

Cyberspace: Ethical Issues and Catholic Perspectives

Author: Wojciech Moranski

Persistent link: <http://hdl.handle.net/2345/bc-ir:107473>

This work is posted on [eScholarship@BC](#),
Boston College University Libraries.

Boston College Electronic Thesis or Dissertation, 2017

Copyright is held by the author, with all rights reserved, unless otherwise noted.

Boston College School of Theology and Ministry
Academic Year 2016-2017

Cyberspace: Ethical Issues and Catholic Perspectives

A Thesis Submitted in Partial Fulfillment
of the Requirements for the S.T.L. Degree
from the Boston College School of Theology and Ministry

By: Wojciech Moranski, S.J.
Director: Andrea Vicini, S.J., PhD
Second Reader: Prof. Richard Spinello, PhD

April 2017

Table of Contents

Introduction.....	2
Chapter 1: The new dimensions of liberty in cyberspace	5
1.1. Freedom as a central value on the internet.....	5
1.1.1. What is freedom?	5
1.1.2. Freedom in the technology of the internet	9
1.1.3. Hackers	13
1.1.4. Richard Stallman and the Free Software Movement	14
1.1.5. Freedom of digital content	17
1.1.6. Freedom in Cyberspace.....	18
1.2. Some ethical issues in cyberspace	19
1.2.1. Intellectual property in cyberspace	19
1.2.2. Right to free speech	23
1.3. Conclusion	27
Chapter 2: Moral Theology of the Internet.....	29
2.1. Did God create the internet?	29
2.2. Being co-creators: moral consequences.....	34
2.2.1. The divine perspective	34
2.2.2. The perspective of the human	37
2.2.3. The perspective of cyberspace as a gift of God	38
2.3. Theological reflections on human action in cyberspace	40
2.3.1. Cyberspace as a structure of grace.....	41
2.3.2. Cyberspace as a structure of sin.....	46
2.3.3. Jesus Christ as the Savior of Cyberspace.....	52
2.4. Virtues in video games.....	58
2.4.1. Transhumanism in video games.....	60
2.4.2. Moral implications of transhumanism in video games	68
2.4.3. Video games and virtuous behavior.....	74
2.4.4. Faith, Hope, and Charity in video games.....	78
Conclusion	83
Bibliography	84

Introduction

In 1941 the Argentine author and librarian Jorge Luis Borges published a collection of his stories containing, among other things, the one short story titled “The Library of Babel.” This short text describes in detail a fictional, mysterious, unlimited, and eternal library that contains all possible books. Borges carefully narrates the architecture of the library underlining its simple and repetitive structure of similar galleries of shelves. “The arrangement of the galleries is always the same: Twenty bookshelves, five to each side, line four of the hexagon’s six sides; the height of the bookshelves, floor to ceiling, is hardly greater than the height of a normal librarian.”¹ Even the books have very unified form, covers and typefaces.

Nevertheless, such a seemingly unlimited source of knowledge is useless. Since the library consists of all possible books, the vast majority of them are meaningless strings of letters. Humanity, as described by Borges, continuously investigates the library and develops theories about the structure and qualities of this peculiar set of books. One of these theories claims that the library is *total*, which means that it consists of all books in all languages. “*All* – the detailed history of the future, the autobiographies of the archangels, the faithful catalog of the Library, thousands and thousands of false catalogs, the proof of the falsity of those false catalogs, a proof of the falsity of the true catalog (...).”² This theory of the totality of the library, on the one hand, made people briefly very joyful and happy to have access to the priceless treasure. On the other hand, the inability to find any useful book drove people into prolonged depression. The awareness that each book can narrate the truth or a lie and that there is no way to find which is correct, additionally fostered this hopelessness. Many divisions arose between people who were

¹ Jorge Luis Borges, “The Library of Babel,” in *Collected Fictions*, trans. Andrew Hurley (New York: Viking, 1998), 112.

² *Ibid.*, 115.

trying to find the true meaning of the library, and this led some people even to fight, kill or commit suicide. Nevertheless, there are many who tirelessly believe there is some *Order* in the library.

Jorge Borges could not imagine the internet when he was writing this story. Nevertheless, his intuitions, in my opinion, fit very well to the reality of cyberspace that we experience today. As in the Library of Babel, the internet gives all of us access to seemingly unlimited sources of knowledge organized in a very standard way. Nevertheless, the access to *All* is at the same time a blessing and a curse. The search for meaning in cyberspace does not seem easier than in this mysterious library. The internet frequently becomes a source of divisions and of immoral behavior. Therefore, cyberspace, as the Library of Babel, requires a careful investigation and a search for true meaning. Following the intuition of Borges, I too believe that there can be found an *Order* in our contemporary *digital library*.

In this thesis, I try to make a small contribution to this search for an *Order* in cyberspace. In the first chapter I study some new dimensions of freedom, which arose together with the development of the internet. I present the technology and the culture of hackers as two sources of a new understanding of liberty in cyberspace. I also highlight two moral issues, which are present in cyberspace, and that, in my opinion, were caused by this redefinition of freedom.

In the second chapter, I try to apply Christian moral theology to address, interpret, and suggest some possible solutions for some ethical issues in cyberspace. In order to build a theological foundation to address further considerations, I study the relation between God's plan of creation and the rise of the internet. In the second section of this chapter, studying the issue of hate speech online and the phenomenon of *Wikipedia*, I present cyberspace simultaneously as a structure of sin and a structure of grace. The theology of the Trinity, and of Jesus as the Word of

God, help me to give some Christian interpretation of this discrepancy. In the last section of this chapter, I study the phenomenon of video games, particularly online multiplayer games. I identify a deep relation between the video game culture and transhumanism, and I address its implications for morality. However, I also find some ethical virtues particularly present in the community of gamers. Finally, I identify some occurrences of the three theological virtues, faith, hope, and charity, in the virtual world of video games. This helps me to give some Christian moral interpretation of the virtual world of video games.

Chapter 1: The new dimensions of liberty in cyberspace

1.1. Freedom as a central value on the internet

Freedom and liberty are central values for humanity in many aspects of its life: personal, socio-political, ethical and even religious. The topic of freedom, therefore, has already been deeply studied in different contexts. Nevertheless, I believe, the development of the internet can provide some new light on how we understand the development of human freedom. The internet is not only a technology or a means of communication, but it allows new kinds of social relations, bonds, and values to emerge. In other words, cyberspace can be treated as a kind of new society, at least in some analogical way.

In cyber-society the idea of freedom also belongs to its core values. Nonetheless, there can be observed a series of paradigm shifts around the notion of liberty. There are numerous examples, which show that cyber-society evolves from a kind of anarchy to a much-regulated and controlled culture. The history of the internet is relatively short and the social changes that occur in it are relatively rapid; therefore, cyberspace seems to be an interesting and efficient study case for the concept of social liberty.

1.1.1. What is freedom?

As I mentioned before the idea of freedom or liberty can be analyzed from various perspectives: philosophical, socio-political, ethical or religious. Probably the complete answer about what freedom is should integrate all of those dimensions. Nonetheless, in this paper I try to focus mainly on the socio-political and ethical facets of liberty. Naturally, some references to the philosophical aspect of freedom will be inevitable.

I use the term liberty as a synonym for freedom following the *Oxford English Dictionary*.³ Nevertheless, there exist some other sources that distinguish freedom as a power to act according to one's own will, from liberty as an absence of external coercion.⁴ Both those meanings of liberty – the positive: power to act, and the negative: absence of external coercion – are partial but valid definitions of liberty. The socio-political aspect of liberty can be understood as a “freedom from arbitrary, despotic, or autocratic control or independence from a foreign power, monarchy, or dictatorship.”⁵ Moreover, the *Oxford Dictionary* defines a series of socio-political freedoms (plural) that are some common properties of a given society: liberty of speech, liberty of conscience, and liberty of religion.⁶ In other words, liberty can be understood as unrestricted access to specific goods, things, or values. Freedom of speech, particularly seems to be one of the most appreciated values in cyber-society.

It is worth mentioning that liberty should always be subordinated to justice, which is, or at least should be, the principal social value. In other words, in many social contexts, the value of liberty is not the ultimate one and it can be reduced if a particular notion of justice requires it. For example, the liberty of some individuals who are destroying the social order, harming others, or in some other way are acting unjustly, can be and should be radically reduced. This happens, for instance, when some criminals are captured and imprisoned.

In philosophy, the socio-political liberty is usually defined by the social contract embodied in the law. For instance, John Locke in his book *Two Treatises on Government* states:

³ “Liberty, n.1,” *OED Online* (Oxford University Press), accessed November 4, 2016, <http://www.oed.com/view/Entry/107898>.

⁴ “Liberty,” *Wikipedia*, September 14, 2016, <https://en.wikipedia.org/w/index.php?title=Liberty&oldid=739473827>.

