve ; 2011 ; 9-20 [9].

[46] On this subject see Ward K. Mass Communication and the Modern World. Basingstoke/London: Palgrave Macmillan Publishing House, 1989; Sloan D W. Perspectives on Mass Communication History, London/New

York: Routledge, 1991; Arnond K, Kinnebrock S, Preston, P, editors. *The Handbook of European Communication History*, Hoboken NJ: Wiley-Blackwell Publishers, 2019.

[47] Shakespeare W. *The Tragedy of Julius Caesar*, Act 1, Scene 2; 1599. Available from: <https://www.nosweatshakespeare.com/plays/modern-julius-caesar/act-1-scene-2/>. [Accessed: 2021-05-27]

[48] Durand, P. Comment se réapproprier démocratiquement l'information? 2006 February 23. Available from: <https://www.acrimed.org/Comment-se-reapproprier-democratiquement-l-information>. [Accessed: 2021-05-27]

[49] Bui M N, Moran R E. Making the 21st century mobile journalist: Examining definitions and conceptualizations of mobility and mobile journalism within journalism education. *Digital Journalism*, 8(1) (2019) ; 145-163; Cabrera Méndez M, Codina L, Salaverría Aliaga R. What is new media? The views of 70 Hispanic experts. *Revista Latina de Comunicación Social*; (74) 2019; 1506-1520; Witschge T, Anderson C W, Domingo D, Hermida A. *The SAGE handbook of digital journalism*. SAGE: London; 2016.

[50] García-Orosa B, López-García X, Vázquez-Herrero J. Journalism in Digital Native Media: Beyond Technological Determinism. In Salaverría R, editor. *Digital Native News Media: Trends and Challenges*, Vol 8/2 (2020); Cogitatio Press: Lisbon; 5-15 [6].

[51] The notion of border may nevertheless resurface in incompatible technological standards and in varying levels of digital knowledge and literacy.

[52] Lo Piano S. Ethical principles in machine learning and artificial

intelligence: cases from the field and possible ways forward. *Humanities and Social Sciences Communications*; 7, 9 (2020). DOI: 10.1057/s41599-020-0501-9. ["While reflections around the ethical implications of machines and automation deployment were already put forth in the '50s and '60s, the increasing use of AI in many fields raises new important questions about its suitability. This stems from the complexity of the aspects undertaken and the plurality of views, stakes, and values at play. A fundamental aspect is how and to what extent the values and the perspectives of the involved stakeholders have been taken care of in the design of the decision-making algorithm."] p. 1. See also European Group on Ethics in Science and New Technologies (March 2018). Statement on Artificial Intelligence, Robotics and 'Autonomous' Systems. Available from: https://ec.europa.eu/research/ege/pdf/ege_ai_statement_2018.pdf; [Accessed: 2021-05-27]. "The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems" (2017), IEEE Standards Association. Available from: https://standards.ieee.org/develop/indconn/ec/autonomous_systems.html [Accessed: 2021-05-27]. Abrams, M. et al. (2017). *Artificial Intelligence, Ethics and Enhanced Data Stewardship*. The Information Accountability Foundation, Plano, Texas.

[53] Stanley J. *How Fascism Works: The Politics of Us and Them*. Random House: New York; 2018; 70.

[54] Durand P. (23 February 2006); 6.

[55] Thompson D. *Counterknowledge*. Atlantic Books: New York City; 2008; 1.

[56] "Post-truth" was selected by Oxford Dictionaries as its 2016 international word of the year, reflecting what it termed as a "highly-charged" political 12 months. It defines the concept as a situation in which people respond more

to feelings and beliefs than to facts.
 Available from: <https://languages.oup.com/word-of-the-year/2016/>

[57] Lewandowsky S, Ecker U K H, Cook J. Beyond misinformation: Understanding and coping with the 'post-truth' era. *Journal of Applied Research in Memory and Cognition*; 6 (2017); 353-369. DOI: 10.1016/j.jarmac.2017.07.008. [360].

