

THE ETHICAL CHALLENGES OF COMMUNICATION ON THE THRESHOLD OF THE 21ST CENTURY

Day after day, innovations in Information and Communication Technologies (ICTs) – both hardware and software – continue to amaze us. We are enchanted not only by the immense amount of digital information available online, but also by the ease and speed with which we have access to it, and by the speed at which we mechanically process and cross-reference data from the information stored on the most diverse servers around the world. We are amazed at how, almost without realising it, we have rapidly moved from a reality of analogue daily habits to a complex digital reality. In today's information society, we are going through the transition phase between an offline or online life and fully entering the era of the online for better or worse, as we will see in this study.

Born around the middle of the last century, we are the latest analogue generation. Very soon, the world will be inhabited by 'digital natives'.

Today, it has become virtually impossible for us to be familiar with all the innovations and to know how to use all the digital devices (hardware) that the market offers, as well as to keep up with the astonishing development of new, highly sophisticated systems, tools and software that, more and more, continue to revolutionise our lifestyle, the way we relate, write, do business, work, and even think.

However, alongside this unstoppable evolution and in the face of so many wonders, not everything brings only benefits or well-being to the human person and the environment. The entire evolutionary process must be monitored to prevent possible damage to human life and society. The new digital age in which we live is not immune to risks and ethical deviations, nor is it without fears and doubts. In conjunction with the many successes of this new digital age, new ethical questions inevitably arise, to which we must be able to respond correctly, consciously, and responsibly.

Paradoxically, although we live in the age of global communication, thanks mainly to devices such as smartphones, and platforms such as social networks, we still have a lot of difficulty in knowing the truth about what is happening in the world and its real question marks and risks.

It is from this observation that we set out to make a personal reflection, from a Christian-inspired ethical perspective, on some of today's major concerns related to Information and Communication, such as disinformation, hacking, fake news, algorithms, and, finally, artificial intelligence (AI), one of the great digital innovations taking place and, perhaps, posing the biggest challenge.

Undoubtedly, the two major world events that have profoundly marked, and continue to mark, the last three years – we refer to the Covid-19 pandemic (which began in January 2020) and the Russian invasion war of Ukraine (which broke out in February 2022) – have given our study greater importance and motivation, as both have caused other scourges, namely disinformation and the spread of fake news and digital piracy.

In the circumstances in which we live and from the point of view of communication, one of the most serious risks that could happen is that public opinion ends up getting the idea that information is, after all, a manipulation factory or a fake news industry.

Hence our question: does it still make sense to talk about the Ethics of Information and Communication on the threshold of our 21st century?

Looking at and analysing the global reality of communication today – easily subject to distortion and manipulation of information, at least in some media circles and in some countries in particular – the answer is obvious.

The subject of this study may be of interest not only to those who work directly with the media, but also to each one of us missionaries, since, due to our pastoral ministry, we are also communicators, consumers and disseminators of information, and, in some contexts, true opinion makers.

We are convinced that even missionaries, who have the responsibility of forming and informing people, must not live outside the ethical and deontological values that are the basis of their apostolic ministry, nor must they allow themselves to be persuaded by sensationalism or populism, by currents of interests or ideologies that, even if they seem predominant, violate the inalienable rights of

information based on truth, freedom and transparency. It goes without saying that these are values that absolutely require freedom of expression and of the press, as fundamental principles of a free and democratic society.

We would like, from the outset, to warn the reader that the text that follows, rather than seeking to provide all the scientific explanations or exhaustive answers to the topics addressed, is intended to arouse an interest in these issues and to open the door to a responsible and coherent dialogue, undoubtedly necessary, on what we consider urgent and highly topical, namely, a reflection on the ethical challenges, in the field of Information and Communication, in this first quarter of the 21st century.

1. (Dis)information and cyberattacks as weapons of war

Truth is one of the great values of information, if not the greatest. It is one of the main ethical pillars of the communication professional whose first mission is to inform, without omitting uncomfortable truths, or being biased, or divulging only what is convenient, sometimes even in the form of propaganda. This is the daily reality, for example, in countries ruled by dictatorial regimes or in a society in wartime.¹ In similar circumstances, the first victim is always the ‘truth’ of information. As recipients of information – as we all are –, we find it increasingly difficult to distinguish news from propaganda, or factual reports from opinion and mere speculation, or information from (dis)information and counter-information. Often, we see the loss of the solid foundation of reported facts and the thinning of reliable sources that could help us confirm whether an information is true or false.

What is more, how often, in our eyes or ears, truth and lies are confused or, even worse, the lie (the falsehood) is passed off as absolute truth!

Information and Disinformation is the title of Galdón’s book (2015), in which the author addresses the topic, starting from the principle that we live in “a manipulated society that is unaware that it is manipulated”. He speaks of disinformation as “aggression”, “silent violence”:

I think we are quite aware of the effect of information pollution on the recipients, in whom this illusion of knowing has been created... However, the seriousness of superficial information, whether caused by ‘structural’ or deliberate omission, has not remained entirely clear. (...) Disinformation is a direct and personal aggression. It reduces the freedom of those who, in good faith, have bought or ordered a certain product on the information market. It is silent violence (pp. 58-59).

¹ It was 22nd February 2022. Vladimir Putin, President of Russia, recognised the independence of the Lugansk and Donetsk People’s Republics, self-proclaimed by pro-Russian Ukrainian separatists, on Ukrainian territory in the Donbass. The Donbass, a region in south-eastern Ukraine inhabited by some 80% Russian-speakers, is important for its geostrategic location (gateway to the Black Sea), its abundance of natural resources, and its industrial wealth.

Unexpectedly, in the early hours of 24th February 2022, news broke that Russian troops and tanks had started to invade Ukraine, mainly targeting the capital Kiev, in the north, and the Donbass region in the south. It was the beginning of a war that, to this day, continues to cause countless human casualties, thousands of displaced persons and refugees, and to massively destroy the wealth of heritage in almost the entire Ukrainian territory. An atrocious conflict for which, however, there is still no prospect of a possible peace agreement that would put an end to hostilities between the two countries directly involved. In the meantime, the international community – particularly the European countries and the North Atlantic Treaty Organisation (NATO) member states – has increasingly shown its political, economic, and military support for the government in Kiev.

In the weeks and months since the start of the invasion of Ukraine, an action almost unthinkable in today’s Europe, we have witnessed a serious battle of (dis)information and cyber-attacks, through an unrestrained proliferation of hackers, targeting, above all, the countries that support Ukraine. And, as is usually the case in this kind of war scenario, we are beginning to see, without any qualms, the emergence of an information culture of ‘anything goes’, in order to achieve its own ends.

It is true that we receive a lot of news about what is happening on the ground, but with a strong propaganda connotation and, in most cases, without the slightest possibility of confirmation from other credible and independent sources. Moreover, there is no shortage of mutual accusations at the highest level.

For example, quoting the *Lusa* agency, the daily *Público* on 23rd September 2023 published the news: “The head of Russian diplomacy, Sergei Lavrov, spoke this Saturday [23rd September] at the UN General Assembly, where he harshly criticised the ‘empire of lies’, as he considers the West, but avoided addressing the war his country is waging in Ukraine.” At: <https://www.publico.pt/2023/09/23/mundo/noticia/lavrov-classifica-ocidente-imperio-mentiras-evita-mencoes-ucrania-2064405>.

All the information on Russian aggression against Ukraine is – in line with this reflection – paradigmatic. Let us start with the fact that Vladimir Putin’s government banned the Russian media from using terms like ‘invasion’ and ‘war’ in order to convey the idea that what was happening was, as Putin called it, a “special military operation” aimed at preventing the genocide of the Russian-speaking population of Ukraine’s Donbass. At the end of the first day of the invasion, addressing the Russian people in a speech with an ideological tone, Putin called Russia’s intervention – unbelievable as it may seem – “a peace mission”.² Then, he subjected the press to atrocious censorship, putting an end to freedom of information in the country. He also blocked access to social networks (*Facebook*, *Netflix*, *TikTok*, *Instagram*, *YouTube*, and *Twitter* [now *X*])³ in the country, depriving Russians of these media and information sources.

A proof of resistance to this censorship comes to us, for example, from the bold gesture of the Russian journalist and editor Marina Ovsyannikova, who interrupted the news to show a sheet with the following words: “Put an end to the war. Don’t believe the propaganda. You are being lied to. Russians against the war”.⁴

For its part, the European Union, analysing the fake news spread by pro-Putin websites, responded by suspending *Sputnik* and *Russia Today in Europe*. “Extraordinary times call for extraordinary measures. We are all in favour of freedom of expression, but it cannot be abused to spread war propaganda,” said European Commission Vice-President Věra Jourová, in charge of values and transparency, in a statement shared with the Italian news agency SIR.⁵

² The voice of Pope Francis was soon heard. He spoke of ‘war’ in Ukraine and condemned it, in a speech that contradicted Russia’s official discourse, which spoke of a “special military operation”. “This is not only a military operation, but a war, which sows death, destruction and misery,” the Holy Father denounced on Sunday, 6th March 2022, from the window of the papal flat in the Vatican. He added: “And I would also like to thank the journalists who put their lives at risk to guarantee information: thank you, brothers and sisters, for this service of yours! A service that allows us to be close to the drama of that population and allows us to assess the cruelty of a war. Thank you, brothers and sisters”. At: <https://www.vaticannews.va/pt/papa/news/2022-03/papa-francisco-angelus-apelo-paz-prevalecer-negociacao-bom-senso.html>.

³ On 23rd July 2023, Elon Musk, founder and CEO of SpaceX, changed the logo design of the social network *Twitter*, replacing the blue bird symbol with the letter ‘X’. However, the original name *Twitter* will continue to be used throughout.

⁴ On the evening of 14th March 2022, Marina Ovsyannikova interrupted the top Russian TV news programme by placing an anti-war manifesto in front of the cameras, which went viral in the media world. The poster read “NO WAR” in English, followed by an even bolder text in Russian: “Stop the war. Don’t believe the propaganda. You are being lied to, here. Russians against the war”. In response, Vladimir Putin tightened domestic laws to repress and punish severely any gesture of opposition to the ‘special military operation’.

⁵ https://www.agensir.it/europa/2022/03/08/il-cremlino-ha-armato-linformazione-jourova-ue-al-sir-ecco-perche-leuropa-ha-sospeso-sputnik-e-russia-today/?utm_source=mailpoet&utm_medium=email&utm_campaign=la-newsletter-di-agensir-it_2.

On 26th September 2023, Věra Jourová presented the first report from the European Commission of the last six months on the *Digital Services Act* (DSA) in Europe. In the report, she stated that the social network *Twitter* has “the highest rate of disinformation” among the major ones worldwide, followed by *Facebook*. Jourová also warned that *Twitter*, to avoid being fined millions of Euros, “must comply” with the new European legislation, which has been in effect since August 2023, requiring full adherence to all the new rules starting from January 2024. You can find the European Union’s report “Code of Conduct on Disinformation: New Reports Available in the Transparency Center”, of 26th September 2023, accessible online at this link: <https://digital-strategy.ec.europa.eu/en/news/code-practice-disinformation-new-reports-available-transparency-centre>. Additionally, you can refer to Martins (2023), in an online article in *Público*, titled “X is the social network ‘with the highest rate of disinformation’”. The author explains: “Contrary to the U.S. conception that companies should not be held responsible for third-party shared content, European legislation exempts companies from liability only if they take the necessary measures to remove the content in question. With the new legislation, social networks are also required to disclose to European regulatory authorities how their algorithms work, and are compelled to justify their decision-making processes to keep or remove content. According to *Time* magazine, companies that violate the law could be fined up to 6% of their revenue in Europe, which, in the case of *Facebook*, for instance, could reach \$4.2 billion (€3.9 billion).” You can read more about this in the article at: <https://www.publico.pt/2023/09/26/mundo/noticia/x-rede-social-maior-racao-desinformacao-2064683>. For further exploration of the topic, we recommend reading these two texts: Pequenino (2022) and Pequenino and Reuters (2023), which can be found respectively at: <https://www.publico.pt/2022/07/05/tecnologia/noticia/parlamento-europeu-aprova-leis-fim-faroeste-digital-2012551>, and: <https://www.publico.pt/2023/08/24/tecnologia/noticia/gigantes-tecnologicas-preparam-se-nova-lei-servicos-digitais-2061115>.