⁵ “Liberty, n.1.”

⁶ *Ibid.*

Freedom of nature is to be under no other restraint but the law of nature. Freedom of people under government is to be under no restraint apart from standing rules to live by that are common to everyone in the society and made by the lawmaking power established in it. Persons have a right or liberty to: (1) follow their own will in all things that the law has not prohibited; and (2) not be subject to the inconstant, uncertain, unknown, and arbitrary wills of others.⁷

In other words, John Locke postulates that the freedom of acting has at least two major limits: the law and the liberty of others.

A more complete understanding of social liberty is provided by John Stuart Mill in the first chapter of his book *On Liberty*.⁸ Firstly, he presents a brief history of the development of social liberty. The primal state of society is a tyranny, where society is subordinated to the will of the oppressive ruler. The next step in social development established some limits on rulers, to prevent abuse of their power against the interests of their subjects. The next step is an understanding of power as a representation of the interest of a nation. In other words, rulers are elected representatives of society. This latter setup would seem to be the perfect one because the supreme power belongs to society and any control over society does not seem necessary. Nevertheless, history has shown that, in a specific context, society can be even more tyrannous than individual leaders.

The last historical step of social development is democracy, where the interests of different social groups have a right to be represented and defended. Nonetheless, even

⁷ John Locke, *Two Treatises on Government: A Translation into Modern English* (Manchester, UK: Industrial Systems Research, 2013).

⁸ John Stuart Mill, "On Liberty," in *On Liberty and Other Essays*, Oxford World's Classics (Oxford; New York: Oxford University Press, 1998), 5–17.

democracy has tendencies to corrupt and impose the power of the majority over those who are less represented or simply weaker.

Therefore, as Mill concludes, in order to create a just society, some civil rights of every individual have to be respected. The most important civil rights according to him are: liberty of conscience, liberty of thought and feeling, absolute freedom of opinion and sentiment on all subjects, liberty of expressing and publishing opinions, liberty of tastes and pursuits, freedom of framing the plan of one's own life, liberty of doing as one likes but with the responsibility for all consequences of one's acts, and the liberty to unite. Mill writes that "no society in which these liberties are not, on the whole, respected, is free, whatever may be its form of government; and none is completely free in which they do not exist absolute and unqualified."⁹

The dynamic evolution of the concept of liberty in human history finds its analogies in the development of cyber-society. Similarly, as an offline civil society, the human structures on the internet are evolving from the primordial anarchical state (the age of hackers), through some tyrannies of the mightiest (big internet companies), to some civil consciousness and some cyber-civil rights (as for instance regulations on personal data protection or the right to be forgotten).¹⁰

It is worth mentioning that Mill's ideas found their global application in the Universal Declaration of Human Rights. Unfortunately, to declare essential rights does not mean that all those rights are respected, and cyberspace is surely not an exception. We are continuously aiming at of creating a more just society both offline and online.

⁹ Ibid., 15.

¹⁰ See Alessandro Mantelero, "The EU Proposal for a General Data Protection Regulation and the Roots of the 'Right to Be Forgotten,'" *Computer Law & Security Review* 29, no. 3 (June 2013): 229–35.

The notion of liberty in cyberspace finds some analogies to the common understanding of freedom. Nonetheless, the internet has many specific properties that require to be addressed to clarify what it means to be free in the digital era.

1.1.2. Freedom in the technology of the internet

The principal idea for the creation of the internet was to provide an efficient, fault-tolerant, universal, point-to-point, bidirectional, and distant connection. Earlier on late 1960s, ARPANET, the ancestor of the internet, was designed for military purposes, but it soon found efficient applications in science and finally expanded to civil and commercial purposes.¹¹ That characteristic of the internet shows some inborn values encoded in its technological design.

First, since communication is the principal value in cyberspace, it follows that the majority of liberties and ethical issues in cyberspace are related to content or to ways of exchanging information. Moreover, the internet depends on direct, bidirectional, point-to-point communication. This means that occurred a paradigm shift in communication, which up to then was realized through traditional media such as press, radio, and television, which were based usually on the model of unidirectional information-hubs. The digital era provided a possibility for all network users to be not only receivers of information but also publishers. In other words, the internet allowed a simple user to publish his or her ideas to the whole world by a simple mouse click. Modern internet technologies also allow communicating with precisely selected group of receivers. That property has significantly changed the way of thinking about, for instance, advertisement campaigns; it probably also was one of the principal reasons for the

¹¹ See Janet Abbate, *Inventing the Internet* (Cambridge, MA: The MIT Press, 1999), 113–46.

success of Google, whose main income comes from commercials presented only to those users who may be potentially interested in them.

The fault-tolerant property of the internet provides another specific value: there is no privileged point nor route in the network. Everybody can communicate with anybody without any limits or barriers, and if there is any break or wire cut, the internet technology automatically finds another route to deliver the message. In other words, natural, geographic, cultural, and political frontiers became less important. For instance, in Spring 2015 the Russian Government secretly tried to test how their national network would react if cut off from the internet. The experiment failed because they were unable to control all the small network providers with independent internet connections such as satellite ones. Officially, the Russian Government denied that such an experiment took place. Nonetheless, some Russian experts claim that it was an example of the Kremlin's internet security policy that is taking seriously digital threats from outside the country and wants to control the information flow inside.¹² Nonetheless, the technology of the internet seems to resist such attempts.

The universality of communication brings an additional value: there is no any privileged type of content. Anything that can be digitalized (written with a binary code) can be transmitted through the network. This means also that, as long as the user applications follow the commonly approved protocols of the internet, all sorts of data can be transmitted, no matter what they may mean for a sender and a receiver. This property makes the internet very powerful and apparently an uncontrollable tool. On the lower levels of the internet architecture there are not regulations or limits on what type of data and what amount of it can be transmitted. For the internet backbone

¹² Roland Oliphant, "Russia 'Tried to Cut Off' World Wide Web," *The Telegraph*, October 15, 2015, sec. World, <http://www.telegraph.co.uk/news/worldnews/europe/russia/11934411/Russia-tried-to-cut-off-World-Wide-Web.html>.

routers, each packet (the basic information flow unit) has the same meaning: some amount of data with some internet protocol (IP) address numbers representing the sender and the receiver. In other words, the internet in its basic structure does not provide any mechanism for filtering or blocking certain sorts of content. Moreover, the amount of data that flows through the main backbone routers makes it practically very difficult to enable any mechanisms that would interpret transmitted data. Therefore, even if the filtering, blocking, or eavesdropping of the internet communication is possible, it is usually realized at the endpoints of the communication, on the victims' machines or on the content-providing servers.

There is another property of cyberspace, anonymity, that, however, was not planned and was hardly encoded on the internet protocols. The communication between two nodes is possible thanks to their IP addresses. An IP address is a 32bit number usually represented as four numerals 0-255 separated by periods. This means that IP architecture allows only four billions values. IP addresses need to be unique in the whole internet, and in the past were usually assigned statically for each device in the Net. Therefore, at the beginning of the development of the internet each host was easily identifiable by its IP address just as we identify people by their telephone numbers. Nevertheless, the increasing number of devices connected to the network made it impossible to assign unique and lifetime IP address for everybody. Therefore, at least two methods were developed to deal with this problem. The first is dynamic address assigning. In that method the device connected to the internet receives an IP address temporarily only for the time it is connected to the network. After that, the same address can be assigned to another device. The second method is Network Address Translation (NAT). This method requires only one IP address for the machine that serves as an internet gateway. This gateway is an intermediary between the locally connected devices and the global network. Today, usually

home Wi-Fi routers are gateways that act in that way and allow internet access for all home devices such as laptops, tablets, mobiles, etc. In the local network there can be many locally and independently assigned IP addresses. From the perspective of the global internet, the local network, for instance, of all home devices, is hidden behind the gateway and appears as a single host.

Both of these methods, together with the increasing scale of the internet, caused a certain anonymization of communication in cyberspace. There is no global record of who is an owner of a particular IP address. Even if the internet service providers have their own records of assigned IP addresses, identification of the users on the internet were for a long time practically very difficult. Therefore, even if new geo-localization techniques allow to precisely localize an internet user, for many anonymity became another deeply appreciated value in cyberspace.

To sum up, the technology of the internet consists in a set of values and liberties that are deeply encoded in the definition of internet protocols. The first value is a kind of equality of each node in the process of communication; in other words, there are no privileged hubs and each node can communicate bidirectionally with others with the same rights. The second value is freedom from geographical or political frontiers. The communication on the internet, even if mediated by the routers, is usually free from any blocking, limiting, or filtering. The third value is the universality of the network; the internet has no designed limits to the possible purposes of its usage, and possible applications depend only on the creativity of the users. Finally, as an effect of the development of the internet, the value of anonymity or freedom from revealing one's true identity became another characteristic of cyber-society. All of those technologically encoded values and liberties found their expressions in specific cyber-movements, subcultures, and projects.