[58] Newman N, Fletcher R, Kalogeropoulos A, Levy D A L, Nielsen R K. Reuters Institute Digital News Report 2020. Reuters Institute for the Study of Journalism: Oxford. Available from: <https://www.digitalnewsreport.org/survey/>. This study, coordinated by the Reuters Institute for the Study of Journalism (based in Oxford, UK), has been conducted since 2012 in 40 countries worldwide.

[59] Jürgens P, Stark B. The Power of Default on Reddit: A General Model to Measure the Influence of Information Intermediaries. *Policy & Internet*, 9(4) 2017; 395-419 [398]. DOI: 10.1002/poi3.166. Although the notion of "media intermediaries" is broad and heterogeneous, it particularly includes search engines (e.g. Google), social media (e.g. Facebook and Twitter) and news aggregators (e.g. Reddit and Google News), and these are now becoming the main news sources of large parts of the population.

[60] Stark B, Stegmann D, Magin M, Jürgens P. Are Algorithms a Threat to Democracy? The Rise of Intermediaries: A Challenge for Public Discourse; 26 May 2020; 1-69 [9]. Available from: <https://algorithmwatch.org/en/governingplatforms>. [Accessed: 2021-05-27]

[61] Thorson K, Wells C. Curated Flows: A Framework for Mapping Media Exposure in the Digital Age. *Communication Theory*, 26(3) 2016; 309-328. DOI: 10.1111/comt.12087

[62] Schudson M. *The Sociology of News*. W. W. Norton: New York, London; 2011.

[63] Galtung J, Ruge M H. The structure of foreign news: The presentation of the Congo, Cuba and Cyprus crises in four Norwegian newspapers. *Journal of Peace Research*, 2(1); 1965; 64-90.

[64] Napoli P M. *Social Media and the Public Interest: Media Regulation in the Disinformation Age*. Columbia University Press: New York; 2019.

[65] The term "Europe" is used here to refer to the current European Union (EU), a partnership of 27 Member States that has evolved since 1951 through a process of integration and enlargements.

[66] Danescu E. Taxing intangible assets: issues and challenges for a digital Europe. *Internet Histories*; 2020; 1-21 [3]. DOI: 10.1080/24701475.2020.1749806.

[67] Eurostat. Your Key to European Statistics. Database 2019. Available from: <https://ec.europa.eu/eurostat/web/international-trade-in-goods/data/database>. [Accessed: 2021-05-27]. See also International trade in goods in 2018. News release 53/2019 – 20 March 2019. International Monetary Fund (IMF). (Measuring the digital economy. Executive Board Discussions; 2018.

[68] Edgerton D. The Contradictions of Techno-Nationalism and Techno-Globalism: A Historical Perspective. *New Global Studies*, 1(1) 2007; 1-32. DOI: 10.2202/1940-0004.1013

[69] United Nations Conference on Trade and Development (UNCTAD). *Digital Economy Report 2019. Value Creation and Capture: Implications for Developing Countries*, UNCTAD/DER/2019.

[70] Danescu E. 2020 [6].

[71] Fickers A, Griset P. Communicating Europe; 2019 [377].

[72] European Parliament. Digital transformation, Mar Negreiro and Tambiama Madiaga, Members' Research Service. European Parliamentary Research Service (EPRS), Brussels, June 2019; 2. See also G7. Artificial Intelligence (Annex 2); 2017. Available from: http://www.g7italy.it/sites/default/files/documents/ANNEX2-Artificial_Intelligence_0.pdf. [Accessed: 2021-05-27]. G7. Proposal of Discussion toward Formulation of AI R&D Guideline, Japanese Ministry of Internal Affairs and Communications; 2016. Available from: http://www.soumu.go.jp/joho_kokusai/g7ict/english/index.html. [Accessed: 2021-05-27]

[73] European Commission. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A European Strategy for Data. COM(2020), 66 final, 2020 February 19.