In this regard, the Italian journalist Tondo (2022) states that the information – from both sides – on the horrors and tragedies of the war in Ukraine are almost impossible to verify.⁶ Even more resolutely, the author concludes that everything indicates that the fake news factory is fully functioning in the service of propaganda:

Being present to inform. Going, staying, observing, verifying, and then writing. In wartime, as in peacetime, what counts is what can be checked, even under difficult conditions. (...) The Mariupol case is definitely the most emblematic example of the thousands of difficulties that journalists have to face every day, every hour, in this conflict, where the duty of fair, truthful and impartial information clashes daily with the circus of propaganda, certainly Russian – aimed at labelling press reports on the conflict as fake news – but also Ukrainian, which every day, using even evidence and news, sometimes indemonstrable, tries to underline the weakness of the Russian invader. (...) The truth is that the Russian propaganda and disinformation campaign is so strong that the Ukrainian authorities fear it will influence Ukrainian public opinion itself (p. 26).

Pope Francis, during an audience at the Vatican in which he received, for the first time, the ‘*It’s Journalism*’ Award, considered disinformation as one of the four main sins of journalism, after warning against the risk of “the information society becoming the society of disinformation”:

Misinformation is one of the sins of journalism, of which there are four, namely: misinformation, when a journalist does not inform or informs badly; slander (sometimes it is used); defamation, which is different from slander but destroys; and the fourth is coprophilia, that is, the love of scandal, of filth... scandal sells. Disinformation is the first of the sins, of the errors – so to speak – of journalism. (...) For example, I am concerned about the manipulations of those who spread fake news with interest to steer public opinion.⁷

On the same occasion, the Holy Father called for “greater responsibility” and “commitment to truth”, especially in view of “the dramatic situation that Europe is going through, with the continuation of the war in Ukraine.” He concluded: “My hope is that more space will be given to the voices of peace, to those who are committed to putting an end to this and many other conflicts.”

Journalist Foschini (2022) provides a number of real-life examples, which, to some extent, confirm what we have said:

It is possible to demonstrate on the Web how the beginning of the conflict in Ukraine coincided with an exponential increase in the number of registered users on Twitter (38,000 on the day of the first bombing of Ukraine) and on Facebook. These are mainly ‘bots’,

⁶ As for what actually happens and what is reported, there are still doubts about the accuracy of the information. And the worst thing is when we fall into the illusion of knowing, confusing reality with opinions and comments. This can easily happen even with seemingly obvious facts, such as the threat to Putin’s power during the rebellion – or coup attempt? – by the mercenaries of the Wagner Group, a private military company from the Russian Federation, on 24th and 25th 2023, which was organised by Yevgeny Prigozhin, the leader of the Group, but ultimately failed, thanks to a mediation agreement by Belarusian President Alexander Lukashenko. Even today, there are more doubts than certainties about what really happened and what was simply staged. Two months later, on 3rd August, Prigozhin and seven other members of Wagner’s leadership died when the plane they were traveling on crashed in the Russian region of Tver. Peter Stano, Chief Spokesperson for Foreign Affairs and Security Policy in Brussels, regarding the European Union’s (EU) position on the incident, stated: “Almost nothing coming out of Russia these days is credible. We have read or heard the news of the plane crash that apparently have killed the leader of the Wagner Group along with members of his entourage and the crew, but, like many other things in Russia, it is very difficult for us to verify, so we cannot comment.” (Quoted from: <https://www.noticiasaminuto.com/mundo/2386304/comissao-europeia-rejeita-especular-sobre-eventual-morte-de-prigozhin>).

⁷ See *L’Osservatore Romano* online at: <https://www.osservatoreromano.va/it/news/2023-08/quo-195/controllo-i-linguaggi-di-odio-spazio-alla-logica-del-dialogo-e-dell.html>. The ‘*It’s Journalism*’ prize, awarded to Pope Francis on 26th August 2023, was presented by a delegation representing this award, created in 1995 by Italian journalists Indro Montanelli, Enzo Biagi, Giorgio Bocca and Giancarlo Aneri.

fictional profiles managed by computers whose only purpose is to broadcast a certain type of news. It is these types of profiles that are used to feed the so-called 'echo chambers', telegram pages and channels, where every conspiracy and scepticism finds fertile ground, thanks to cleverly falsified news that was then put into circulation (p. 4).

Another important and highly topical issue to consider in this globalised world in which we live is the existence and role of digital hackers, individual professionals or organised IT groups in the service of corporations or even governments. In a short and unsigned text published on the website of the Vatican newspaper *L'Osservatore Romano*, the hacker is defined as "the last of the pirates":

Some say that [hackers] may have originated from some failed programmers who saw the network of networks [the Internet] as a source of easy blackmail and hidden revenge. The fact is that hackers are now the protagonists of a modern-day piracy that targets the electronic archives of activities which are vital to everyday life, such as banks, insurance companies, corporations, and even governments. They are not the new criminals who have emerged from the fantasy scenarios of science fiction books to land in everyday reality or, better still, on the net, but rather people who possess excellent technical and intellectual skills and a scientific mindset, and are therefore very dangerous.⁸

Of the same opinion is Dionisi (2022): "[They are] real computer hackers, who specialise in breaching the security of computers and programmes in order to enter them, seize data or damage them."⁹

In fact, these continuous cybercrimes against public and private computer systems perpetrated by hackers have taken on the dimensions of veritable weapons of war.¹⁰ Real cyber armies have been created, organised, and prepared both to attack and defend themselves in cyberspace.

The favourite targets of these hackers are the websites and apps of state institutions, banks, industrial and commercial platforms, public and private online services, the pages of political personalities, social networks, the editorial offices of the most important press organs, and so on.¹¹

⁸ <https://www.osservatoreromano.va/it/news/2022-11/quo-264/hacker-l-ultimo-dei-pirati.html>. In the print edition of the daily newspaper *L'Osservatore Romano* (supplement, p. II) of the same day, 18th November 2022, citing data from the third quarter SOC and Threat Intelligence report of Swascan, a cybersecurity company of the Tinexta group, it is reported that cyber-attacks have doubled in the last three months in 76 countries around the world: "700 organisations and companies in 76 countries suffered hacker attacks in the third quarter of this year. Of these, 242 in September alone, a 116% increase from the 112 attacks recorded in January." See at: https://www.osservatoreromano.va/it/pdfreader.html/quo/2022/11/QUO_2022_264_1911.pdf.html.

⁹ <https://www.osservatoreromano.va/it/news/2022-11/quo-264/la-cybersecurity-inizia-dalla-divulgazione.html>. Other new and worrying forms of modern piracy, which have been growing in recent years and, therefore, deserve further study, are related to audiovisual production. In a recent article, published on the website of *L'Osservatore Romano*, Piro (2022), a university law professor in Italy, states that "among the most harmful consequences of technological progress, especially since the 20th century, is the spread of audiovisual piracy." Among the various examples of copyright infringement cited by the lecturer, it seems important to cite the obvious case of illegal IPTV (Internet Protocol Television): "These are illegal services, in most cases for a fee, that allow access to all public and private television channels, including on-demand content. A highly profitable illicit business run by complex and ramified criminal structures." At: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/contro-il-lato-oscuro-della-tecnologia.html>.

¹⁰ Of these attacks, one that occurs more and more frequently is the so-called 'ransomware', i.e., data hijacking software. It enters a computer, or a computer system, making it inaccessible, via a cryptographic key. A financial 'ransom' is then demanded to unlock access to that same database. See the article by Aquilino (2022), at: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/per-un-etica-dei-sistemi-e-delle-applicazioni.html>. See also Walton (2023), "Il contrasto dei lati oscuri più preoccupanti dell'era digitale. L'intelligenza artificiale e la lotta ai reati informatici" (Countering the most troubling dark sides of the digital age. Artificial intelligence and the fight against cybercrime". At: <https://www.osservatoreromano.va/it/news/2023-05/quo-115/l-intelligenza-artificiale-e-la-lotta-ai-reati-informatici.html>.

¹¹ Cf. Pasqualetti (2022): "Perhaps less known to the general public, because they require knowledge of the more subterranean levels of the network (*deep web* and *dark web*), are the business of all sorts of things and the daily cyber-wars that populate the web. The average citizen is familiar with identity theft, phishing, and ransomware, whereas companies, institutions and states are attacked for much more targeted purposes, by specialised hacker groups that can breach national security data, influence a country's elections, attack electricity or water systems, block nuclear turbines, etc. This is also the fascinating world of the Web.

One of the main goals of hackers is to disrupt computer systems, destabilising or damaging them.¹² Technically, their attacks are defined as ‘Distributed Denial of Service’ (DDoS) and are, therefore, classified at the same level as hacking (software piracy).

To stop disinformation and cyber-warfare and to defend the right of all of us to truthful information, it would be necessary and urgent not only to implement legislation at national and international level, with much stricter standards for social networks and the media – safeguarding freedom of expression and control by independent institutions –, but also to create information education programmes, especially digital, and promote quality communication managed by free professionals who are independent of political and economic powers.

De Luca (2017) and Dionisi (2022) are two of many authors¹³ who appeal to the importance of such education and of the use of various media. For Dionisi (2022), “a fundamental role in educating the user to know how to use the Internet with perspicacity will certainly have to be entrusted to the school. (...) Schools should teach these subjects, giving them the same importance as they give to science and humanities.” De Luca (2017) also points out that,

educating for a sober and conscious use of communication tools should be part of school curricula, since even the so-called ‘digital natives’ lack adequate ‘media literacy’, useful not only to critically enjoy online media, but also to make the best use of digital technology in everyday life. (p. 5).

For instance, the evolution of the Internet and its most recent innovations, especially in the way it is used and experienced, such as the development of the so-called ‘metaverse’,¹⁴ should be given greater attention in academic curricula.

In this regard, it seems important also to mention the concern of Pope Francis (2022) – who greatly acknowledged that the digital media revolution of recent decades has proven to be a powerful means of

Technology always restores our humanity, precisely because it was born as *techne*, and, if its face takes on inhuman connotations, it is because our humanity is crumbling.” At: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/il-sabato-sia-al-servizio-dell-uomo-non-viceversa.html>.

¹² Here are some paradigmatic examples. On the day the European Parliament adopted a resolution recognising Russia as a “state sponsor of terrorism”, the institution’s website came under cyber-attack and was unavailable for several hours. The information was given by the spokesman of the European Parliament himself, Jaume Duch, on the social network *Twitter*, at 16:00 on 23rd November 2022: “The availability of @Europarl_EN website is currently impacted from outside, due to high levels of external network traffic. This traffic is related to a DDOS attack (Distributed Denial of Service) event. EP teams are working to resolve this issue as quickly as possible.” (<https://twitter.com/jduch/status/1595433790809284614>). Even more serious was what happened on Sunday, 5th February 2023. Thousands of servers worldwide – both institutional and private – suffered massive hacker attacks, especially in France and Italy. The Italian newspaper *Corriere della Sera* of 6th February gave wide coverage to this event. The same can be said of the attacks on several Italian institutional sites on 21st February 2023, coinciding with the visit of Prime Minister Giorgia Meloni to Kiev, the capital of Ukraine. (See *Corriere della Sera*, Thursday, 23rd February 2023). Another example, quoted by Tonacci (19th March 2022), is the testimony of Ukrainian Anton Gryb, 19, who describes himself as a ‘cybersoldier’ defending his country at war: “Before 24th February, I was attending the Faculty of Informatics and working for a cybersecurity company. I don’t know how to handle a Kalashnikov gun and I don’t see myself on the front line, but I didn’t want to remain inert either. So, with my two PC computers I participate in missions... From the time we receive the website address until we are able to remove it, a maximum of 15 minutes passes” (Tonacci, 2022, p. 8).