1.1.3. Hackers

It seems that the first who used the wide freedoms given by the internet were hackers. In ordinary speech, *hackers* are usually related to some kind of cyber-criminals whose only goal is to destroy the established order of the Net. Nonetheless, this meaning is not always true. Among computer experts, *hacker* usually mean a person with high technical skills, very creative, and with the ability to solve problems in unusual ways. In other words, in both meanings *hackers* are always persons who dominate technology to such a level that it gives them some kind of new power and a new kind of freedom.

Hackers existed even before the era of the internet. Probably the best known example of pre-internet hacking is John Draper, known as “Captain Crunch”, who has phreaked the AT&T telephone system using a toy whistle packed with “Captain Crunch” cereals. The tone generated by this whistle allowed him to obtain the operator mode of the AT&T system and make free long-distance calls. In order to dial the number, he designed an electronic tone generator called the Blue Box, which became very popular among hackers, and was frequently reproduced by them.¹³

For a long period Kevin Mitnick avoided an arrest by the FBI by using very advanced techniques such as: cloning cellular phones, obtaining unrestricted access to many commercial or federal systems, social engineering, and others. Finally, he was caught and imprisoned for five years. After his release on January 21, 2000 he became a paid security consultant, public speaker, and author of cybersecurity books.

¹³ Ralph Lee, *The Secret History of Hacking*, Documentary (The Learning Channel, 2001).

1.1.4. Richard Stallman and the Free Software Movement

Probably the best known hacker who advocates directly for freedom in cyberspace is Richard Stallman. He entered the community of hackers when he was working as a programmer at the MIT Artificial Intelligence Laboratory in the years 1971-1984. The group of skilled programmers and computer systems specialists in that laboratory called themselves hackers to underline their high creativity and high technical skills in operating and repairing systems in the lab. Richard Stallman was one of them. Among hackers in the AI Lab there existed an atmosphere of openness, free sharing of ideas and solutions. Naturally, the whole source code of developed programs were accessible to everyone both inside and outside the lab. Everybody could use, change, repair, or improve a code written by somebody else. For instance, Richard Stallman designed a nice, effective solution for the laser printer that was part of the lab, thanks to the fact that the source code of the driver of that printer were available.¹⁴

By the beginning of the 1980's, when the software business started to grow, some companies refused to make the source code of their programs available to everybody, thus limiting access even for the members of MIT's AI Lab. For Richard Stallman and some of his friends this was perceived as a personal attack on their highly esteemed value of freedom. Deeply concerned by this event he started to advocate for free access to software source code.

Why is free access to source code so important? In order to design a computer program, developers usually use some programming language, similar to notation in algebra. The text written using this notation is called the source code of the program. Programming languages always allow to include some comments written in the natural language (e.g., in English) in the

¹⁴ Sam Williams, *Free as in Freedom: Richard Stallman's Crusade for Free Software* (Boston: Free Software Foundation, 2010), 1–10.

source code, which helps people to understand it and, if necessary to modify, repair, or reuse the code in other projects. Nevertheless, computer systems operate thanks to the simple instructions encoded in binary form. Therefore, the source code has to be translated into a string of numbers in order to be executed by the computer. This process, called a compilation, is usually one-way; a compiled binary program is practically impossible to un-compile. Moreover, all comments and other elements of the natural language are excluded from the binary code.

When the software business started to grow the distribution programs exclusively in binary form became a way of protecting the intellectual property of the source code. Nevertheless, binary programs can be used only in the way that they were designed, and any repair or modification can be done only by the company that owns the source code.

In the opinion of Richard Stallman that approach violates the freedom of usage of computer programs. In order to illustrate that violation, he usually shows the analogy between the source code and a cooking recipe. Both a computer program and a recipe are in fact lists of instructions, following which we can obtain some expected effect. Nevertheless, cooking recipes are not protected by any property rights, moreover they are distributed in the open form that allows everybody to study, modify, develop, and freely share recipes. The binary code of computer programs does not allow that.

As an act of protest against this injustice, Stallman and a group of hackers, who shared his ideals, started a new social movement that advocates for *free software*. In their understanding, free software must respect the following freedoms: anybody can run the program for any purpose; anybody has the right to study how the program works, which requires access to the source code, and to modify it; and anybody is allowed to redistribute copies of programs both original and modified.

The free software movement not only advocates for, but also actively produces free software. Probably the most recognized project of the movement is the GNU/Linux operating system, which is the most popular system on internet servers and on supercomputers, and finds many applications on desktop computers, mobile phones, and other household devices like smart TVs, multimedia players, and others. In order to protect the free software philosophy, the General Public License (GPL) has been developed. Every software publisher who wants to use this license must provide an easily accessible source code of its programs. Moreover, anybody who wants to use any element of free software in a particular project must publish the whole project under the same license.

This approach was highly criticized by the top software companies. In 2001, Steve Ballmer, CEO of Microsoft, undermined the openness of free software by saying that the GPL license makes that software unavailable for commercial companies. He said that “Linux is not in the public domain. Linux is a cancer that attaches itself in an intellectual property sense to everything it touches.”¹⁵

Nevertheless, Linux found plenty of applications in commerce. Probably the biggest success is the adaptation of a Linux kernel Google made for the mobile devices. Google Android, the most popular operating system for mobile devices, is an excellent example of how the ideals of the free software movement have been transformed into high quality and extremely popular end-user products. Eventually, even Microsoft recognized the potential of the community of hackers working for free and open software and joined the Linux Foundation as a

¹⁵ Dave Newbart, “Microsoft CEO Takes Launch Break with the Sun-Times,” *Chicago Sun-Times*, June 1, 2001, <https://web.archive.org/web/20011108013601/http://www.suntimes.com/output/tech/cst-fin-micro01.html>.

platinum member, donating \$500,000 for the development of this project, joining Google, Facebook, and Samsung.¹⁶

1.1.5. Freedom of digital content

The success of free software would not have been possible if there was no internet. The collaboration among hackers advocating for free source was possible thanks to assuming and reinterpreting all the values of cyberspace that I presented before: equality of each node in the network, independence from geographical location, universality of the application of the network, and anonymity. In other words, the software freedom promoted by Richard Stallman and his followers assumes the respect of the basic freedoms of the internet, and proposes new kinds of liberties: “freedom to run, copy, distribute, study, change, and improve the software.”¹⁷

These freedoms are not limited only to software. The philosophy of freedom promoted by Stallman inspired other creators of digital content. Writers, artists, and scientists started to publish their works under specific free licenses. For instance, some variants of the Creative Commons license fulfill strict requirements of General Public License and works of art such as texts, images, audio and video creations, are free just like free software. Many popular media hubs like YouTube, Flickr, Soundcloud, and others allow users to publish videos, photos, or audio recordings under free licensing.

Probably the most successful project based on the philosophy of free content is *Wikipedia*, the biggest free online encyclopedia. The idea that stands behind that project is similar to the free software philosophy; it respects all the basic freedoms of digital content: to

¹⁶ “Microsoft Partners with Old Rival Linux Foundation,” *BBC News*, November 17, 2016, sec. Technology, <http://www.bbc.com/news/technology-38012708>.

¹⁷ “What Is Free Software?,” *Gnu.org*, accessed November 29, 2016, <https://www.gnu.org/philosophy/free-sw.en.html>.

use, copy, distribute, study, change, and improve it. Thanks to its massive participation, *Wikipedia* has collected more than 40 million articles in more than 250 different languages.¹⁸ There is still open debate about the accuracy of *Wikipedia's* articles; nonetheless research made by *Nature* in 2005 shows that the quality of content in *Wikipedia* is not far away from *The Encyclopædia Britannica*.¹⁹ Without doubt, *Wikipedia* is not an ideal source of knowledge; nonetheless it exceeds any available commercial product in its scale, quality, and in the level of user participation. In other words, *Wikipedia* has enabled people around the world to create a value probably impossible to achieve by any other means available on the market.

1.1.6. Freedom in Cyberspace

As I have tried to show, the development of the internet has created a new space for particular freedoms. Some values rooted in the technology of the global network indicate a specific understanding of freedom in cyberspace: equality, independence from geographical or political frontiers, universality, and anonymity. The culture of hackers and the philosophy of free software, which grew up on those values, significantly improved them, postulating some additional freedoms: free access to software and other digital products, possibility to study, modify, and improve those products, and no limits on redistribution both original and modified content.

In my opinion, all these freedoms, both rooted in technology and postulated by the free software movement, have significantly shaped the culture of cyberspace, allowed a new kind of

¹⁸ “Wikipedia,” *Wikipedia*, November 29, 2016, <https://en.wikipedia.org/w/index.php?title=Wikipedia&oldid=752077036>.