[74] Fighting Fake News – Workshop Report; 2018. Information Society Project. Available from: https://law.yale.edu/system/files/area/center/isp/documents/fighting_fake_news_-_workshop_report.pdf. [Accessed: 2021-05-27]

[75] "In recent years online manipulation and disinformation tactics were detected during elections in at least 18 countries, and disinformation tactics contributed to a seventh consecutive year of overall decline in internet freedom." Freedom on the net 2017 report, Freedom House. Available from: <https://freedomhouse.org/report/freedom-net/freedom-net-2017>. [Accessed: 2021-05-27]

[76] In March 2018, the Facebook/Cambridge Analytica scandal revealed

that personal data had been mined from millions of EU social media users and exploited in electoral contexts.

[77] European Council meeting (19 and 20 March 2015). Conclusions. Brussels, 20 March 2015. EUCO 11/15. Available from: <https://www.consilium.europa.eu/media/21888/european-council-conclusions-19-20-march-2015-en.pdf>

[78] Joint Declaration on Fake News, Disinformation and Propaganda (3 March 2017). The United Nations (UN) Special Rapporteur on Freedom of Opinion and Expression, the Organization for Security and Co-operation in Europe (OSCE) Representative on Freedom of the Media, the Organization of American States (OAS) Special Rapporteur on Freedom of Expression and the African Commission on Human and Peoples' Rights (ACHPR) Special Rapporteur on Freedom of Expression and Access to Information; 2017 March 3. Available from: <http://www.osce.org/fom/302796?download=true>. [Accessed: 2021-05-27]

[79] In its Point no. 3, the Joint Declaration clearly stipulates: (a) a clear regulatory framework protecting broadcasters against political or commercial interference; (b) an independent and resourced public service media; (c) measures to support media diversity, including subsidies or other support for the production of diverse, quality content; (d) rules addressing media concentration and transparency of media ownership; (e) programmes to support media and digital literacy.

[80] European Parliament (2014-2019). Online platforms and the Digital Single Market. [P8_TA(2017)0272]. European Parliament resolution of 15 June 2017 on online platforms and the digital single market (2016/2276(INI)). Available from: <https://www.europarl.europa.eu/>

doceo/document/TA-8-2017-0272_EN.pdf?redirect. [Accessed: 2021-05-27]

[81] European Commission. Joint Research Centre. Martens B, Aguiar L, Gomez-Herrera E, Mueller-Langer F. The digital transformation of news media and the rise of disinformation and fake news. JRC Digital Economy Working Papers 2018-02. Available from: <https://ec.europa.eu/jrc/sites/jrcsh/files/jrc111529.pdf>

[82] European Council meeting (22 March 2018). Conclusions. Brussels, 22 March 2018. EUCO 1/18. Available from: <https://www.consilium.europa.eu/media/33457/22-euco-final-conclusions-en.pdf>. [Accessed: 2021-05-27]

[83] European Commission. Directorate-General for Communications Networks, Content & Technology (DG COMM “Media Monitoring, Media Analysis and Eurobarometer” Unit). Flash Eurobarometer 464. Report: Fake News and Disinformation Online; 2018 February. Available from: <https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/survey/getsurveydetail/instruments/flash/surveyky/2183>. [Accessed: 2021-05-27]. According to the public consultation among the 28 Member States (before Brexit), 83% of Europeans believe that fake news represents a problem for democracy in general, either “definitely” (45%) or “to some extent” (38%). Intentional disinformation aimed at influencing elections and immigration policies, followed by disinformation in the fields of health, environment and security policies, were the top categories considered likely to cause harm to society. Respondents linked the prevalence of information dissemination via online media with the fact that it appeals to readers’ emotions (88%), can influence the public debate (84%) and is designed to generate revenues (65%).

[84] European Commission. Directorate-General for Communication Networks, Content and Technology. A multi-dimensional approach to disinformation. Report of the independent High level Group on fake news and online disinformation. Publications Office of the European Union: Luxembourg; 2018.

[85] European Commission. Communication from the Commission to the Council, the European Economic and Social Committee and the Committee of the Regions on the Mid-Term Review on the implementation of the Digital Single Market Strategy: A Connected Digital Single Market for All. COM(2017) 228 final, 2017 May 10.