¹³ To emphasise the importance of education in this area of communication, we cite two other authors. According to Padula (2022), there is only one solution to overcome the stress caused by “information overload”, and that is education: “Turning off the television or refusing to watch the news online does not work in a world where connection is a constitutive condition of our collective life. The solution, however obvious (and difficult to achieve), remains only one: education”. At: <https://www.agensir.it/mondo/2022/03/05/educarci-ai-media-per-educarci-alla-pace/>. Masci (2022) – a member of the Technological Department of the Dicastery for Communication at the Vatican – also believes that one of the first forms of defence for those who surf the Internet is to become aware of the risks that our relations with the digital world entail: “Computer literacy is the first step to avoid many situations that are harmful to companies and infrastructures. All the more so for digital natives, because they interact in parallel between the real and the virtual”. At: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/ripartire-dall-alfabetizzazione-informatica.html>.

¹⁴ Metaverse is the name given to a shared environment, integrating the real and virtual worlds, that people can access via the Internet. It is in fact a platform that hosts three-dimensional (3D) virtual spaces, perceived as an extension of the real world. (See <https://www.significados.com.br/metaverso/>).

promoting communion and dialogue within the human family – in a message addressed to the participants of the SIGNIS World Congress:¹⁵

Especially in the use of social networks, a number of serious ethical issues have arisen that require wise and shrewd judgement on the part of communicators and all those who care about the authenticity and quality of human relationships. At times and in some places, the sites of these networks have become sites of toxicity, incitement to hatred and fake news.¹⁶

To this end, the Holy Father urged the Congress participants

to help people, especially young people, to develop a sound critical sense, learning to distinguish truth from falsehood, right from wrong, good from evil, and to appreciate the importance of working for justice, social harmony, and respect for the common home (ibidem).

The Episcopal Conference of Mozambique (ECM), in its November 2022 *Pastoral note*, mentioning the corruption and social control in the country, warned that there was “a growing and generalised tendency to limit the exercise of basic human rights, such as freedom of expression and demonstration”, since communities often “do not find space to express their opinions, because they are prevented from speaking by social control mechanisms that block their participation.”¹⁷

We could also mention here, by way of example, the course on “Fake News, Religion and Politics”, recently organised by the National Conference of Bishops of Brazil (CNBB), in partnership with other institutions, which had the following main objective:

In view of the astonishing increase in the spread of fake news, the aim of the course is to provide training for workers of the Communication Pastoral Commission (Pascom), other pastoral organisations, movements, and Church bodies, so that they can develop news-checking skills, exercise the Christian attitude of spreading the truth, and form a network of news-checkers within the Church.¹⁸

2. Epochal change, ‘post-truth’ and fake news

The beginning of the 21st century marks a ‘*change of era*’. The expression is Pope Francis’ (2013). We find it in his Apostolic Exhortation *Evangelii gaudium* (EG), published eight months after his election as Pope. In this document, Francis defines the programmatic lines for his pontificate at the service of the Church. In describing the great challenges of the contemporary world, the Pope states:

In our time humanity is experiencing a turning-point in its history, as we can see from the advances being made in so many fields. We can only praise the steps being taken to improve people’s welfare in areas such as health care, education, and communications. At the same time, we must remember that most of our contemporaries are barely living from day to day, with dire consequences [...] This epochal change has been set in motion by the enormous qualitative, quantitative, rapid and cumulative advances occurring in the sciences and in technology, and by their instant application in different areas of nature and of life. We are in an age of knowledge and information, which has led to new and often anonymous kinds of power.” (EG, 52).

¹⁵ SIGNIS: <https://www.signis.net/content/about-us-9/mission>.

¹⁶ <https://www.vatican.va/content/francesco/it/messages/>. Following Francis’ advice, the School Pastoral Care Department of the Vicariate of Rome organised a meeting on 9th September 2023 dedicated to the teaching of religion in the age of the digital revolution for all teachers of religion. Cf. Signorile (2023). *L’Osservatore Romano*. At: <https://www.osservatoreromano.va/it/news/2023-09/quo-218/sul-confine-tra-materia-e-spirito.html>.

¹⁷ A Conferência Episcopal de Moçambique (CEM), sua Nota Pastoral de Novembro de 2022, Maputo.

¹⁸ CNBB, at: <https://www.cnbb.org.br/cursosofakenews>.

What the Pope wants to emphasise is that “we are living not in *an era of change*, but in *a change of era*”. The change is also evident at the level of Communication and Ethics. We live in a new age of knowledge and information, which, in recent years, has also been called the age of ‘post-truth’ or, to put it from an ethical perspective, ‘pseudo-truth’.

Occhetta (2017) compares today’s communication to the rod of a pendulum that swings between the ‘before’ and ‘after’ of truth, without being able to recognise it. He lists the rules of communication that drive the post-truth culture:

inciting to violence (hate speech), ridiculing the voices of institutions, touching the (more irrational) emotions and beliefs of users, ‘injecting’ suspicion into facts, inventing ‘falsehoods’ (fake news). The fertile ground where post-truth takes root is that of social networks, capable of imprisoning news users in an ‘eternal present’ without memory (p. 7).

In our opinion, a cultural change of this nature requires from contemporary man a deep reflection and a serious discernment process regarding Communication and, in particular, regarding what is true information and what is false or manipulated information.

We are referring specifically to the so-called ‘fake news’, a concept that designates all the partially or totally false information, almost always intentionally disseminated, of a generic nature and of excessive diffusion spread through digital communication technologies – the Internet – and the media in general. In line with Occhetta’s (2017) thinking, we can conclude that fake news is based on emotions, beliefs and prejudices underlying events – or certain ideologies – and is distinguished by the total or partial absence of reliable sources. Given its plausibility, fake news is shaping a journalistic culture that serves populism and political – and not only political – interests with some success, with the aim of ‘stoking fears’, omitting or distorting facts, distracting the public from the truth, or, simply, not encouraging or facilitating the confrontation of information with reality.

From an ethical point of view, by manipulating reality, fake news only contributes to information pollution and disinformation. Fake news is not always totally false, but the fragments of truth in this type of news are rare and unverifiable.¹⁹

In an interview with the Italian magazine *L’Espresso*, the French sociologist Bronner (2022), asked why fake news spreads so quickly, replied that everything depends a lot on today’s ease of communication and the amount of information available, compared to the medieval information market or, in general, in the pre-Internet period. For this sociologist, between the past era and ours,

what has changed is that, previously, only gatekeepers could express themselves, (...) now anyone with an online account can contradict a medicine professor on vaccines. (...) They are all in free competition, almost without any filter. This creates an unprecedented availability of information. More information was produced in the 2000s than in the entire period between Gutenberg and 2000. In the last two years, we have produced 90% of the available information” (p. 95).

In the same interview, Bronner states that another factor that explains the easy spread of fake news is that “it goes in the direction of the intuitive expectations of our brain,” thus satisfying what he calls “the dark aspect of our rationality.” In this context, he cites a study published in

¹⁹ An emblematic example of fake news was the information strategy used by Donald Trump, former president of the United States of America (USA), in his political campaigns and also during his term of office from 20th January 2017 to 20th January 2021. This ploy of his was finally penalised after the invasion of the Capitol on 6th January 2021: Trump’s accounts were banned from major social networks, including *Twitter*. This result motivated Trump to create his own social network, paradoxically calling it *Truth Social*, and describing it “uncensored”. However, the former head of state’s *Twitter* account was restored in November 2022, shortly after Elon Musk took control of the company *Twitter*. Trump only used this network again [now ‘X’], on 24th August 2023, to publish his photo, taken hours earlier by police in Fulton prison in the US city of Atlanta, where he had turned himself in to the authorities on charges of trying to falsify the results of the 2020 election – this is already the fourth criminal charge he faces and on which he has yet to be tried.

the journal *Science*, which concluded that “on *Twitter*, false information is six times more viral than true information,” adding:

In certain situations, it is fake news that wins, because it can rely on lazy thinking. (...) In most cases, we look for information that goes in the direction of our beliefs. The more information we have, the easier it is for us to find information that points in the direction of what we truly believe. It is the paradox of informational gullibility: the more information there is, the more gullible [easily deceived or tricked, and too willing to believe everything that other people say – editor’s note] we become, while the opposite would seem to be true” (Ibid., p. 96).

Therefore, we cannot say that the more information we have, the better we understand reality. In certain circumstances, in fact, the abundance of information serves its opposite, namely (dis)information.

To delve deeper into Bronner’s idea (2019) and learn how to dismantle the mechanisms of manipulation and not be deceived by incorrect interpretations of reality, there is nothing better than reading his book *Fake News*.²⁰ Through simple language and dialogues, the author shows us that many of what we consider indisputable truths – beyond the errors and limitations of our understanding – are nothing more than a series of false beliefs based on false information. At the opening of the book, we find two important and complementary texts.

The first is by computer journalist Attivissimo (2019), who says that governments have realised that “it is easy to manipulate the algorithms of social networks to amplify fake news for political purposes, and so flood the Internet with falsely ‘independent’ profiles that spread propaganda” [Attivissimo, in Bronner (2019), pp. 4-5].

The second text is by Polidoro (2019), the national secretary of Comitato Italiano per il Controllo delle Affermazioni sulla Pseudoscienza (CICAP – Committee for the Investigation of Claims of the Pseudoscience). Drawing on his extensive experience, the author suggests five practical tips to help recipients understand if information is true or false. In short, these are his five tips:

1. Try to find out if the source is credible and if the evidence is reliable.
2. Distinguish the accuracy of facts from opinions, also ensuring the suitability and competence of those making the claims.
3. Do not trust if a piece of news is accompanied by the comment “and no one talks about it,” because, as a matter of fact, all media are looking for a ‘scoop’, that is, to be the first to report it, and therefore, if no media “talks about it,” it is probably false information.
4. Beware of headlines in capital letters or populist or sensationalistic ones, because often they are simply ‘clickbait’ to increase the advertising revenue of the site in question.
5. Pay special attention to the details of the news, both present and missing, and to the authenticity and reputation of the means of communication that spreads it [Polidoro, in Bronner (2019), pp. 10-11].

We are aware that it will not be simple to identify, with absolute certainty, what is true or false in a news story, and thus rid ourselves of fake news. However, we believe that simply questioning the veracity of the information that inundates us daily, without letting ourselves be easily convinced and carried away by emotions or ideologies, is already a positive first step in the attempt to arrive at the truth of the facts that are reported to us.

3. The Power of Algorithms

Since the early months of 1989, when the World Wide Web (WWW) first appeared, we have witnessed rapid advancements in the field of Information and Communication Technology (ICT).

²⁰ Bronner’s text is presented in 54 cartoon pages by Jean-Paul Krassinsky, a well-known cartoonist and illustrator.

The combination of the WWW and the Internet connected institutions and people that began exchanging untold amounts of information. This flow of information has made it possible to connect huge amounts of data (called *Big Data*) from the public sectors and users' private lives, and this has not only invaded human privacy, but also endangered transparency, personal protection, and freedom. In general, sensitive personal data include religious beliefs, political orientation, sexual orientation, and racial or ethnic origin, among other things.

Google²¹, founded by Sergey Brin and Larry Page in 1997, is now one of the most powerful monopolies in the world of information processing and organisation on the Internet. On Google's 25th anniversary, Soukup (2022), writing about the dreams and fears of all these years in the field of global information, warns us that Google "not only makes information accessible, but also somehow controls it, defines it and 'monetises' it, and presents itself as a benevolent force." He concludes:

Google has become a powerful force in surveillance capitalism: people who unquestioningly accept Google's collection of their data would protest if governments tried to do the same. But because Google provides something valuable, people look the other way when it comes to its power. Google and its various products, services, and projects come at a cost measured in terms of privacy, ethics, unequal access, monopolistic control, and political influence. (p. 64).