¹⁹ Jim Giles, “Internet Encyclopaedias Go Head to Head,” *Nature* 438, no. 7070 (December 15, 2005): 900–901.

social solidarity and communal creativity to emerge, and led to the creation of extremely useful projects with very high and unique value, probably unachievable by commercial means.

Since each freedom creates a space for new kinds of activities, it opens the door not only to new positive achievements, but also creates new kinds of ethical issues. In some cases, the positive ideal of freedom in cyberspace was over-interpreted and abused; this let new kinds of misbehaviors, misconducts or even crimes to emerge. In the next section I study some of those abuses of cyber-freedoms.

1.2. Some ethical issues in cyberspace

In his well-known book *Code and Other Laws of Cyberspace* Lawrence Lessig defines the four regulators that shape the internet: law, the market, norms, and code.²⁰ All these constraints interact among themselves and can support each other or be in conflict. In the previous section I described the values represented by the technology of the internet which, in Lessig's understanding, would be *a code*. The hacker culture and its specific values and ideals, which shaped the whole cyber-culture, are close to what Lessig calls *norms*. As I tried to show, both of those dimensions were originally in symbiosis and supported each other. Nonetheless, the relation with the market and with the law was not always compatible.

1.2.1. Intellectual property in cyberspace

The problem of violation of intellectual property existed long before the internet. Nevertheless, new digital technologies and the ease of copying and publishing content in the global network have made this issue much more actual and problematic. Digital piracy is one of

²⁰ Lawrence Lessig, *Code*, Version 2.0. (New York: Basic Books, 2006), 123–24.

the most important issue that disturbs the fair exchange of goods on the internet, and shapes the recognition of digital freedom, both for publishers and for users.

The history of intellectual property rights starts with the development of the publishing companies in 16th century. In order to care about their interests, they were signing exclusive agreements with authors upon publishing their books. At the same time, those who were not respecting those agreements were called *pirates*.²¹

Technological development, which allowed the invention of copiers, fostered the phenomenon of piracy, each time more efficiently. Finally, the rise of the digital networks created a possibility to copy and distribute any type of content without need of any additional resources and practically effortlessly. As the internet made it possible for everybody to become a publisher, it also made it possible for everybody to become a pirate as well. Moreover, the ideals promoted by the Free Software Movement awakened dreams about digital content always and totally free of charge. The development of tools such as Napster, KaZaA and BitTorrent is an example of making these dreams come true.

The answer of the market to the problem of piracy was initially very conservative and based on an aggressive legal approach. The famous lawsuits against companies, which were developing tools for piracy, on the one hand showed how powerful the market could be when supported by the states, but on the other hand, proved to be ineffective in facing the digital reality. The creativity of internet users was, and still seems to be one step ahead of the market. Long and costly trials, even if effective in particular cases, were unable to solve the whole

²¹ See Lionel Bently, Jennifer Davis, and Jane C. Ginsburg, *Copyright and Piracy: An Interdisciplinary Critique* (Cambridge, UK: Cambridge University Press, 2010), 276.

problem, and new technologies, which were yet legally undefined or neutral, were always coming up.²²

The next step of the market was the use of technology against the problem of piracy. Tools based on cryptography, such as Content Scramble System (CSS) and Digital Right Management (DRM) are good examples of how the market, supported by law, used technology to fight against copyright abuse. Nevertheless, even this methodology is not as efficient as it was expected to be. The famous case of Jan Johansen of Larvik, who designed the DeCSS mechanism, which easily broke the CSS protection, shows that technology is neutral in this conflict and can be readily used by both parts of the conflict.²³

Probably the best approach to address the problem of piracy was initiated by Apple which designed the iTunes Store service in 2003. Instead of fighting with piracy, the producer of iPod MP3 player provided a new way to distribute music, based on a modern, networked approach. Instead of forcing customers to use traditional, time-consuming, and inconvenient selling channels, which usually offered whole albums of music on some carrier such as tape or CD, Apple provided a fast way of selling music through the webpage, allowing users to select individual particular songs. Naturally, the price was also adjusted to the current selection of files. Combining this functionality with the automatic synchronization with all Apple devices (iPod, iPhone, iPad), made iTunes the biggest music store in the world, selling in 2010 more than 10 billion songs.²⁴

²² See Richard A. Spinello, *Cyberethics: Morality and Law in Cyberspace*, 6th ed. (Burlington, MA: Jones & Bartlett Learning, 2017), 117–26.

²³ See *ibid.*, 126–29.

²⁴ “Apple - Press Info - iTunes Store Tops 10 Billion Songs Sold,” accessed December 5, 2016, <http://www.apple.com/pr/library/2010/02/25iTunes-Store-Tops-10-Billion-Songs-Sold.html>.

The idea initiated by Apple inspired other sellers and nowadays most of the biggest providers of music or files offer their products online with immediate shipment in digital form. Moreover, some big digital resellers like Netflix, Amazon, Spotify, or Google Play Music and others provide movies and music for a monthly flat subscription fee. This business model changes radically the understanding of what the object of trade is. For those who pay a monthly fee usually the whole library of music or movies is accessible without any additional payment. This means that the particular piece of art seems to be free, and only a service fee for providing high quality content is paid.

In my opinion, this approach in some way reconciles the pirate's ideals with the interest of publishers. The monthly subscription model is similar to the model of the majority of the internet service providers. I never heard any pirate complaining about the need to pay to the internet service provider for the access to the internet. The content on the internet may be free, but access to the internet requires some reasonable fee. Similarly, content providers such as Netflix or Spotify create the impression that the music or movies they provide are free, even if the service that provides access to this content is paid. This model has been extended to other branches of digital content as, for instance the Microsoft Office 365 pricing model, or some free-to-play video games. It is worth underlining that according to some investigations the introduction of the subscription model of pricing reduces the level of piracy.²⁵

Therefore, in my opinion, piracy can be understood as a state of conflict between two different notions of freedom: the publishers' exclusive copyrights and the users' freedom to distribute digital content. As I presented in the previous section, this liberty to redistribute any

²⁵Kristie Briggs et al., "Reducing Copyright Piracy Using Entrepreneurial Intermediary Platforms," *Journal of Entrepreneurship and Public Policy* 3, no. 2 (October 14, 2014): 306–16. and Brennan Scott Welter, "The Netflix Effect: Product Availability and Piracy in the Film Industry" (Master thesis, The University of Georgia, 2012), https://getd.libs.uga.edu/pdfs/welter_brennan_s_201212_ma.pdf.

content on the internet became a norm strongly promoted by the culture of hackers. Hence, speaking in Lessig's categories, piracy is an effect of the conflict between social norms in cyberspace, which support free access to content, versus the market, which advocates for freedom of selling content. Since all four categories (norms, code, the market, and law) have the power to shape the relations in cyberspace, it was ineffective to use one against another. The golden rule was to find a solution that could satisfy the tendencies of all four regulators and the model of pricing based on the cyclical subscription fee seems to be a good example for this task. In my opinion this solution, called sometimes "inculturation," not only reduced the problem of piracy, but through its creative approach increased the space for new freedoms; marketers received new tools for distributing content, and users gained access to a wide collection of high-quality materials.

1.2.2. Right to free speech

Freedom of speech is one of the principal human rights recognized by many cultures and by the international community. The Universal Declaration of Human Rights affirms that everyone has the right to "hold (...), seek, receive and impart information through any media and regardless of frontiers."²⁶ It seems that the development of digital communication technologies, especially the internet, has significantly facilitated the execution of this right. As I presented above, freedom of borderless communication is one of the principal values in cyberspace.

Nevertheless, the widening of freedom, which could mean the widening of a space for doing good, is at the same time a creation of new possibilities for doing evil. As we saw before, the ease of transmitting information on the internet has created a space for piracy. In an

²⁶ United Nations General Assembly, *Universal Declaration of Human Rights*. (Lake Success, NY: United Nations Department of Public Information, 1949), article 19.

analogical way, a new dimension of freedom of speech in cyberspace opened a space for a new kind of violence that in some cases leads to cyberbullying.

Recent research shows that cyberbullying is a serious issue, especially among adolescents, and can cause catastrophic effects on the self-esteem of victims.²⁷ In extreme cases, cyberbullying can lead even to suicide, as happened in the cases of 15-year-old Natasha MacBryde and 14-year-old Hannah Smith.²⁸ In other words, cyber violence usually has serious effects not only in cyberspace, but offline in people's lives.