[86] Judgment of the Court (Grand Chamber) of 13 May 2014, Google Spain and Google (C-131/12, EU:C:2014:317). Available from: <https://curia.europa.eu/juris/document/document.jsf?text=&docid=152065&pageIndex=0&doclang=en&mode=req&dir=&occ=first&part=1&cid=6190812>. [Accessed: 2021-05-27]

[87] Judgment of the Court (Grand Chamber) of 24 September 2019 – Case C-507/17. Reference for a preliminary ruling – Personal data – Protection of individuals with regard to the processing of such data — Directive 95/46/EC — Regulation (EU) 2016/679 — Internet search engines — Processing of data on web pages — Territorial scope of the right to de-referencing. Available from: <https://curia.europa.eu/juris/liste.jsf?num=C-507/17>. [Accessed: 2021-05-27]

[88] A search engine that receives a request for de-referencing from a European citizen is only obliged to delete the results concerned for its European domain names (e.g. google.fr, google.be, google.de, etc.). But while EU law does not impose the right to be de-referenced worldwide, it does not preclude it either.

- [89] European Commission. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. "On the European democracy action plan". COM(2020) 790 final. 2020 December 3. Available from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A790%3AFIN&qid=1607079662423>. [Accessed: 2021-05-27]
- [90] <https://edmo.eu/edmo-at-a-glance/>. [Accessed: 2021-05-27] Cf Alemanno A, Brogi J, Fischer-Zernin M, Morrow P. Is the EU Disinformation Review Compliant with EU Law? Complaint to the European Ombudsman About the EU Anti-Fake News Initiative. HEC Paris Research Paper No. LAW-2018-1273; 2018 March 28. DOI: 10.2139/ssrn.3151424.
- [91] Available from: <https://ec.europa.eu/digital-single-market/en/news/code-practice-disinformation>. [Accessed: 2021-05-27]
- [92] Cornils M. Designing platform governance: A normative perspective on needs, strategies, and tools to regulate intermediaries. Algorithm-Watch: Berlin; 2020. Available from: <https://algorithmwatch.org/en/governingplatforms/legal-study-cornils-may-2020>; See also Batokas et al. Follow the Money: Online Piracy and Self-Regulation in the Advertising Industry; CESifo Working Paper No. 6852; 2018. Available from: https://www.cesifo-group.de/DocDL/cesifo1_wp6852.pdf. [Accessed: 2021-05-27]
- [93] ERGA comprises representatives of all the relevant regulatory bodies in all the Member States. It provides technical advice to the Commission in a number of fields related to the application of the Audiovisual Media Services Directive and facilitates cooperation among national regulatory bodies and between these bodies and the Commission.
- [94] European Commission. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. "Action Plan against Disinformation". JOIN (2018) 36 final. 2018 December 5.
- [95] Available from: <https://ifcncodeofprinciples.poynter.org/>. [Accessed: 2021-05-27]
- [96] Barrera Rodriguez O, Guriev S M, Henry E, Zhuravskaya E. Facts, Alternative Facts, and Fact Checking in Times of Post-Truth Politics; 2018. Available from: <https://ssrn.com/abstract=3004631>
- [97] Bayer J, Bitiukova N, Bárd P, Alemanno A, Szakács J, Uszkiewicz E. Disinformation and Propaganda – Impact on the functioning of the rule of law in the EU and its Member States. Brussels: European Union; 2019. Available from: [http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU\(2019\)608864](http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU(2019)608864). [Accessed: 2021-05-27]. Egelhofer J L, Lecheler S. Fake news as a two-dimensional phenomenon: a framework and research agenda. Annals of the International Communication Association, 43(2); 2019; 97-116. DOI: 10.1080/23808985.2019.1602782.
- [98] Cf. article 33a of the Directive (EU) 2018/1808 of the European Parliament and of the Council of 14 November 2018. Available from: <https://eur-lex.europa.eu/eli/dir/2018/1808/oj>. [Accessed: 2021-05-27]. The revised Audiovisual Media Services Directive governs EU-wide coordination of national legislation on all audiovisual media, both traditional TV broadcasts and on-demand services. See Mousave S, Schukat M, Howley, E. Deep reinforcement learning: An overview. ArXiv 1806.08894; 2018. Source: <https://arxiv.org/abs/1806.08894>.