According to Masci (2022), a member of the Technological Department of the Vatican's Dicastery for Communication,²² "personal data indirectly represent today the revenue of the five major tech multinational companies. In some cases, multinationals have revenues equal to the Gross Domestic Product (GDP) of a country." However, he asks: "How many are willing to give up their services, more or less aware that they are paying with their privacy?"²³

Beyond the benefits we have come to enjoy from *Big Tech* companies – such as Google, Amazon, Meta (owner of Facebook, Instagram, and WhatsApp), Apple, Twitter, Tesla, and so on²⁴ –, the

²¹ Let us recall that the United States of America (US) Department of Justice (DOJ) filed a lawsuit against Google on 12th September 2023, accusing it of abusing its dominant position in Internet search services in order to stifle competition and protect its monopoly. Considered the most important monopoly trial of the Internet era, it is expected to be lengthy, as the case could be appealed and go all the way to the US Supreme Court. This trial is part of the current climate of confrontation between large multinational digital technology companies and the US government. We are not talking about just any company. Google represents 90% of the search services in the United States. [For more in-depth information, see at: http://www.ansa.it/sito/notizie/economia/2023/09/11/google-a-processo-negli-usa-lombra-di-microsoft-25-anni-fa_c08534c5-4037-494e-b808-bac7080fa180.html; https://www.ansa.it/canale_tecnologia/notizie/tlc/2023/09/12/gli-usa-contro-google-showdown-antitrust-in-tribunale_11d75fe7-70c2-4586-a8c7-789c5e797ba4.html; <https://g1.globo.com/tecnologia/noticia/2023/09/13/entenda-por-que-eua-processam-google-e-como-isso-pode-ameacar-o-futuro-da-internet.ghtml>].

However, from the end of September 2023, when we join Google, already we are being asked whether or not we want to keep search and other services connected. It also tells us that our choices will come into effect on 6th March 2024. Among other information, Google's announcement says: "Under new EU law, from 2024 Google needs your consent to keep these services connected. Once connected, you can share data with each other and with all other Google services to combine data to personalise content and ads; develop and improve Google services; measure and improve ad presentation; and fulfill other purposes described in our Privacy Policy at: g.co/privacypolicy."

²² https://www.vatican.va/roman_curia/segreteria/segreteria-comunicazione/documents/segreteria-per-comunicazione_profilo_po.html.

²³ "The set of threats, vulnerabilities, and criminal activities in this context, made possible by the combination of the analogue-digital transition and data as a commodity, constitute what is known as cybercrime. By way of example, the following are considered cybercrimes: unauthorised access, spreading viruses, spamming, cyberterrorism, defamation, and insult. Cybercrime goes hand in hand with cyber security; they are two sides of the same coin. On the one hand, there is criminal behaviour in the violation of computer systems and the use of the network for criminal purposes, which today benefits from fragmented and weak laws compared to conventional crime. On the other hand, there are countermeasures, i.e. the set of actions aimed at defending devices and systems against malicious attacks." At: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/ripartire-dall-alfabetizzazione-informatica.html>.

²⁴ On 5th July 2023, Mark Zuckerberg launched a new social network *Threads*, with the aim of challenging its rival *Twitter* – owned by Elon Musk, which has around 363 million users – having gained around 30 million followers in the first 24 hours. *Threads* – short text messages associated with photos – is clearly inspired by the *Twitter* model and is already available in over

uncertainty that this sophisticated world of Silicon Valley presents is knowing how and to what extent these networks will take on the responsibility of ensuring a moderation system that respects the basic rights of users and people in general. This path will undoubtedly be complicated by the crisis that the giants of the Web are currently experiencing. The competition among them has reached such an unusual point that their owners – such as magnates Mark Zuckerberg, of Meta, and Elon Musk, of Twitter and Tesla²⁵ – are warring not only through their social networks, but even going as far as propose a physical duel in a mutually agreed-upon location. In our view, this is a low-level propaganda game without any ethical scruples.²⁶

But let us return to the thoughts of Masci (2022), who emphasises the importance of human rights on the Internet: “In the governance of the Internet, there is a growing need for strategic structures centred on human rights in cybersecurity and cybercrime policies to ensure plurality, freedom, and legality in the cyberworld.”²⁷

Aware of this global reality, several countries, or geographical regions, as we will see later, have already started to enact appropriate laws to create greater security and protect the privacy of individuals and legal entities.

Social networks undoubtedly play a significant role here, because they were created to connect people, allowing them to exchange opinions and content, such as texts, photos, or videos, without needing extensive technological knowledge. However, it did not take long for these platforms to be used for political purposes, delivering party information or propaganda to citizens, as well as for economic and marketing purposes, primarily using the data produced by social interaction itself, thanks to the use of algorithms.

As we will explain in more detail later, the ethical challenge that arises here becomes more significant as our data and searches intertwine through algorithms generated by machines and social networks. They can almost “read our thoughts”²⁸ and our desires and end up making decisions for us.

Therefore, from now on, the problem that arises is how to combine ethics and algorithms.²⁹ If communication platforms are interactive spaces, then exchanges do not only occur between human

100 countries, including the United States of America and the United Kingdom. Meanwhile, the European Union countries, which are waiting for the Digital Markets Act to come into force, have not yet given the green light to this platform. According to Gaggi (2023), “at issue is the fact that this regulation, on the digital marketplace, includes measures to protect privacy and sets limits on the sharing of user data between platforms.” This waiting time is justified, if we take into account that Zuckerberg also owns *Meta*, *Facebook* and *Instagram*. Instagram alone has about two billion users (Gaggi, 7th July 2023, p. 17).

²⁵ Cf. Molinari (2023), “Lo scontro in gabbia tra Elon Musk e Mark Zuckerberg – più annunciato che possibile” (The cage clash between Elon Musk and Mark Zuckerberg – more announced than possible), p. 12; Conti (2023), “Da Verona a Pompei, gara per ospitare il duello. Ma Zuckerberg frena Musk” (From Verona to Pompeii, race to host the duel. But Zuckerberg puts the brakes on Musk), p. 21; Severgnini (2023), “Musk e Zuckerberg gladiatori egocentrici” (Musk and Zuckerberg, egocentric gladiators), p. 25; Persivale, M. (2023), “Musk e la bufala seriale della sfida a Zuckerberg. ‘Lui rifiuta l’incontro’” (Musk and the serial hoax of challenging Zuckerberg. ‘He refuses the meeting’). *Corriere della Sera*, p. 23.

²⁶ “In 2022, the fall of all the big innovative companies - which, in a black year for stock markets hit by wars, energy crises and inflation, with the consequent rise in the cost of money, still lost much more than traditional companies – was attributed, at least in part, to contingent factors. Such as the closure of Tesla’s factory in China, due to the restart of Covid, which led Elon Musk’s company to lose up to 70% of its value in one year, the reduced growth of Meta-Facebook and Alphabet-Google’s advertising revenues, the fight against competition from TikTok, and the winds of recession dampening advertisers’ investments” (Gaggi, 8th January 2023, p. 24). In fact, two months later, on 14th March 2023, the US financial market went into turmoil with the announcement of the bankruptcy of Silicon Valley Bank.

²⁷ *Ibid.*

²⁸ “We all have had, at least once, the impression that social networks read our thoughts, almost as if they were spying on us”, write Gabanelli and Ravizza (2023), in *Corriere della Sera*, p. 20. These journalists explain to us how all this is possible and is happening, based on a research they did in Italy using two smartphones: one new (*virgin data*) and one already in use. Both open an account on the social platform *TikTok*, which currently has a total of 1.2 billion users, of which 14.8 million in Italy. They become followers. We cite here, as an example, one of the three tests carried out by Gabanelli and Ravizza (2023), also on *TikTok*. Connected to the same Wi-Fi network, on the empty mobile phone, one searches Google for information on a well-known technology brand, Samsung, and all cookies are accepted. On the *TikTok* of the used phone, Samsung’s advertisement appears in real time. The reason for this is in the data traffic analysis: for network campaigns, Samsung sends the information to Sprinklr [advertising campaign company], which in turn is a partner of *TikTok*. Finally, it is evident in this and the other two tests in this study, without going into further technical details, that both phones start receiving the same advertisements and other information of common interest in real time, thanks to the digital cross-referencing of data between the two accounts.

²⁹ For a more in-depth discussion on ethics and algorithms, we recommend reading the 7th chapter of Floridi’s work (2022), entitled “La mappatura dell’etica degli algoritmi” (The Mapping of Algorithm Ethics), pp. 145-176.

agents, but also between humans and machines. Now, if the machine is the essential mediator, how can we make this mediator ethical?

The answer to these questions can only come through a global educational strategy. Professor Bennato (2022), specialising in the sociology of new media at the University of Catania in Italy, believes that,

“the first thing to consider is that, behind every piece of information, there is a technological structure. Therefore, knowing and understanding the technical structure of these tools is a prerequisite for developing more conscious and safe behaviour. There is another level, that of respect for others: to what extent is it legitimate to allow a third party to know what a person is doing, for example, by posting their photo? We must think about the possibility of a global ethics on digital communication.³⁰

Whatever reflection we make, we must always start from the principle that, as Floridi (2022) tells us, “we ourselves are and will continue to be the problem for the near future, not our technology” (p. 276).

Undoubtedly, the richness and value of the Internet are undeniable. However, this does not prevent us from trying to reveal its dark side, specifically in terms of the information that circulates on the Open Web, inciting hatred, and violence, promoting illegal activities and spreading fake news.

Let us remember that about 90% of information is conveyed, on the one hand, through the *Deep Web*, reserved for governments and large corporations, and, on the other hand, through the so-called *Dark Web*, where not only illegal but even criminal information circulates. Regarding the second category of the Internet, the *Dark Web*, which is accessible only through specialised software, Grazian (2022) says:

On the Dark Web, we are exposed to typical Internet dangers, albeit amplified: fraud, viruses, and identity theft. In countries where access and navigation are expressly prohibited, the danger lies not only in criminal activity but also in political crimes. The Dark Web is often used by activists and opponents to communicate, and its use renders the platform illegal. If we were to identify the most dangerous social, political, and economic threats pervading the Dark Web, we could select industrial espionage, drug trafficking, and terrorist recruitment.³¹

In this context, ethical reflection is essential to evaluate the impact that new ICTs have on social life and particularly on the radical transformation of our way of conceiving reality. To understand the extent of this process, it is recommended to read Floridi’s work (2022). In the very first lines of the preface to his book, the author begins by emphasising how the digital world is becoming pervasive:

Education, business and industry, travel and logistics, banking, retail and shopping, entertainment, wellness and health, politics, and social relations, in short, life as we know it today, have become inconceivable without the presence of digital practices, products, services, and technologies. Those who do not worry about such a digital revolution have not yet realised its extent. We are talking about a new era in human history (p. 11).

According to Floridi (2022), “today, in every mature information society, we no longer live online or offline, but ‘onlife’, meaning we increasingly live in that special space, the infosphere, which is continuously analogue and digital, offline, and online” (pp. 123-124). This is a reality that was unimaginable just a few years ago.

³⁰ <https://www.osservatoreromano.va/it/news/2022-03/quo-064/l-esigenza-di-un-etica-della-comunicazione.html>.

³¹ <https://www.osservatoreromano.va/it/news/2022-03/quo-066/viaggio-nel-lato-oscuro-della-rete.html>.

To delve into the dimensions and complexity of this ‘digital revolution’, we also recommend Foer’s work (2018),³² mainly because it helps us understand the role of algorithms in the mechanical processing of today’s information. It prompts serious reflection on what algorithms can already combine, for better or for worse, concerning the public and private life of Internet users, of which we are also a part. The author says:

Algorithms can be marvellous expressions of logical reasoning; they can simplify our lives and leave us in awe; they can identify copies of obscure 19th-century tomes in milliseconds, connect us with elementary school friends we haven’t heard from in decades, or have a package delivered to us within hours. Very soon [and it is already a reality], they will be able to drive driverless cars and locate tumours developing inside our bodies. But to do all this, algorithms continuously preserve our personal data and make decisions on our behalf. The problem is that, when we delegate our thinking to machines, we are delegating it to the organisations that control them (p. 89).