There are numerous other ways to abuse free speech in cyberspace such as fake news, spam, phishing, pornography, violence, nudity and hate speech in video-games, incitement to terrorism, and others. Other possible abuses of the right to freedom of speech are mechanisms that arbitrarily filter, block, or censor access to specific content. This type of abuse is used in some cases by oppressive governments as in North Korea, the People's Republic of China, Iran, or Turkey.²⁹

The value of anonymity, which, as I stated before, became one of the principles of communication in cyberspace, is particularly important for problems related to the wrong usage of freedom of speech on the internet. Some researches show that the identity disorder caused by the high level of anonymity on the internet frequently entails some unethical behavior. For instance, analysis of anonymous and identified comments on a technology social news site,

²⁷ "The Annual Cyberbullying Survey" (Brighton, UK: Ditch the Label, 2013), <https://www.ditchthelabel.org/research-papers/the-cyberbullying-survey-2013/>.

²⁸ "Teenager in Rail Suicide Was Sent Abusive Message on Social Networking Site," July 22, 2011, sec. Technology, <http://www.telegraph.co.uk/technology/social-media/8653867/Teenager-in-rail-suicide-was-sent-abusive-message-on-social-networking-site.html>. Press Association, "Teenager Hannah Smith Killed Herself because of Online Bullying, Says Father," *The Guardian*, August 6, 2013, sec. Society, <http://www.theguardian.com/society/2013/aug/06/hannah-smith-online-bullying>.

²⁹ "Freedom on the Net 2016" (Washington, DC: Freedom House, November 2016), https://freedomhouse.org/sites/default/files/FOTN_2016_BOOKLET_FINAL.pdf.

TechCrunch.com, have shown that revealing the users identity is related to less swearing, less anger, more positive emotional words, and less negative emotion. Moreover, anonymous comments were “liked” less than pseudonymous comments.³⁰ Furthermore, the analysis between two popular social networks, Ask.fm and Instagram, has shown that the level of hate speech is negatively correlated to the level and quality of revealing one’s identity. In other words, the technology of Instagram, which encourages users to reveal more about who they really are, reduces the level of verbal aggression; Ask.fm, on the contrary, by allowing more anonymity, causes higher levels of hate speech and cyberbullying.³¹

Once again, the code works as a neutral element that, on the one hand, can allow problematic behavior to emerge, but, on the other hand, helps to solve it. There are other examples of the effective use of code that limits undesirable conduct in cyberspace. Antispam algorithms have already achieved almost one hundred percent efficiency.³² There are strong efforts to reduce the danger of phishing by using assisting technologies like Certificate validation or OpenDNS.

Probably the greatest challenge for both engineers and lawyers is to design effective solutions to the problem of cyber-pornography to protect children especially from any involuntary exposure to that type of content, and would not abuse freedom of access to that content for those who claim the right to it. In the U.S., there were many efforts to regulate this

³⁰ Eli Omernick and Sara Owsley Sood, “The Impact of Anonymity in Online Communities,” in *2013 International Conference on Social Computing (SocialCom)*, 2013, 533.

³¹ Homa Hosseinmardi et al., “A Comparison of Common Users across Instagram and Ask.fm to Better Understand Cyberbullying,” in *IEEE Fourth International Conference on Big Data and Cloud Computing (BdCloud)*, 2014, 355–62.

³² Cade Metz, “Google Says Its AI Catches 99.9 Percent of Gmail Spam,” *WIRED*, accessed December 8, 2016, <https://www.wired.com/2015/07/google-says-ai-catches-99-9-percent-gmail-spam/>.

area; none brought any final solution.³³ It seems that in this case we observe another conflict among four internet regulators: law and code are against social norms of a relatively large group of controversial individuals, and the black market of the porn business. Since norms and the market are very personally driven dimensions, I see no other solution than promoting justice and responsibility.³⁴

To sum up, the right to free speech in cyberspace finds new ways of efficient execution and, at the same time, new threats and abuses. The four-dimensional model of cyber-reality proposed by Lawrence Lessig seems to be effective in articulating a deep analysis of problems on the internet and finding their possible solutions. In most cases, the challenge comes from the conflict between some or all of Lessig's regulators. The problem of intellectual property in cyberspace was in my opinion caused by the conflict between the cyber-norms of free access to the content and the market that was defending its copyrights. In cases like spam, phishing or cyber-pornography, there is a conflict between the law, social norms, and the (black) market. In all of these cases the code plays an important role, but ethically it seems to be almost always neutral. Moreover, the proper use of the code can help to solve those problems as long as other regulators have a will to reconcile. The examples of the subscription model of paying for content, anti-spam algorithms, and some anti-phishing solutions are good examples of the effective use of the code and of creating new spaces of freedom.

³³ Spinello, *Cyberethics*, 70–83.

³⁴ See for example Tomas Lipinski, Elizabeth Buchanan, and Johannes Britz, "Agents of Harm or Agents of Grace: The Legal and Ethical Aspects of Identifying Harm and Assigning Responsibility in a Networked World," in *Readings in Cybernetics*, by Richard A. Spinello and Herman T. Tavani, 2nd ed. (Sudbury, MA: Jones and Bartlett Publishers, 2004), 214–252.

1.3. Conclusion

The classical definitions of freedom that I presented in the first part of this chapter point to law and human rights as a framework for the execution of liberty. Nevertheless, the analysis of freedom in cyberspace highlights new dimensions that are equally important in order to understand what freedom is. Following the model proposed by Lawrence Lessig, I tried to show that freedom on the internet depends on four dimensions: norms (or culture), law, the market, and code.

In the first section of this chapter, I showed the evolution of the concept of digital freedom looking at the values appreciated in cyber-culture. The first source of those values is the internet technology itself, which promotes the following ideals: equality, independence from geographical and political frontiers, universality, and anonymity. The second source of values in cyberspace comes from the culture of hackers, especially from the Free Software movement, who advocated for the following freedoms: free access to software and other digital products, possibility to study, modify and improve those products, and no limits on the redistribution of both original and modified content. In this section I affirmed that the technology (code) and the digital culture (norms) significantly shape the understanding of freedom for people in cyberspace.

In the second section I presented some conflicts or challenging cases that occur in cyberspace. The understanding of intellectual property in the cyber culture was different from the classical recognition of this term. In other words, the cultural values in cyberspace (norms), supported by the open architecture of the network (code), were in conflict with the interest of the market and with the law. In such a situation, the market and the law were perceived as dangers

for the freedom in the Net. Nevertheless, reconciliation was possible, at least in a partial way, and the market itself now benefits from new digital freedoms.

The problems that come from abusing the right to free speech are much more complex and varied. Nevertheless, most of them can be analyzed and diagnosed by using the Lessig's model. Some problems, such as spam and phishing, find analogical solutions applied to piracy through wise and mutual transformation of the conflict of interests. Solutions for other issues, like cyber-pornography and blocking or filtering of the Net by oppressive governments, are still in progress.

In his definition of freedom John Locke distinguished freedom of nature based on natural laws from human freedom based on established laws. In other words, he intended to separate radically human behavior from the environment where people live. Studying the concept of freedom in cyberspace I realized that the internet controlled by its code has great and important influence on the perception and execution of freedom. Moreover, cultural norms and market dynamics continue to play important roles. In other words, since people cannot be fully understood outside of their contexts, the concept of freedom has to be contextualized as well. Cyberspace is a new and challenging context, a new space of life that shapes both human freedom and the understanding of humanity per se.

Chapter 2: Moral Theology of the Internet

2.1. Did God create the internet?

It is not a coincidence that modern atheism arose during the great scientific and technological developments in the 19th and 20th centuries. In their writings, freethinking philosophers such as Ludwig Feuerbach, Arthur Schopenhauer, Karl Marx, Mikhail Bakunin, and Friedrich Nietzsche were critical of religion and of the religious way of describing and understanding reality. Feuerbach claimed that religion and the idea of God are purely human inventions in order to satisfy some psychological and social needs.³⁵ Nietzsche was proclaiming the death of God as a source of universal moral values.³⁶ Bakunin wrote that “the idea of God implies the abdication of human reason and justice; it is the most decisive negation of human liberty, and necessarily ends in the enslavement of mankind, both in theory and practice.”³⁷ Marx represents a similar social dimension of the critique of religion: “Religion is the sigh of the oppressed creature, the heart of a heartless world and the soul of soulless conditions. It is the opium of the people. The abolition of religion as the illusory happiness of the people is a demand for their true happiness.”³⁸

A similar approach to religion is also present in the writings of representatives of the so-called new atheism, such as Richard Dawkins, Christopher Hitchens, Sam Harris, and Daniel Dennett.³⁹ For instance, Dawkins claims that “the whole point of religious faith, its strength and

³⁵ See Ludwig Feuerbach, *The Essence of Christianity*, trans. Marian Evans (London: J. Chapman, 1854).

³⁶ See Friedrich Nietzsche, *The Gay Science: With a Prelude in German Rhymes and an Appendix of Songs* (Cambridge: Cambridge University Press, 2001), 120.