[Accessed: 2021-05-27]. Smith, M. and S. Neupane. Artificial Intelligence and Human Development: Toward a Research Agenda. International Development Research Centre: Ottawa; 2018. Available from: <https://idl-bnc-idrc.dspacedirect.org/handle/10625/56949>. [Accessed: 2021-05-27]

[99] Human Right Impact Assessment (HRIA) is an indicator set up by the Global Network Initiative (GNI) aiming to [“asses echnology against a wide range of possible human rights impacts, a broad-sweeping approach that is resource-intensive. It can be easier to start with the AI system in question and work outwards. In this way, AI focuses on a limited range of areas where rights challenges appear most likely.”] Human rights can help identify vulnerable or at-risk groups or communities in relation to AI. Available from: <https://globalnetworkinitiative.org/>. [Accessed: 2021-05-27]. See also Cellarius, M. Artificial Intelligence and the Right to Informational Self-determination. The OECD Forum, OECD: Paris; 2017. Available from: <https://www.oecd-forum.org/users/75927-mathias-cellarius/posts/28608-artificial-intelligence-and-the-right-to-informational-self-determination>.

[100] Borges G. Liability for Machine-Made Decisions: Gaps and Potential Solutions, Presentation at the "AI: Intelligent Machines, Smart Policies". In Conference; Paris 26-27 October 2017. Available from: <http://www.oecd.org/going-digital/ai-intelligent-machines-smart-policies/conference-agenda/ai-intelligent-machines-smart-policies-borges.pdf>. [Accessed: 2021-05-27]

[101] Wagner B. et al. Algorithms and human rights. Study on the human rights dimensions of automated data processing techniques and possible regulatory implications, DGI(2017)12, prepared by the Committee of Experts on internet intermediaries (MSI-NET)

for the Council of Europe; 2018. Available from: <https://rm.coe.int/algorithms-and-human-rights-en-rev/16807956b5>, p. 8. See also Broeders D, Schrijvers E, Hirsch Ballin E. Big data and security policies: serving security, protecting freedom, WRR-Policy Brief 6 (2017). Netherlands Scientific Council for Government Policy (WRR). Available from: https://www.wrr.nl/binaries/wrr/documenten/policy-briefs/2017/01/31/big-data-and-security-policies-serving-security-protecting-freedom/WRR_PB6_BigDataAndSecurityPolicies.pdf; 24-25. [Accessed: 2021-05-27]

[102] Gurumurthy A, Bhartur D. Democracy and the Algorithmic Turn. SUR, 15(27) 2019; 39: 50 [44]. See also Doshi-Velez, F. et al. Accountability of AI under the law: The role of explanation. *ArXiv* 21 November 2017. Available from: <https://arxiv.org/pdf/1711.01134.pdf>. [Accessed: 2021-05-27]

[103] Council of Europe. Declaration by the Committee of Ministers on the manipulative capabilities of algorithmic processes. (Adopted by the Committee of Ministers on 13 February 2019 at the 1337th meeting of the Ministers' Deputies). Decl (13/02/2019)1. Available from: https://search.coe.int/cm/pages/result_details.aspx?objectid=090000168092dd4b. [Accessed: 2021-05-27]

[104] On 22 May 2019, the OECD adopted its Recommendation on Artificial Intelligence, a first series of international standards agreed by the member countries to promote the responsible stewardship of trustworthy AI, drawn up with the cooperation of a multi-stakeholder group of experts. Available from: <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449>. See also OECD. Going Digital: Shaping Policies, Improving Lives, OECD Publishing: Paris; 2019. Available from:

<https://doi.org/10.1787/9789264312012-en>. [Accessed: 2021-05-27]. On 9 June 2019, the G20 adopted the principles of a human-centred approach to AI, inspired by the OECD's recommendation. Available from: <https://www.meti.go.jp/press/2019/06/20190610010/20190610010-1.pdf>

[105] Such stakeholder groups include : the Institute for Electrical and Electronics Engineers (IEEE) which launched its Global Initiative on Ethics of Autonomous and Intelligent Systems, and published Ethically Aligned Design principles (2016); the Partnership on Artificial Intelligence to Benefit People and Society (2016); the Future of Life Institute which set up the Asilomar AI Principles (2017) – [“a set of research, ethics and values for the safe and socially beneficial development of AI in the near and longer term.”] Available from: <https://futureoflife.org/ai-principles/?cn-reloaded=1>. [Accessed: 2021-05-27]. See also ITI (2017), AI Policy Principles, Information Technology Industry Council. Available from: <https://www.itic.org/resources/AI-Policy-Principles-FullReport2.pdf>.

[106] Cf. Benhamou S, Janin L. Intelligence artificielle et travail, France Stratégie, 2018. Available from: <http://www.strategie.gouv.fr/publications/intelligence-artificielle-travail>. [Accessed: 2021-05-27] Colclough C. Ethical Artificial Intelligence – 10 Essential Ingredients. A.Ideas Series, No. 24 (2017): The Forum Network, OECD: Paris. Available from: <https://www.oecd-forum.org/channels/722-digitalisation/posts/29527-10-principles-for-ethical-artificial-intelligence>. [Accessed: 2021-05-27] Daugherty P, Wilson H. Human Machine: Reimagining Work in the Age of AI, Harvard Business Review Press: Cambridge, MA; 2018; Heiner D, Nguyen C. Amplify Human Ingenuity with Intelligent Technology. Shaping Human-Centered Artificial Intelligence. A.Ideas Series, The Forum Network,

OECD: Paris; 2018. Available from: <https://www.oecd-forum.org/users/86008-david-heiner-and-carolyn-nguyen/posts/30653-shaping-human-centered-artificial-intelligence>. [Accessed: 2021-05-27] UNI (2018), 10 Principles for Workers' Data Rights and Privacy, UNI Global Union. Available from: <http://www.thefutureworldofwork.org/docs/10-principles-for-workers-data-rights-and-privacy/>. [Accessed: 2021-05-27]. MGI. Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation; McKinsey Global Institute: New York; 2017.

[107] European Parliament. Renda, A. The legal framework to address “fake news”: possible policy actions at the EU level. Policy Department for Economic, Scientific and Quality of Life Policies. Centre for European Policy Studies and College of Europe. Directorate-General for Internal Policies, PE 619.013, June 2018; 29.

[108] Cf. EESC. Artificial Intelligence – The Consequences of Artificial Intelligence on the Digital Single Market, Production, Consumption, Employment and Society, European Economic and Social Committee: Brussels; 2017. Available from: <https://www.eesc.europa.eu/en/our-work/opinions-inf>. [Accessed: 2021-05-27]

[109] Cf. The Future Today Institute. 2020 – Tech Trends Report. Emerging technology trends that will influence business, government, education, media and society in the coming year. Lighting Source Inc.: La Vergne 2020. See also European Parliament. Renda, A. The legal framework to address fake news: possible policy actions at the EU level; 2018.

[110] Cf. Gurumurthy A, Bhartur, D. 2019 [45]. See also Bocher, T. If... Then: Algorithmic Power and Politics. Oxford University Press: New York; 2018. See also Bodó, B., Helberger, N., Eskens, S.,

& Moeller, J. Interested in diversity: The role of user attitudes, algorithmic feedback loops, and policy in news personalization. *Digital Journalism*, 7(2) 2019; 206-229. DOI: 10.1080/21670811.2018.1521292. See also Elliott, S. *Computers and the Future of Skill Demand, Educational Research and Innovation*. OECD Publishing: Paris; 2017. DOI: 10.1787/9789264284395-en.

[111] Cf. Danescu; 2020; 13-14.