Here, we encounter two key concepts, crucial in today’s world of communication: *data* and *algorithms*. Foer (2018), commenting on the recurring statement that “data is the new oil,” warns us, with dozens of examples, about the enormous power of one and the other, insofar as both can make ‘a portrait’ of the mind and behaviour in the life of a person or a certain human group:

Data is an innocuous word, but it represents something particularly cruel, because it is the archive of our actions: what we read, what we observe, where we move during a day, what we buy, our correspondence, the research we conduct, the thoughts we begin to write and then erase. (...) An image of the mind is powerful because it enables companies to predict our behaviour and anticipate our desires. (...) Dominant companies are those that, by monitoring our movements on the Internet, have created the most comprehensive portraits of our population and have the computing power to interpret them. (...) From this point of view, data does not resemble oil, because, while the latter is a finite resource, data is infinitely renewable and continuously allows new monopolies to conduct experiments to anticipate trends, better understand customers, and create more effective algorithms (pp. 215-216).

It is understandable, then, why Gallone (2022), calling Google “the king of algorithms,” asks, “If the power of the algorithm is so strong, should it not be subject to transparency and public control constraints, as it is in the world of information or pharmaceutical products?”³³

Later, we will understand better the close interdependence that exists between data, algorithms, and artificial intelligence. Without data, algorithms and artificial intelligence go nowhere. For example, when it comes to AI, Floridi (2022) states: “It is data that determines its scope and degree of success” (p. 68).

In this regard, we can already point out that the protection of personal data is one of the main concerns of the countries of the European Union. Evidence of this is the new European regulation on

³² Franklin Foer, an American, is a communications professional with considerable knowledge, skills, and experience, acquired not only through his illustrious resume in the field of journalism, but also through his working proximity to social networking bigwigs in Silicon Valley, USA, such as, for instance, Mark Zuckerberg, co-founder of Facebook. See Caprioli, D. M. (24th July 2023), “Rivoluzione digitale – Meraviglie e rischi di un nuovo ambiente umano” (Digital revolution – Wonders and risks of a new human environment), *L'Osservatore Romano*, p. 6; at: <https://www.osservatoreromano.va/it/news/2023-07/quo-169/rivoluzione-digitale-meraviglie-e-rischi-di-un-nuovo-ambiente-um.html>.

³³ About Google, Gallone says: “Digitare, cercare, trovare. Tre verbi, tre azioni, un solo nome: Google. (...) In una parola, vastità.” (Type, search, find. Three verbs, three actions, one name: Google. (...) In a word, vastness). At: <https://www.osservatoreromano.va/it/news/2022-10/quo-247/buon-compleanno-big-g.html>.

data protection, the GDPR – EU General Data Protection Regulation,³⁴ which came into force on 25th May 2018.

For those of us born in the age of paper-based information – books, newspapers, and magazines –, we continue to value it, especially because, among other benefits, our data and privacy are protected, i.e., beyond the reach of the control powers of major monopolies. “When we read words written on paper, we are free from notifications, sound alerts, and other urgent distractions that divert our thoughts; the page allows us, for once, to disconnect from the machine and focus on our human core” (Foer, 2022, p. 263). In the meantime, the spontaneous question that arises is how long the existence of printed information will remain feasible or sustainable, especially from an economic and environmental perspective.

However, let us remember that new ICTs and digital communication, in general,³⁵ are not exempt from a harmful impact on the environment,³⁶ particularly in terms of carbon emissions and greenhouse gases, the extensive and constant consumption of water and energy, and pollution from the disposal of device materials.

4. Artificial Intelligence (AI)

We have already mentioned that the epochal change brought about by the ongoing digital revolution raises doubts and concerns, but it also presents extraordinary opportunities. For instance, AI has already become a necessary asset for humanity and, in some contexts, even indispensable. Now, what falls to humans in the face of this reality is to ensure that this asset, AI, is not used for malicious or immoral purposes. A knife is a useful and necessary tool, but it can be used for both good and evil.³⁷ Referring to digital innovations, Floridi (2022) insists that the fundamental problem is not in ‘innovation’ but in their good ‘governance’, i.e., how we manage them: “It’s not digital innovation that matters most, but the governance of the digital, and what we do with it.” (p. 124). For this author, ‘digital governance’ will have to have close connections with ‘digital ethics’ and ‘digital legislation’.

If we reflect in historical terms, we find that, after each of the great technological innovations in the field of social communication – from Guttenberg’s printing press (1440), to the telephone (1876), cinema (1895), radio (1896), television (1927) and the Internet (WWW, 1991) – the main ethical question tended to focus, in essence, on the fact that this innovation could also open doors to harm.

From this point of view, the ethical fears surrounding the current potential of AI are understandable and justifiable, insofar as we do not yet have the certainty – especially legal certainty – that AI will substantially serve to improve the quality of human life and its habitat, without conditioning or manipulating them. According to Floridi (2022), to fully respond to the rapid pace of technological progress and digital evolution that we are witnessing, “concrete and constructive policies” will be

³⁴ https://commission.europa.eu/law/law-topic/data-protection/data-protection-eu_pt. Regulation (EU) 2018/1725 – a follow-up to Regulation (EU) 2016/679 of 27 April 2016 – sets out the rules applicable to the processing of personal data by EU institutions, bodies, offices and agencies, in line with the General Data Protection Regulation and the Law Enforcement Directive.

³⁵ For instance, AI has a serious impact on climate change, as we will see later. However, for more information, read Floridi (2022), chapter 12, “Il gambetto: l’impatto dell’IA sul cambiamento climatico” (The gambit: AI’s impact on climate change), pp. 297-317, in which the author argues that the right policies will be needed to keep the ecological footprint in check: “Keeping AI’s ecological footprint in check depends on systematic and accurate measurements and steady increases in energy efficiency in relation to rising global demand. (...) The right policies are crucial” (pp. 316-317).

³⁶ See, for example: “Os impactos ambientais da tecnologia da informação e comunicação” (The environmental impacts of information and communication technology), in: <https://pagina22.com.br/2019/03/08/os-impactos-ambientais-da-tecnologia-da-informacao-e-comunicacao/>; and “Cinco impactos da tecnologia no meio ambiente e como evitá-los” (Five impacts of technology on the environment and how to avoid them), at: <https://www.techtudo.com.br/noticias/2022/02/cinco-impactos-da-tecnologia-no-meio-ambiente-e-como-evita-los.ghtml>.

³⁷ Floridi (2022) describes, in detail, both bad and good practices in the use of AI, respectively in chapter 8, “Cattive pratiche: l’uso improprio dell’IA per il male sociale” (Bad Practices: The Misuse of AI for Social Evil), pp. 177-220; and chapter 9, “Buone pratiche: l’uso dell’IA per il bene sociale” (Good Practices: The Use of AI for Social Good), pp. 221-258. Chapter 11, *La società per la buona IA* (Society for Good AI), pp. 279-296, is also recommended.

needed “to provide the benefits and mitigate the risks of AI, for everyone and for the world we share” (p. 295). In Floridi’s (2022) optimistic view, it is still possible to shape the current digital revolution in a more positive direction, benefiting both humanity and the planet. To achieve this, the same author considers it essential to understand technological innovations, their nature, and their main ethical challenges.

Today, we can no longer do without AI in the type of society we are building, as Pasqualetti (2022), a professor at the Faculty of Social Communication Sciences at the Pontifical Salesian University in Rome, says:

The rapid development of microprocessor power and the progressive expansion of data transfer have also favoured the acceleration of the implementation of artificial intelligence (AI) systems that transform our devices into something more than a simple object: it is not just us interacting with them, they incite us to interact. (...) Artificial intelligence is indispensable for a complex society like the one we are building. It undoubtedly brings with it the question of its ethical use, but this is a problem that cannot be blamed on technology, it is purely human and must be implemented at the design stage.³⁸

One of the artificial intelligence systems that has attracted the most scientific interest, since it was made available to the general public in November 2022, is ChatGPT (Chat Generative Pre-trained Transformer).³⁹

Currently, among the main ethical issues related to ChatGPT, we can list the following: the truth of the responses obtained – those who have conducted experiments can confirm how often they are false, incomprehensible, or even contradictory –; the potential threat to users’ privacy, i.e., the misuse of personal data that ChatGPT of the OpenAI platform may use for other purposes; and the risks of copyright infringement. Below, we will provide more detailed information about the regulations already adopted by the European Parliament on 14th June 2023, and by the United States of America (USA) and the CEOs of the seven largest US AI companies on 21st July 2023.⁴⁰

According to university professor Panão (2023), ChatGPT, capable of generating information very coherently, “could generate a *technophilia* whose effects on our mental and spiritual health are still unknown” (p. 11). Similarly, Longo (2023) points out other “risks of this innovation”,⁴¹ such as the impact on employment (job reduction), the production and dissemination of conspiratorial information aimed at disinformation, especially in the field of politics and prejudice against minorities, in addition to the previously mentioned issues of privacy and copyright.

³⁸ <https://www.osservatoreromano.va/it/news/2022-11/quo-264/il-sabato-sia-al-servizio-dell-uomo-non-viceversa.html>.

³⁹ The ChatGPT software is a generative artificial intelligence system, launched by OpenAI, thanks to a group of US investors, the most powerful of which is Microsoft. It is a programme or, rather, a search tool that, thanks to a complex connection made of algorithms, allows us to establish a dialogue (Chat), through which we can obtain automated answers to the most diverse questions in the areas of knowledge, clarify doubts or solve problems. The information obtained, of course, is that available in the most diverse databases on the Internet. However, the greatest ethical concerns are due to the fact that AI is beginning to achieve the capacity to develop autonomously, i.e. independently of human control. What is certain is that this innovation, which is still under development, will undoubtedly bring great practical benefits to mankind, but also many risks and concerns about the scientific and ethical reliability of the information obtained. The point is that AI “is coming everywhere”, as Gaggi (2023) puts it: “From text and image creation to video surveillance, from facial recognition to predictive systems, artificial intelligence is coming everywhere, from politics (systems that individually analyse voters’ ideas, beliefs and economic capabilities) to justice (the smart court systems of Chinese courts) and even pornography.” (Gaggi, 5th February 2023, p. 13).

⁴⁰ To get a synoptic view of the main documents and ethical principles on AI, published internationally between 2017 and 2020, read the 4th chapter of Floridi’s work (2022), entitled “A unified framework of ethical principles for AI”, pp. 91-105. Likewise, to identify the main risks of unethical behaviour in AI, read the 5th chapter, entitled “From principles to practices: the risks of unethical behaviour”, pp. 107-121.

⁴¹ Longo, A. (2023), “Rischi dell’innovazione. Cospirazionismo versione chatbot” (Risks of innovation. Conspiracy chatbot version), *L’Espresso*, pp. 78-80. See Longo, A. (2023), “L’algoritmo va governato o spazzerà via il lavoro” (The algorithm must be governed or it will wipe out work), *L’Espresso*, pp. 80-81; Deen, T. (2023). AI ChatGPT Responds to UN’s Proposed Code of Conduct to Monitor Artificial Intelligence, <https://www.ipsnews.net/2023/06/ai-chatgpt-responds-uns-proposed-code-conduct-monitor-artificial-intelligence/>.

Some authors, such as Gallone (2023)⁴² and Chomsky (2023), also emphasise the risk that AI contributes to “the loss of critical thinking”. Chomsky (2023), a renowned American philosopher and linguist, commenting on ChatGPT in an article in *The New York Times*, claims that “this artificial intelligence is the most radical attack on critical thinking,”⁴³ censoring the way AI uses algorithms to provide us with tailored content and chatbots (acronym for chat and robot) to simulate human communication, thus contributing to the analytical and creative inactivity of humans.