³⁷ Mikhail Aleksandrovich Bakunin, *God and the State* (New York: Dover Publications, 1970), 25.

³⁸ Karl Marx, *Critique of Hegel's "Philosophy Of Right"* (Cambridge: CUP Archive, 1977), 131.

³⁹ See Richard Dawkins, *The God Delusion* (London: Houghton Mifflin, 2006); Christopher Hitchens, *God Is Not Great. How Religion Poisons Everything* (New York: 12/Twelve, 2007); Sam Harris, *The End of Faith: Religion,*

chief glory, is that it does not depend on rational justification.”⁴⁰ In other words, contemporary atheism is based on the assumption that the human abilities to describe and transform the world, because of scientific methodology, are potentially unlimited; therefore, the religious discourse and the idea of an omnipotent and omniscient god is unnecessary, irrational, and no longer useful. In particular, the development of modern digital technologies and the internet have significantly fostered the popular notion of the potential omnipotence of the human as a species.

In this situation, the question “did God create the internet” is answered negatively; some would even argue that the question itself makes no sense at all. Why should we speak about God when we are describing the reality of cyberspace, the fruit of human ingenuity and of the long history of technological development? What does religion have to do with this extraordinary global digital tool?

The answer would be different for those who do not believe in God and for those who do. Even if the question may seem ridiculous to the former, I would argue that considering the hypothesis of the existence of a god might have some positive consequences.

Based on the scientific notion of natural selection and evolution, the new atheism claims that evolution as a universal biological process and the particular life of every living creature including the human no longer has any long-term goal.⁴¹ In other words, this purely scientific approach to the problem of life refuses to give any positive answer to some very important human questions such as “why is there something rather than nothing?”; “why do we live?”; “what is the meaning of life?”; etc. If there is no longer any long-term goal, the big questions on

Terror, and the Future of Reason (New York: W. W. Norton & Company, 2004); D. C. Dennett, *Breaking the Spell: Religion as a Natural Phenomenon* (New York: Viking, 2006).

⁴⁰ Dawkins, *The God Delusion*, 23.

⁴¹ See Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design* (New York: W. W. Norton & Company, 1986), 50.

the meaning of existence and life are pointless and absurd. Therefore, the development of ethics, the branch of philosophy and theology that tries to answer the question “what should we do?”, even if it is still possible to some extent, is much more difficult. Introducing the hypothesis of god as a source of values might help in designing an ethical system.

Moreover, purely scientific and technological discourse is rarely concerned with values such as beauty, goodness, and meaningfulness. The comprehensive description of any human reality, including cyberspace, requires some insights about values because they play an important role in human life. Each technological tool is situated within a value-laden context that should be recognized, appreciated, and described. To focus on values might help people to use technologies in ways that are more human and to avoid some ethical violations in using them. Religious discourse and Christian perspectives may significantly enrich a value-based use of technology.

Nevertheless, the question “did God create the internet?” probably is much more interesting for religious people, particularly for Christians. More preliminary questions surface: “does God want the internet?”; “is the internet good?”; “what is the human relation to this tool?”; and finally “how should we behave in cyberspace?”

A possible answer to the question “does God want the internet?” might be found in the book of Genesis. In the first creation (Gen 1) we read: “God blessed them and God said to them: Be fertile and multiply; fill the earth and subdue it.”⁴² This blessing of God and the commandment to fill and subdue the earth was usually interpreted as a mandate for human mastery over nature.⁴³ God wants people to “fill” the earth, i.e. to promote human life and society. Richard Clifford notes that the plural form of the pronoun “them” means that from the

⁴² Gen 1:28.

⁴³ See Peter Harrison, “Subduing the Earth: Genesis 1, Early Modern Science, and the Exploitation of Nature,” *The Journal of Religion* 79, no. 1 (1999): 86–109.

beginning God recognized human beings as belonging to some group or nation.⁴⁴ In other words, the development of culture with all its dimensions such as arts, sciences, and technology, including the internet, is the expression of human ingenuity and creativity and realizes God's commandment to subdue the earth.⁴⁵

Nevertheless, God leaves the initiative and the decision about the shape of culture to humans. Men and women, thanks to their freedom and ingenuity, are able to transform the natural world how they want. The tools that they create can be used to help the whole of humanity grow in harmony with nature or in the opposite way, to harm, kill, or dominate others and to destroy nature. The internet is not free of this danger. Therefore, the answer to the question "is the internet good?" is ambiguous. On the one hand, it is a product of technology that, in general, helps humanity to grow and therefore is willed by God, but on the other hand, like every tool created by humans carries a danger to become a means to an evil.

The works of some Christian theologians such as F. Schleiermacher, P. Tillich, and K. Barth describe the concept of creation as a continuous process and a continuous relation between the Creator and the creature, and not like a single act at the beginning of the world.⁴⁶ "The doctrine of creation is not the story of an event which took place 'once upon a time.' It is the basic description of the relation between God and the world."⁴⁷ In this relation, God is constantly

⁴⁴ Richard J. Clifford, "Election in Genesis 1," in *The Call of Abraham: Essays on the Election of Israel in Honor of Jon D. Levenson*, ed. Gary A. Anderson and Joel S. Kaminsky, vol. 19, Christianity and Judaism in Antiquity (Notre Dame, IN: University of Notre Dame Press, 2013), 7–23.

⁴⁵ See Second Vatican Council, *Gaudium et Spes, Pastoral Constitution on the Church in the Modern World*, 1965, para. 57, http://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_const_19651207_gaudium-et-spes_en.html.

⁴⁶ See Friedrich Schleiermacher, *On the Glaubenslehre: Two Letters to Dr. Lücke*, Texts and Translations Series (American Academy of Religion), No. 3 (Chico, CA: Scholars Press, 1981); Paul Tillich, *Systematic Theology*, vol. I (Chicago: University of Chicago Press, 1967); Karl Barth, *Church Dogmatics* (Edinburgh: T & T Clark, 1936).

⁴⁷ Tillich, *Systematic Theology*, I:252.

supporting the existence and the development of all his creatures. “He not only gives them being and existence, but also, and at every moment, upholds and sustains them in being, enables them to act and brings them to their final end.”⁴⁸ Human freedom naturally can shape that relation within some limited boundaries, but nevertheless has no power to disable it in a radical way.

Moreover, the human conscience is the place where constant communication between God and the human being occurs. Through conscience, God gently invites people to do good and to avoid evil. It has other important impacts on the direction of how culture and technology develop. For example, the project Arpanet, the progenitor of the internet, was design in order to provide a high level of national security and avoid some of the disastrous consequences of potential nuclear war. In other words, the decision to build Arpanet in great part was based on values such as public security, and therefore it was a moral decision where conscience probably played a meaningful role. The decision to develop an efficient tool for a good purpose is a way of collaborating with God who through conscience attracts us to goodness.

Therefore, the active presence of the Creator in the world, both through God’s upholding and sustaining of all that exist, and in a special way through human conscience, highlight how human beings collaborate with God in almost all of their activities. Good creative works, such as the internet, can carry elements of divine will and love. The doctrine of creation underlines that the human freedom to transform the world is not necessarily opposed to divine providence. Human creativity is created by God; therefore, it seems correct to within God’s creation, human beings are engaged as co-creators, even in what concerns the internet.

⁴⁸ *Catechism of the Catholic Church*, 2nd ed., para. 301, accessed January 30, 2017, <http://www.vatican.va/archive/ccc/index.htm>.

2.2. Being co-creators: moral consequences

Creation establishes a very specific mutual relation between God, humanity and the rest of creatures. That relation has some important moral consequences. Let us see how those consequences apply to the internet.

2.2.1. The divine perspective

Since God is the Creator of the whole Universe, it follows that no one should ever divinize any creature. This means that we should always treat the internet as a means and never as an ultimate goal; we should always recognize and acknowledge the creaturely or natural limits of the internet like temporality, corruptibility, and so forth. Moreover, the development of the internet, as within the big project of creation, should always be subordinated to the good of men and women and developed in harmony with nature.

God as the Creator rejects every claim to absolute human ownership (“The land shall not be sold in perpetuity, for the land is mine; for you are strangers and sojourners with me”).⁴⁹ This divine claim was reformulated by the Church’s social doctrine as the principle of the universal destination of goods.

Christian tradition has never recognized the right to private property as absolute and untouchable: “On the contrary, it has always understood this right within the broader context of the right common to all to use the goods of the whole of creation: the right to private property is subordinated to the right to common use, to the fact that goods are meant for everyone.”⁵⁰

⁴⁹ Lev 25:23 quoted in Francis, *On Care for Our Common Home: Laudato Si’: Encyclical Letter* (Washington, DC: United States Conference of Catholic Bishops, 2015), para. 67.