However, we have no other choice but to learn to use AI systems, because, more and more, they will become part of our daily lives. As Moura (2023) states, we are going through a true “cultural revolution” that will not pass, but accelerate:

Human culture is in the process of being replaced by an AI culture. Cultural, corporate, and political management is starting to suffer from the strong competition of artificial intelligence. The worst thing one can do is to think that this is a passing fad. It will not pass. It will accelerate (p. 25).

And consider that ChatGPT is just one of many other similar competing programmes already on the market. In short, we are only seeing the tip of the iceberg of a battle for the development of increasingly sophisticated intelligent technologies that will force us to rethink the way we organise many of our human activities at all levels. Despite this, we think it is important to be clear from the outset that ChatGPT may seem intelligent to us, but it is not. “Intelligence is not artificial.”⁴⁴

Artificial intelligence is not just a topic for adults. Young people also ponder the advantages and disadvantages of AI power. For example, a German medical student, quoted by Contiero (2023), states that it is obvious that,

Everything must be controlled by humans: computer systems, no matter how efficient, will remain machines, and there is no way to think of replacing things like empathy, tenderness, and kindness that give the patient a certain trust in the therapy to follow (p. 6).

Regarding the relationship between human intelligence and artificial intelligence, according to Denis Roio, cited by Aquilino (2022), there is a fundamental question we must ask: “Are we working for machines to understand humans, or for humans to understand machines?”⁴⁵ The challenge that we humans must face seems quite evident: either we learn to master AI, or we will be dominated by it. In short, we agree with Masci (2022) when he concludes that human intelligence will always be the most effective tool, or rather, “the indispensable and irreplaceable gift for analysing network behaviour.”⁴⁶

Quintana (2023) also alerts us to the irreplaceable human responsibility in the use of technology, referring to the ethical problem in AI:

⁴² See Gallone, G., “ChatGPT deve aiutarci a essere più umani” (ChatGPT must help us be more human), (22nd September 2023). At: <https://www.osservatoreromano.va/it/news/2023-09/quo-218/chat-gpt-deve-aiutarci-a-essere-piu-umani.html>.

⁴³ <https://www.nytimes.com/2023/03/08/opinion/noam-chomsky-chatgpt-ai.html>.

⁴⁴ To delve deeper into this issue, we recommend reading the prestigious monthly publication *LIMES* – Italian Journal of Geopolitics, no. 12/2022, whose cover theme is “L’intelligenza non è artificiale” (Intelligence is not artificial), in which more than twenty experts from various fields of knowledge write, from different points of view, on multiple technical-scientific topics directly related to AI.

⁴⁵ <https://www.osservatoreromano.va/it/news/2022-11/quo-264/per-un-etica-dei-sistemi-e-delle-applicazioni.html>. On the ethics related to this ‘machine and AI’ pair, Floridi (2022) dwells at length, in chapter 10, entitled “Macchine ultra-intelligenti, singolarità e altre distrazioni fantascientifiche” (Ultra-intelligent machines, singularities and other science fiction distractions), pp. 259-277.

⁴⁶ <https://www.osservatoreromano.va/it/news/2022-11/quo-264/ripartire-dall-alfabetizzazione-informatica.html>. The author states: “Human intelligence is an indispensable and irreplaceable gift for analysing network behaviour. Security mechanisms are a valuable support, but for some types of attacks, such as 0-day attacks (new and unknown attacks to protection systems), an interdisciplinary team of experts will be needed to detect anomalous behaviour.” Masci (2022).

The issue of ethics in artificial intelligence reveals (...) the limits of trust in technology: when we believe that technology is meant to improve human life, we are implicitly believing that technology can improve human morality, that the morality of technology is superior to that of humanity. We are delegating to machines what is our exclusive responsibility. This is an old mistake. (...) The issue of good and evil cannot be delegated to technology (p. 22).

Pope Francis expressed the same concern, referring to the real relationship between AI, human life, and algorithms, in his speech to the participants of the meeting ‘*AI Ethics: An Abrahamic commitment to the Rome Call*’ at the Vatican: “It is not acceptable that the decision on the life and fate of a human being is entrusted to an algorithm.”⁴⁷ The Holy Father concluded his speech by appealing to the need to continue promoting a “digital anthropology”, based on three fundamental coordinates: “ethics, education and law”.

Similarly, Dr. Francesca Di Giovanni, Undersecretary for the Multilateral Sector, Section for Relations with States, Head of Delegation of the Holy See, in her address to the Hague summit on the use of AI in the military, held on 16th February 2023, pointed out the “*contradictio in terminis*”, when speaking of “responsible AI”, because, she clarified, such systems “cannot think, feel, decide or take ‘responsibility’ for their actions, as they lack moral impulse”⁴⁸ – a clear reminder that AI is devoid of the values that determine human action, such as, for example, freedom, conscience and responsibility. We can easily imagine how many ethical risks are involved in the use of AI – e.g., through humanoid robots, drones and so on – in armed conflicts: algorithms can falsify data with biometric identification errors or fail to make a correct assessment of the situation at hand.

Confirming the seriousness of the risks that AI can pose to humanity is the open letter signed by some AI experts in March 2023, including prominent names like Elon Musk and Steve Wozniak, calling for a six-month pause in the development of new AI systems.

A group of experts and leaders in the technology sector, including Elon Musk and Apple co-founder Steve Wozniak, shared an open letter calling for a six-month pause in the development of artificial intelligence experiments that aim to replicate and improve upon what GPT-4 does. This is the latest model from OpenAI’s artificial intelligence laboratory, used by the ChatGPT programme to generate texts, programmes, and analyse images like a human being.⁴⁹

Gaggi (2023), in early May, reported why Geoffrey Hinton had resigned from his scientific responsibility at Google, citing his own words: “I created artificial intelligence. But now I see its risks.”⁵⁰ On the same page and in the same article, Gaggi quotes some statements by great digital technology geniuses, which may help our reflection.

Here are some of their names and words: Chamath Palihapitiya, an engineer and former vice president of Facebook, who claims to have developed technologies capable of “damaging social

⁴⁷ <https://www.osservatoreromano.va/it/news/2023-01/quo-007/la-vita-di-un-uomo-non-puo-essere-affidata-a-un-algoritmo.html>.

⁴⁸ <https://www.osservatoreromano.va/it/news/2023-02/quo-042/l-intelligenza-artificiale-sia-al-servizio-dell-umana-e-dello.html>.

⁴⁹ Pequenino, K. (2023), Musk and experts call for a pause in the development of artificial intelligence. “There are risks for society”, *Público*: https://www.publico.pt/2023/03/29/tecnologia/noticia/musk-especialistas-apelam-pausa-desenvolvimento-inteligencia-artificial-ha-riscos-sociedade-2044251?utm_source=notifications&utm_medium=web&utm_campaign=2044251. On 30th May 2023, an even more explosive warning was made public, through another disturbing open letter – signed by 350 entrepreneurs, researchers and experts in the field, including Sam Altman, of OpenAI, Geoffrey Hinton, who left Google to feel free to speak about the pitfalls of these new technologies, Demis Hassabis, co-founder of DeepMind and key man in Google’s AI, and Dario Amodei, of Anthropic – in which they warn of a possible threat to the survival of humanity, due to AI, and call on political and social systems to act to avoid a catastrophe: “Mitigating the risk of extinction at the hands of AI must be a global priority, along with other societal-scale risks such as pandemics and nuclear war”, quoted by Pisa (2023), *La Repubblica*, 31st May 2023, p. 15; and Gaggi (2023), *Corriere della Sera*, 31st May 2023, p. 15.

⁵⁰ Gaggi, M. (2023, 3 de Maio). Scientist Hinton: I created artificial intelligence. But now I see the risks. *Corriere della Sera*, p. 15.

fabric” and confesses, “If you’ve become addicted to likes, it’s my fault. I helped create them”; Antonio García Martínez, who states: “If, while browsing the Internet, you’re bombarded with ads for an item you’re looking for, blame me. I wish I hadn’t developed these techniques”; former Google expert Tristan Harris, who admits: “Facebook and Google have long-term, heavy negative consequences”; Evan Williams, co-founder of Twitter, who writes: “I believed that giving more freedom was enough to create a better world. I was wrong”; and Roger McNamee, who admits: “I became rich with Google and Facebook, but now I see that these social networks create addictions like alcohol, nicotine, or heroin.”

The ethical concern for the risks of AI is not exclusive to computer system specialists, but also extends to politicians, governments, and the Catholic Church. It is not a coincidence that in the first week of May 2023, some of the most important CEOs of U.S. technology companies met at the White House to discuss the risks and opportunities of AI systems. On that occasion, the Vice President of the United States, Kamala Harris, reminded the executives of Google, Microsoft, OpenAI, and other major technology companies that “they have a moral duty”⁵¹ to provide customers with safe products. She reiterated the concerns of many observers about the rapid advancement of systems like ChatGPT that could have a significant impact on society.

In response to these concerns, the European Union (EU) and the United States have proposed jointly developing a *code of conduct* to regulate the activities of Big Tech companies regarding the evolution of AI, suggesting some voluntary standards to apply. A preliminary draft of this code should be ready shortly⁵². The announcement was made by U.S. Secretary of State Antony Blinken and European Commissioner Margrethe Vestager during the EU-USA Council for Trade and Technology on 31st May 2023, in Sweden.

Meanwhile, a Christian-inspired guide titled *Ethics in the Age of Disruptive Technologies – An Operational Roadmap*,⁵³ resulting from collaboration between the the Centre for Digital Culture of the Vatican’s Dicastery for Culture and Education and the Centre for Applied Ethics at Santa Clara University of the Jesuits in California, has been published and it is accessible from June 2023. It offers organisations a strategic plan to enhance ethical management practices, allowing them to navigate the complex landscape of disruptive technologies like AI, while adhering to strong ethical standards.

Moreover, the theme chosen by Pope Francis for the 58th World Communications Day, to be celebrated in 2024, is “*Artificial intelligence and wisdom of the heart: for a fully human communication*”.⁵⁴ The Vatican Press Office announced this on 29th September 2023. For the Holy Father, as stated in the same press release, “it is important to guide artificial intelligence and algorithms, so that there is in everyone a responsible awareness of the use and development of these different forms of communication that go hand in hand with social media and the Internet. It is necessary for communication to be oriented towards a fuller life of the human person.”

The released statement emphasises that “the evolution of artificial intelligence systems makes it ever more natural to communicate through and with machines, so that it has become increasingly difficult to distinguish computation from thought, and the language produced by a machine from that generated by human beings. Like all revolutions, this one based on artificial intelligence, too, poses new challenges to ensure that machines do not contribute to a large-scale system of disinformation

⁵¹ <https://www.ilpost.it/2023/05/10/intelligenza-artificiale-chatgpt-deep-learning/>.

⁵² Tito, C., “IA, il primo passo di Europa e Usa – Pronto un regolamento comune” (AI, the first step by Europe and the US – Common regulation ready). *La Repubblica*, p. 15. (1st July 2023).

⁵³ This Guide is available on the website of ITEC - Institute for Technology, Ethics and Culture). ITEC is the result of a partnership between the Vatican and the Markkula Centre. See link at: <https://www.scu.edu/ethics/media-mentions/stories/the-vatican-wrote-a-handbook-on-ai-ethics.html>.

⁵⁴ <https://press.vatican.va/content/salastampa/it/bollettino/pubblico/2023/09/29/0678/01493.html>. Pope Francis also reminds – in his recent Apostolic Exhortation *Laudate Deum* (LD) on 4th October 2023, in the context of the growing technocratic paradigm which is “a way of understanding human life and action that is deviant and contradicts reality to the point of ruining it” (LD, 20) – that “Artificial intelligence and recent technological developments are based on the idea of a human being without limits, whose capacities and possibilities could be extended indefinitely thanks to technology. Thus, the technocratic paradigm feeds monstrously on itself.” (LD, 21).

and do not also increase the loneliness of those who are already alone, depriving us of the warmth that only communication between people can provide.”

The European Parliament, too, has played a significant role in addressing the challenges posed by artificial intelligence. Following an extended legislative process that began in 2019 and culminated in the approval of two crucial regulations in July 2022, namely the *Digital Services Act* (DSA) and the *Digital Markets Act* (DMA),⁵⁵ the European Parliament adopted the final version of the Artificial Intelligence Bill on 14th June 2023.⁵⁶ This legislation classifies AI systems based on their levels of risk, which include “unacceptable risk,” “high risk,” and “limited risk”.

Unacceptable risk – Unacceptable risk AI systems are systems considered a threat to people and will be banned. They include:

1. Cognitive behavioural manipulation of people or specific vulnerable groups: for example, voice-activated toys that encourage dangerous behaviour in children.
 2. Social scoring: classifying people based on behaviour, socio-economic status or personal characteristics.
 3. Real-time and remote biometric identification systems, such as facial recognition
- Some exceptions may be allowed: For instance, “post” remote biometric identification systems where identification occurs after a significant delay will be allowed to prosecute serious crimes but only after court approval.

High risk – AI systems that negatively affect safety or fundamental rights will be considered high risk and will be divided into two categories:

1) AI systems that are used in products falling under the EU’s product safety legislation. This includes toys, aviation, cars, medical devices, and lifts.

2) AI systems falling into eight specific areas that will have to be registered in an EU database:

- Biometric identification and categorisation of natural persons
- Management and operation of critical infrastructure
- Education and vocational training
- Employment, worker management and access to self-employment
- Access to and enjoyment of essential private services and public services and benefits
- Law enforcement
- Migration, asylum, and border control management
- Assistance in legal interpretation and application of the law.
- All high-risk AI systems will be assessed before being put on the market and throughout their lifecycle.

Limited risk – Limited risk AI systems should comply with minimal transparency requirements that would allow users to make informed decisions. After interacting with the applications, the user can then decide whether they want to continue using it. Users should be made aware when they are interacting with AI. This includes AI systems that generate or manipulate image, audio, or video content, for example deepfakes.⁵⁷

The goal of the European Parliament with AI legislation “is to ensure that AI systems used in the EU are safe, transparent, traceable, non-discriminatory, and environmentally respectful. AI systems

⁵⁵ For more, see the *Digital Services Act*, at: <https://digital-strategy.ec.europa.eu/pt/policies/digital-services-act-package>, and: <https://eur-lex.europa.eu/legal-content/PT/TXT/?uri=CELEX%3A52020PC0825>; and the *Digital Markets Act* at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-markets-act-ensuring-fair-and-open-digital-markets_pt, and at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-markets-act-ensuring-fair-and-open-digital-markets_en.

⁵⁶ “EU AI Act: first regulation of artificial intelligence”, at: <https://www.europarl.europa.eu/news/pt/headlines/society/20230601ST093804/lei-da-ue-sobre-ia-primeira-regulamentacao-de-inteligencia-artificial>.

⁵⁷ *Ibid.*

should be overseen by people, rather than automated, to avoid harmful outcomes.”⁵⁸ Regarding transparency, for example, it requires generative AI tools like ChatGPT to meet the following requirements: “disclosing that the content was generated by AI; designing the model to prevent the generation of illegal content; publishing summaries of copyrighted data used for training.”⁵⁹

As for the United States, on 21st July 2023, President Joe Biden met with the CEOs of the seven major American AI industry leaders – Amazon, Google, Meta, Microsoft, OpenAI, Inflection, and Anthropic – to reach an agreement on mutual cooperation in controlling and securing their AI-related activities. On that occasion, Biden, as quoted by Mastrolilli (2023), was unequivocal: “We must be clear-headed and vigilant about the threats that emerging technologies can pose – they do not have to, but they can – to our democracy and values. This is a serious responsibility. We must manage it well.”⁶⁰ At the end of the meeting, the CEOs of the seven companies made six commitments that could inspire future legislation and regulations on AI for the U.S. Congress:

1. Conducting product safety tests, partially entrusted to independent experts;
2. sharing information with the government and risk managers;
3. ensuring consumers can easily identify AI-generated content;
4. regularly advertising the capabilities and limitations of their systems;
5. providing society with tools to address serious challenges, from climate change to diseases like cancer;
6. conducting research on privacy and discrimination risks.⁶¹

On 13th September 2023, the Washington State Senate took further steps, bringing together a panel of over 22 leading AI entrepreneurs – whose combined personal wealth is estimated at over 500 billion dollars – with the goal of acquiring knowledge useful for regulating AI. This positively demonstrates “a change in climate in the relationship between politics and the technology world”⁶² in the USA. In this meeting, according to Gaggi (2023), one of the most complex issues to resolve will be how to limit risks (disinformation, sabotage, toxic content) without penalising “universal access to new technologies.”⁶³

Looking ahead to the uncertain future that awaits us, we agree with Floridi (2022) when he tells us that “we should worry about real human stupidity, not imaginary AI, and focus on the real challenges that AI raises” (p. 276). In this perspective, the author names five challenges, attributing equal importance to all of them:

1. We should make AI fit for the environment.
2. We should make AI fit for humans.
3. We should put the stupidity of AI at the service of human intelligence.
4. We should harness the predictive power of AI in the service of freedom and autonomy.
5. We should ensure that AI makes us more human.⁶⁴

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*

⁶⁰ Mastrolilli, P. (2023, 22 de Julho). “I giganti del tech americano da Biden. Primo accordo sulle regole dell’IA” (US tech giants at Biden’s. First agreement on AI rules). *La Repubblica*, p. 15 (22nd July 2023).

⁶¹ *Ibid.*

⁶² Gaggi, M. (2023, 15 September). “Intelligenza artificiale, i ‘re’ del tech discutono sulle regole” (Artificial intelligence, tech ‘kings’ discuss rules). *Corriere della Sera*, p. 15 (15th September 2023).

⁶³ *Ibid.*

⁶⁴ Here, we publish the full text of the five challenges, listed by Floridi (2022): “First, we should make AI fit the environment. We need the smartest technologies we can build to tackle the very real ills that oppress humanity and our planet, from environmental and health disasters to financial crises, from crime to terrorism and war, famine, poverty, ignorance, inequality, and appalling living standards. Second, we should make AI fit for human beings. To paraphrase Kant, AI should be used to treat people always as ends and never as mere means. Third, we should put the stupidity of AI at the service of human intelligence. We have seen that millions of jobs will be transformed, eliminated, and created; the benefits of this transformation should be shared by all, while the costs should be borne by society. Fourth, we should put the predictive power of AI at the service of freedom and autonomy. The commercialisation of products, the influence on behaviour, the gentle nudges given to people, or the fight against crime and terrorism should never undermine human dignity. And finally, we should let AI make us more human. The serious risk is that we may use our smart technologies badly, too much or too little to the detriment of most of humanity and the entire planet.” (p. 276-277).

The term ‘*conclusion*’, which we are going to use below, strictly speaking, is not the most appropriate, though necessary, way to conclude this study. We are aware that much remains to be said, and in the short term, there will be many technical innovations and ethical developments for which we must keep our personal interest and academic curiosity alive.

Conclusion

Since the mid-1980s, we have been interested in the ethical issue related to ICTs, which, as this study shows, has never lost interest and relevance. Over the years, our professional practice in this field has shown us the need for continuous and careful reflection to provide an increasingly adequate response to the ethical challenges arising in the field of information and communication.

What we have just written is nothing more than an unpretentious personal reflection, enriched by the opinions of various authors, on what we consider to be the greatest ethical challenges facing information and communication in these first two decades of the 21st century.

We believe that it should continue to worry us that the remarkable increase in the circulation of information – especially given the role of social networks, which have allowed anyone to become a producer of information themselves – has not been matched, as could and should be expected, by an improvement in the quality and reliability of information.

That is why our thesis has been and will continue to be that, in a technological world in which “human connection is a constitutive condition of our collective lives”, the best and most effective way to assimilate and guarantee ethical values in this area of communication will inevitably be through serious and comprehensive education, both at a basic academic level and in ongoing training. It is not hard to see that the weaker this education, the greater the lack of critical thinking, which, in fact, only good ongoing training can provide.

Therefore, educating ourselves in ethics and information and communication in general means, first and foremost, educating ourselves in critical thinking and discernment. In other words, it means educating ourselves to search for the truth, which, today and always, remains the goal we should never give up, whatever the circumstances or geographical location.

Of course, it is also up to the institutions – public and private, civil and religious – and governments in particular, to ensure information literacy, providing citizens – those who inform and those who are informed – with the appropriate tools and criteria (technical, scientific, and ethical) on how to deal with the new technologies and the avalanche of information that invades us daily.

Finally, we will only be able to respond to the great ethical challenges of our 21st century if, above all, all the players involved in the world of information and communication open themselves up to serious, responsible and persevering collaboration in the search for truth and the common good, starting with ourselves. Only in this way will we clip the wings of our fears and open doors to the hope of more ethical information and communication.

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Bibliography

- Aquilino, G., “La centralità dell’uomo – Per un’etica dei sistemi e delle applicazioni”. (The centrality of man – For an ethics of systems and applications). *L’Osservatore Romano* (18th November 2022). At: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/per-un-etica-dei-sistemi-e-delle-applicazioni.html>.
- Activissimo, P. (2019), *Fabbriche di fandonie* (Factories of humbug). In: Bronner, G. (2019), pp. 4-6.
- Bennato, D., “L’esigenza di un’etica della comunicazione”. (The need for a communication ethic). *L’Osservatore Romano* (21st March 2022). At: <https://www.osservatoreromano.va/it/news/2022-03/quo-064/l-esigenza-di-un-etica-della-comunicazione.html>.
- Bronner, G. (2019). *Fake news. Smascherare le teorie del complotto e le leggende metropolitane* (Fake news. Unmasking conspiracy theories and urban legends). Milan, Italy: Sonda.
- Bronner, G. (2022). “Lumi contro *fake news*”, (Lights versus fake news), *L’Espresso*. (24th July 2022), pp. 94-97. Interview by Anna Bonalume.
- Caprioli, D. M., “Rivoluzione digitale – Meraviglie e rischi di un nuovo ambiente umano” (Digital revolution - Wonders and risks of a new human environment). *L’Osservatore Romano*, p. 6. (24th July 2023). Also at: <https://www.osservatoreromano.va/it/news/2023-07/quo-169/rivoluzione-digitale-meraviglie-e-rischi-di-un-nuovo-ambiente-um.html>.
- Chomsky, N., “The False Promise of ChatGPT”, *New York Times* (8th March 2023). In: <https://www.nytimes.com/2023/03/08/opinion/noam-chomsky-chatgpt-ai.html>.
- Conti, P., “Da Verona a Pompei, gara per ospitare il duello. Ma Zuckerberg frena Musk” (From Verona to Pompeii, race to host duel. But Zuckerberg puts the brakes on Musk”. *Corriere della Sera*, p. 21. (13th August 2023).
- Contiero, V., “I ragazzi di fronte alla nuova tecnologia. Buona o malvagia? Dipende...” (Young people in the face of new technology. Good or evil? It depends...). *L’Osservatore Romano*, p. 6. (22nd September 2023). Also at: <https://www.osservatoreromano.va/it/news/2023-09/quo-218/buona-o-malvagia-dipende.html>.
- Deen, T., “AI ChatGPT Responds to UN’s Proposed Code of Conduct to Monitor Artificial Intelligence”, *Inter Press Service* (15th June 2023). At: <https://www.ipsnews.net/2023/06/ai-chatgpt-responds-uns-proposed-code-conduct-monitor-artificial-intelligence/>.
- De Luca, V., “Comunicare speranza e fiducia” (Communicating hope and trust). *DESK: Quarterly journal of information culture*, 1 (2017), 1, pp. 3-6.
- Di Giovanni, F., “L’intelligenza artificiale sia al servizio dell’umanità e dello sviluppo integrale” (Artificial intelligence at the service of humanity and integral development”). *L’Osservatore Romano* (20th February 2023). At: <https://www.osservatoreromano.va/it/news/2023-02/quo-042/l-intelligenza-artificiale-sia-al-servizio-dell-umanita-e-dello.html>.
- Dionisi, D., “La cybersecurity inizia dalla divulgazione” (Cybersecurity starts with disclosure). *L’Osservatore Romano*. (18th November 2022). At: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/la-cybersecurity-inizia-dalla-divulgazione.html>.
- Floridi, L. (2022). *Etica dell’intelligenza artificiale. Sviluppi, opportunità, sfide*. Milan, Italy: Raffaello Cortina Editore.
- Foer, F. (2018). *I nuovi poteri forti. Come Google, Apple, Facebook e Amazon pensano per noi*. Milan, Italy: Longanesi.