⁵⁰ John Paul II, *Laborem Exercens* (Washington, DC: United States Conference of Catholic Bishops, 1981), para. 14; quoted in Pontifical Council for Justice and Peace, *Compendium of the Social Doctrine of the Church* (Washington, DC: United States Conference of Catholic Bishops, 2004), para. 177.

This could also mean that the internet never belongs in an absolute way to any person, community, or country. This principle applies to the physical infrastructure of the internet, the intellectual property of the algorithms and protocols that are used there, and to all types of digital content that exist in cyberspace. The principle of no absolute ownership does not negate the property rights that are fundamental to any just society. The functioning of the internet requires extensive amounts of different kinds of resources – natural, technological, and intellectual. In order to provide an efficient control over those resources, they should belong to some legal entities. For example, the infrastructure and algorithms created by Google should belong to that company and allow them to make profit in order to secure an efficient development and functioning of the services that they provide. Nevertheless, the principle of no absolute ownership protects against the monopolistic usage of some cyber-resources that would exacerbate the highly unjust inequality among different social classes or among nations in various stages of development. This principle finds a specific application in all efforts made to reduce the so-called “cyber-exclusion.”⁵¹

Another norm that is supported by the doctrine of Creation is the principle of creative cooperation with the Creator. As I mentioned before, when referring to the Pastoral Constitution *Gaudium et Spes*, the Book of Genesis calls to subdue the Earth and commands creativity.

⁵¹ The term “cyber-exclusion” refers to the negative global social trend caused by unequal technological development among different countries or social classes. In general, technological development, and particularly the development of the internet, increases in a significant way productivity, creates new job opportunities, and brings higher profits. Social groups or even whole countries that are lagging behind this development lose their competitiveness, seemingly drifting and increasing even more the gap of inequality. There are many initiatives that fight against “cyber-exclusion” such as, for instance, One Laptop per Child that offers cheap laptop computers designed for education in developing countries and Internet.org, an initiative to provide affordable internet access in some developing countries. See Steve Lohr, “Buy a Laptop for a Child, Get Another Laptop Free,” *The New York Times*, September 24, 2007, <http://www.nytimes.com/2007/09/24/business/worldbusiness/24laptop.html>; Vindu Goel, “Facebook’s Internet for All Is a Tough Sell in India,” *The New York Times*, October 25, 2015, <https://www.nytimes.com/2015/10/26/technology/facebook-meets-skepticism-in-bid-to-expand-internet-in-india.html>.

When man develops the earth by the work of his hands or with the aid of technology, in order that it might bear fruit and become a dwelling worthy of the whole human family and when he consciously takes part in the life of social groups, he carries out the design of God manifested at the beginning of time, that he should subdue the earth, perfect creation and develop himself.⁵²

In other words, God's "project of creation" is continuously ongoing and humanity is invited to cooperation in it. Therefore, as long as the progress of art, science and technology, and specifically of the internet realize the integral development of the world, they are willed and blessed by God.

Integral development means that every decision or action should be considered from the perspective of its global effects and never only from the point of view of particular desires, goals, or interests. Moreover, the valuation of any idea, product, or decision should take into account not only the economical factor, but also the human, psychological, social, spiritual, and environmental perspectives.⁵³ All people involved in the development of the internet should always feel responsible not only for the particular goals of projects that they are currently realizing, but they should also care, as far as possible, for all global consequences of the products they are designing. This applies both to technologies and to information spread in the network. Therefore, creating viruses, computer worms, and cyber-arms is obviously ethically problematic. In the same way, spreading fake news, social manipulation, aggressive advertising, identity theft, etc., are against the principle of integral development.

⁵² Second Vatican Council, *Gaudium et Spes*, 57.

⁵³ See John Paul II, *On the Hundredth Anniversary of Rerum Novarum: Centesimus Annus* (Washington, DC: United States Conference of Catholic Bishops, 1991), para. 29; Francis, *Laudato Si*, para. 185.

2.2.2. The perspective of the human

The doctrine of creation presents the human being as a special and privileged creature with specific tasks and responsibilities. First, the accounts of creation underline the individual character of every man and woman; the human person is always a subject and can never be reduced to the status of an object.⁵⁴ This finds a particular application in cyberspace. The internet, allowing communication with a huge number of people, creates a danger of treating a particular person only as a record in a big database, or only as a means for some financial or political goals. Cyberspace is particularly prone to massive manipulation, social engineering, massive fraud and other transgressions that treat a mass of people as a means or object and not as a subject. Those dangers are clearly opposed to needed respect for the dignity of each person.

Moreover, speaking about the role of human beings in relation to creation, we could over-interpret the commandment to subdue the earth. Considering the human superior to other creatures may create the impression of leading to the absolute human domination over nature. Subduing the earth does not mean exploitation but rather to inhabit the land that God gives us, to receive it as a gift, and live on it.⁵⁵ We should interpret this commandment in light of the second Creation story (Gen 2). That story presents God as a gardener who organizes the Garden of Eden and settles the man and woman there “to cultivate and care for it.”⁵⁶ That image presents human beings not as rulers over creatures but rather as stewards whose task is to care about the environment that is given to them as a place for living.

For a significant part of the global population, the internet today is a kind of environment where they live. Many people work, talk, shop, meet friends, date, and entertain in cyberspace.

⁵⁴ See Francis, *Laudato Si*, para. 81.

⁵⁵ See Richard J. Clifford, “Genesis 1-3: Permission to Exploit Nature?,” *Bible Today* 135 (May 1988): 136.

⁵⁶ Gen 2:15.

The benefits provided by the internet appear as God's gifts transmitted through human creative collaboration with the Creator. Therefore, all tendencies to dominate cyberspace absolutely, both in illegal and legal ways, are symptoms of transgression against the commandment to care about the given environment. The huge global media ventures that tend to absolutely subordinate the global networks for their interests, or those hackers who intend to use technology to give them power over others, are examples of offences against just ways to care in the internet.

2.2.3. The perspective of cyberspace as a gift of God

Nobody can deny humanity's fundamental share in developing the internet. It was designed and implemented by humans and for humanity. Nevertheless, that process would not be possible without cooperation with the Creator.

First, the internet could not have existed without some natural resources and some physical laws and processes. Science and technology are ways of describing and transforming nature which must have existed before. For some scientists, even such abstract branches of science as logic or mathematics have been discovered and not created by humans.⁵⁷ Because of human ingenuity, by inventing and producing multiple things human activity continues and expands God's creation.

Moreover, all deep human yearnings could be considered as the expression of the fundamental desire of God that "is written in the human heart."⁵⁸ This means that all human desires, as long as they are faithful to that fundamental one, are realizations of God's will. "People's ideas, activities and undertakings – however commonplace they may be – are used by

⁵⁷ See Roger Penrose, *The Emperor's New Mind: Concerning Computers, Minds, and the Laws of Physics* (Oxford: Oxford University Press, 1989).

⁵⁸ *Catechism of the Catholic Church*, para. 27.

the Creator to renew the world, to lead it to salvation, to make it a more perfect instrument of divine glory.”⁵⁹ In other words, the internet is not only the fruit of human ingenuity but also it could be considered, in an indirect way, will and a gift of God.⁶⁰ Some moral implications stand: the principle of no absolute ownership, the principle of integral development, care for the digital environment, and the particular dignity of the human person in cyberspace.

Moreover, the internet as an artifact created in cooperation with God could allow finding some traces of the Creator. The internet carries many such traces. For example, the partial transcendence of some human limitations like time and space that we achieve by relying on cyber-technologies points to God who radically transcends all that is created. The access of seemingly unlimited sources of knowledge provided by the global network can be a guidepost toward the omniscient and omnipotent Creator. Finally, the global human community that is potentially possible in cyberspace could be a sign of the Triune God in perfect communion, because “all human communication is grounded in the communication among Father, Son, and Spirit.”⁶¹

Those guideposts toward God mean that the internet could be a place of divine presence. They highlight some goods that are willed by God and hence good for humankind. Therefore, the analysis of God’s presence in cyberspace points toward specific moral behaviors. The transcendence of human limitations should be continued and any artificial obstacle that prevents

⁵⁹ John Paul II, “The Christian Message in a Computer Culture - Message for the 24th World Communications Day,” May 27, 1990, http://w2.vatican.va/content/john-paul-ii/en/messages/communications/documents/hf_jp-ii_mes_24011990_world-communications-day.html.

⁶⁰ Pontifical Council for Social Communications, “Communio et Progressio,” May 23, 1971, para. 2, http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_23051971_communio_en.html.