- Foschini, G., “L’informazione. Quel filo conduttore che lega i partiti e gli *opinion makers* al *network* della propaganda russa” (Information – That common thread that links parties and opinion makers to the Russian propaganda network). *La Repubblica*, p. 4 (21st May 2022).
- Gabanelli, M. and Ravizza, S., “TikTok –Come i social ci leggono nel pensiero” (TikTok, how social media read our thoughts”). *Corriere della Sera*, p. 20 (13th September 2023).
- Gaggi, M., “Meno innovazione e carisma. Così i giganti del web hanno perso il tocco magico” (Less innovation and charisma. So the web giants have lost their magic touch”). *Corriere della Sera*, p. 24 (8th January 2023).
- Gaggi, M., “La battaglia dell’intelligenza artificiale” (The battle of artificial intelligence”). *Corriere della Sera*, p. 13. (5th February 2023).
- Gaggi, M., “Lo scienziato Hinton: sono stato io a creare l’intelligenza artificiale. Ma ora ne vedo i rischi” (Scientist Hinton: it was me who created artificial intelligence. But now I see the risks”). *Corriere della Sera*, p. 15 (3rd May 2023).
- Gaggi, M., “L’intelligenza artificiale e l’allarme dei suoi guru: «L’umanità è in pericolo»” (Artificial intelligence and the alarm of its gurus: “Humanity is in danger”). *Corriere della Sera*, p. 15 (31st May 2023).
- Gaggi, M., “Zuckerberg rilancia e sfida Musk – Un nuovo social contro Twitter” (Zuckerberg relaunches and challenges Musk – A new social against Twitter”). *Corriere della Sera*, p. 17 (7th July 2023).
- Gaggi, M., “Intelligenza artificiale, i ‘re’ del tech discutono sulle regole” (Artificial intelligence, tech ‘kings’ discuss rules). *Corriere della Sera*, p. 15 (15th September 2023).
- Galdón, L.G. (2015). *Informazione e disinformazione. Il metodo nel giornalismo* (2nd ed.). Rome, Italy: Armando Editore.
- Gallone, G., “I 25 anni dalla nascita di Google. Buon compleanno, Big G. – Nuove sfide per il re degli algoritmi” (The 25th anniversary of Google’s birth. Happy birthday, Big G. – New challenges for the king of algorithms). *L’Osservatore Romano* (27th October 2022). At: <https://www.osservatoreromano.va/it/news/2022-10/quo-247/buon-compleanno-big-g.html>.
- Gallone, G., “ChatGPT deve aiutarci a essere più umani” (ChatGPT must help us be more human). *L’Osservatore Romano*. (22nd September 2023). At: <https://www.osservatoreromano.va/it/news/2023-09/quo-218/chat-gpt-deve-aiutarci-a-essere-piu-umani.html>.
- Grazian, C., “Viaggio nel lato oscuro della rete” (Journey into the dark side of the Net). *L’Osservatore Romano* (23rd March 2022). At: <https://www.osservatoreromano.va/it/news/2022-03/quo-066/viaggio-nel-lato-oscuro-della-rete.html>.
- Longo, A., “Rischi dell’innovazione. Cospirazionismo versione chatbot” (Risks of innovation. Conspiracy chatbot version). *L’Espresso*, pp. 78-80 (19th February 2023).
- Longo, A., “L’algoritmo va governato o spazzerà via il lavoro” (The algorithm must be governed, or it will wipe out work). *L’Espresso*, pp. 80-81 (23rd July 2023).
- Martins, A. (2023). X è la rete sociale “com o maior rácio de desinformação”. *Público*. At: <https://www.publico.pt/2023/09/26/mundo/noticia/x-rede-social-maior-racio-desinformacao-2064683>.
- Masci, F., “L’intelligenza umana è il più efficace strumento di analisi dei comportamenti della rete. Ripartire dall’alfabetizzazione informatica” (Human intelligence is the most effective tool for analysing network behaviour. Starting again from computer literacy). *L’Osservatore Romano* (18th November 2022). See at: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/ripartire-dall-alfabetizzazione-informatica.html>.

- Mastrolilli, P., “I giganti del tech americano da Biden. Primo accordo sulle regole dell’IA” (US tech giants at Biden’s. First agreement on AI rules). *La Repubblica*, p. 15 (22nd July 2023),
- Molinari, E., “Lo scontro in gabbia tra Elon Musk e Mark Zuckerberg – Più annunciato che possibile. La tristezza di una farsa mediatica nella lotta tra i due ‘re’ del digitale” (The cage clash between Elon Musk and Mark Zuckerberg – More announced than possible. The sadness of a media farce in the fight between the two ‘kings’ of digital). *Avvenire*, p. 12 (8th August 2023).
- Moura, L., Revolução cultural. *Público*, p. 25 (16th August 2023).
- Occhetta, F. (2017). “Il giornalismo nel tempo della post-verità” (Journalism in the time of post-truth”. *DESK: Quarterly journal of information culture*, 1, pp. 7-10.
- Padula, M. (2022). “Educarci ai media per educarci alla pace” (Educating ourselves in the media to educate ourselves for peace). *SIR: Society for Religious Information*. At: <https://www.agensir.it/mondo/2022/03/05/educarci-ai-media-per-educarci-alla-pace/>.
- Panão, M., *A tecnofilia do momento: CHATGPT. Além-Mar*, n° 732 (2023/2), p. 11.
- Pasqualetti, F., “Internet e Vangelo. Sviluppare una conoscenza che vada oltre l’utilizzo dei vari device. Il ‘Sabato’ sia al servizio dell’uomo, non viceversa” (Internet and the Gospel. Developing a knowledge that goes beyond the use of various devices. Let the ‘Sabbath’ be at the service of man, not vice versa). *L’Osservatore Romano* (18th November 2022). At: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/il-sabato-sia-al-servizio-dell-uomo-non-viceversa.html>.
- Pequenino, K. (2022). “Parlamento Europeu aprova leis para pôr fim ao ‘faroeste digital’” (“European Parliament approves laws to put an end to the ‘digital Wild West’). *Público*. At: <https://www.publico.pt/2022/07/05/tecnologia/noticia/parlamento-europeu-aprova-leis-fim-faroeste-digital-2012551>.
- Pequenino, K. (2023). “Musk e especialistas apelam a pausa no desenvolvimento de inteligência artificial. ‘Há riscos para a sociedade’” (Musk and experts call for a pause in the development of artificial intelligence. ‘There are risks for society’). *Público*. At: https://www.publico.pt/2023/03/29/tecnologia/noticia/musk-especialistas-apelam-pausa-desenvolvimento-inteligencia-artificial-ha-riscos-sociedade-2044251?utm_source=notifications&utm_medium=web&utm_campaign=2044251.
- Pequenino, K. and Reuters (2023)., “Gigantes tecnológicas preparam-se para nova Lei dos Serviços Digitais” (Tech giants prepare for new Digital Services Act). *Público*. At: <https://www.publico.pt/2023/08/24/tecnologia/noticia/gigantes-tecnologicas-preparamse-nova-lei-servicos-digitais-2061115>.
- Persivale, M., “Musk e la bufala seriale della sfida a Zuckerberg. Lui rifiuta l’incontro” (Musk and the serial hoax of the challenge to Zuckerberg. He refuses the meeting). *Corriere della Sera*, p. 23 (18th August 2023).
- Piro, I. (2022, 18 November). “La tutela dei contenuti audiovisivi e multimediali – Contro il lato oscuro della tecnologia” (The protection of audiovisual and multimedia content – Against the dark side of technology). *L’Osservatore Romano* (18th November 2023). At: <https://www.osservatoreromano.va/it/news/2022-11/quo-264/contro-il-lato-oscuro-della-tecnologia.html>.
- Pisa, P. L., “Nuovo allarme sulla IA, ora i padri dell’hi-tech parlano di ‘estinzione’” (New alarm on AI, now the fathers of hi-tech speak of ‘extinction’). *La Repubblica*, p. 15 (31st May 2023).
- Polidoro, M. (2019), “Occhio alle fake news!” (Watch out for fake news!), In Bronner, G. (2019), pp. 7-11.

- Quintana, O., (2023). *Sobre la tecnología*, Cuadernos Cristianisme i Justícia, 231, Enero 2023. Accessible in Spanish, English and Catalan: <http://www.cristianismeijusticia.net/es/sobre-la-tecnologia>.
- Severgnini, B.. “Musk e Zuckerberg gladiatori egocentrici” (Musk and Zuckerberg egocentric gladiators). *Corriere della Sera*, p. 25 (13th August 2023).
- Signorile, M., “Educare all’Intelligenza Artificiale. L’insegnamento della religione e la rivoluzione digitale – Sul confine tra materia e spirito” (Educating for Artificial Intelligence. The teaching of religion and the digital revolution – On the border between matter and spirit). *L’Osservatore Romano*. (22nd September 2022). At: <https://www.osservatoreromano.va/it/news/2023-09/quo-218/sul-confine-tra-materia-e-spirito.html>.
- Soukup, P. A., “25 anni di Google” (25 years of Google). *La Civiltà Cattolica*, no. 4135, pp. 50-64 (1-15 October 2022).
- Tito, C., “IA, il primo passo di Europa e Usa. Pronto un regolamento comune” (AI, the first step by Europe and the US. Common regulation ready). *La Repubblica*, p. 15 (1st June 2023).
- Tonacci, F., “Kiev: L’esercito di *hackers* che difende l’Ucraina sparando dal pc” (Kiev: The army of hackers defending Ukraine by shooting from the PC). *La Repubblica*, p. 8 (19th March 2022).
- Tondo, L., “Guerra in Ucraina/Il fronte. Professione reporter – Piombo e *fake news*” (War in Ukraine/The frontline. Profession reporter – Lead and fake news). *L’Espresso*. 12, pp. 26-32 (27th March 2022).
- Walton, A., “L’intelligenza artificiale e la lotta ai reati informatici” (Artificial intelligence and the fight against cybercrime). *L’Osservatore Romano*. (19th May 2023). At: <https://www.osservatoreromano.va/it/news/2023-05/quo-115/l-intelligenza-artificiale-e-la-lotta-ai-reati-informatici.html>.

Documents of the Magisterium of the Church

- Conferência Episcopal de Moçambique (CEM). *Nota Pastoral* da Conferência Episcopal de Moçambique. Maputo, 11 November 2022.
- Francis (2013). Apostolic Exhortation *Evangelii Gaudium* – On the proclamation of the Gospel in today’s world. At: https://www.vatican.va/content/francesco/pt/apost_exhortations/documents/papa-francesco_esortazione-ap_20131124_evangelii-gaudium.html.
- Francis (2022). *Message of the Holy Father Francis to the participants of the World Congress of SIGNIS*, held in Seoul, Republic of Korea, 16-19 August 2022. At: <https://www.vatican.va/content/francesco/it/messages/>.
- Francis (2023). Address to participants at the meeting “AI Ethics: An Abrahamic commitment to the Rome Call”, promoted by the Pontifical Academy for Life and the Renaissance Foundation, 10th January 2023, at the Vatican. At: <https://www.osservatoreromano.va/it/news/2023-01/quo-007/la-vita-di-un-uomo-non-puo-essere-affidata-a-un-algoritmo.html>.
- Francis (2023). Apostolic Exhortation *Laudate Deum* – On the climate crisis. At: https://www.vatican.va/content/francesco/pt/apost_exhortations/documents/20231004-laudate-deum.html.

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