⁶¹ Pontifical Council for Social Communications, “Ethics in Communications,” June 2, 2000, para. 3, http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_20000530_ethics-communications_en.html.

faster and more secure communication among humans should be successively removed. Access to globally shared knowledge should be provided successively to larger groups of people. Especially sensitive in this area is access to truthful information, understood as a right to receive information that is consistent with reality and is free from manipulation or tendentious interpretation. Therefore, journalists, bloggers, and all people who publish on the internet should make an effort to search deeply the meaning of the published information and avoid the emotional, ideological, or manipulative usage of it. Finally, the growth of global human communion should progress using all available means to promote peace, justice, and love among all nations, communities, and individuals. In the second section of this chapter, I develop more deeply the notion of cyberspace as a place for human encounter.

2.3. Theological reflections on human action in cyberspace

In the previous section, I presented some theological and moral perspectives about the internet treating it as an object, a tool, and a gift from God. Nevertheless, the internet is not only a thing. The popular notion of the internet as cyberspace indicates that the global network reveals some properties of a space. This means that the cyberspace is a place or an arena for human activity. This specific place has many unique properties, such as the specific notion of time and space, a relation to the cyber-reality reduced basically only to two senses (sight and hearing), and the impression of a higher level of liberty fostered by anonymity and an apparent lack of physical limits. These specific properties of cyberspace have a strong influence on how people behave on the internet. Moreover, this creates a number of new moral issues such as the use of computer viruses, high-scale identity stealing, hacking, phishing, etc. It also amplifies or weakens other moral problems that have existed before the development of cyberspace. For example, human

relations on the internet are generally free from any physical violence; nevertheless, verbal harassment has increased to a level never encountered in the real world.⁶²

All these moral issues call for theological interpretation and some moral instruction. Instead of looking for some top-down principles, in this section I study human action looking for morally positive directions of human development and denouncing wrong paths. In other words, the human action in cyberspace is always placed between two axes: divine inspiration and the human condition contaminated by original sin. Therefore, it requires looking for and finding God in cyberspace and denouncing evil.

In the following parts of this section, I present two particular cases: *Wikipedia* and online hate speech. Through these examples, cyberspace appears simultaneously as a structure of grace and a structure of sin. In the last part of this section, I give some theological and moral interpretation of this phenomenon. The revelation of God as Trinity and the revelation of Jesus as the Perfect Communicator provide a foundation for these considerations.

2.3.1. Cyberspace as a structure of grace

I am frequently amazed by how the internet connects me to other people. It becomes difficult for me to imagine how my relations with my relatives or friends would be without email or Skype. How many times, thanks to Facebook, have I had an opportunity to reestablish my true, real relations with colleagues, whom I have not seen since my primary or secondary school? It is fantastic that we can express our appreciation, friendship, admiration, or even love through a simple “thumbs-up” button click. Nobody can deny that this has real and true meaning. It is also difficult to deny that cyberspace has a great potential to bring people together, to support

⁶² See “The Annual Cyberbullying Survey.”

friendship and love, to amplify collaboration, and in general, to do good that would not be possible otherwise.

Let us look for example at the project of *Wikipedia*, the development of which depends on the effort of more than one million volunteers and which serves millions of people every day. How can we not appreciate the generosity of these authors who share their knowledge, skills, and time to produce highly professional and free-to-use encyclopedia articles? What are the true motivation of those volunteers who through technology provide indubitable good for others?

Wikipedia was founded in 2001 and it has grown to include over 40 million articles in more than 250 different languages.⁶³ That progress was possible thanks to the massive and generous collaboration of hundreds of thousands of volunteers around the world, who continue to create or improve already existing articles.⁶⁴ There is still an open debate about the accuracy of *Wikipedia*'s articles; nonetheless, some research undertaken by *Nature* in 2005 shows that the quality of content in *Wikipedia* is not worst than that of *Encyclopædia Britannica*.⁶⁵ This means that *Wikipedia* is an extraordinary example of how global and volunteer collaboration can create a product of very high value independently from formal professional structures.

The question about the motivation of *Wikipedia* volunteers is the subject of many scientific investigations.⁶⁶ They all agree that some kind of altruism is the basic motivation of

⁶³ "Wikipedia," November 29, 2016.

⁶⁴ "Wikipedia:Wikipedians," *Wikipedia*, February 5, 2017, <https://en.wikipedia.org/w/index.php?title=Wikipedia:Wikipedians&oldid=763749853>.

⁶⁵ Giles, "Internet Encyclopaedias Go Head to Head."

⁶⁶ See E. Gil Clary et al., "Understanding and assessing the motivations of volunteers: A functional approach," *Journal of Personality and Social Psychology: Personality Processes and Individual Differences* 74, no. 6 (June 1998): 1516–30; Stacey Kuznetsov, "Motivations of Contributors to Wikipedia," *SIGCAS Comput. Soc.* 36, no. 2 (June 2006), doi:10.1145/1215942.1215943; Oded Nov, "What Motivates Wikipedians?," *Communications of the ACM* 50, no. 11 (November 2007): 60–64; Heng-Li Yang and Cheng-Yu Lai, "Motivations of Wikipedia Content Contributors," *Computers in Human Behavior, Online Interactivity: Role of Technology in Behavior Change*, 26, no. 6 (November 2010): 1377–83.

wikipedants. For example, Stacey Kuznetsov published the following results of a survey conducted in 2006 among students at New York University.⁶⁷ More than half of the survey participants declared that they would be willing to create a new article or correct an existing one, if they knew some information that was not covered by Wikipedia. Moreover, 81% expressed their readiness to correct spotted errors such as spelling or grammatical mistakes, false or biased information, or offensive content. Those who use *Wikipedia* more frequently are more willing to contribute to that project. The main reasons for contributions to *Wikipedia* are: to “educate humanity/raise awareness” (48.89%), to “feel like I’m making a difference” (17.78%), and “to give back to the *Wikipedia* community.”⁶⁸ Analyzing those results, Kuznetsov notes that active *Wikipedia* collaborators are driven by the following motivations: altruism, reciprocity, need of community, reputation, and autonomy.⁶⁹

Following that, Kuznetsov presents how these motivations are fostered by the technological solutions that are present in *Wikipedia*’s own mechanisms. There exist many tools to foster a sense of community, reciprocity, and autonomy in that project, for example, “community portals” that help volunteers with similar interests coordinate work on some specific topic. Moreover, each article on *Wikipedia* has a Discussion Page that allow users to share opinions about the content of a specific article, work on making its content more appropriate, or debate about different points of view on this topic. Furthermore, each user can design his or her own profile page that will be linked to all articles that were created or modified by him or her. *Wikipedia* volunteers frequently recognize the merits of some exceptional contributors and nominate them for a formal *Wikipedia* awards. Finally, *Wikipedia* promotes a high level of

⁶⁷ Kuznetsov, “Motivations of Contributors to Wikipedia.”

⁶⁸ See *ibid.*, 3.

⁶⁹ *Ibid.*, 3–5.

autonomy understood as freedom to choose when, how, and to what extent to collaborate in that project. There is no authority to control the amount, or the quality of volunteer work. Users can edit whatever and whenever they want. The only limits that exist on *Wikipedia* are to protect sensitive content from some acts of vandalism. In other words, the technological tools that are available in the *Wikipedia* system help users to work together, to feel they belong to the community, to recognize their reputation, and to respect users' autonomy and freedom.⁷⁰

Therefore, *Wikipedia* provides a specific software architecture, which promotes an atmosphere of freedom, mutual contribution, trust, and respect for others. The good fruit of this project is difficult to overestimate. Hence, *Wikipedia* as a whole system, including the general idea, the commonly shared rules and culture, the software, and finally the whole community of contributors, is a source of moral good. This good shares many characteristics with the solidarity described and promoted by the Catholic Social Teaching (CST). The CST defines solidarity as “a commitment to the good of one’s neighbor with the readiness, in the Gospel sense, to ‘lose oneself’ for the sake of the other instead of exploiting him, and to ‘serve him’ instead of oppressing him for one’s own advantage.”⁷¹ The motivation of volunteers and their sacrificial commitment to work seem to fulfill that definition of solidarity as “losing oneself for the sake of the others.” The most important motivation declared in Kuznetsov’s survey was to “educate humanity/raise awareness”; in other words, it was a purely altruistic stimulus. Moreover, the CST underlines that “the principle of solidarity requires that men and women of our day cultivate

⁷⁰ Ibid., 5.

⁷¹ John Paul II, *Sollicitudo Rei Socialis* (Washington, DC: United States Conference of Catholic Bishops, 1988), para. 38, http://w2.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_30121987_sollicitudo-rei-socialis.html; quoted in Pontifical Council for Justice and Peace, *Compendium of the Social Doctrine of the Church*, para. 193.

a greater awareness that they are debtors of the society of which they have become part.”⁷² This seems to be in line with the third most common motivation presented in Kuznetsov’s survey, which was “to give back to the Wikipedia community.”

Finally, human solidarity must be interpreted in light of Jesus Christ, who is the radical example of solidarity expressed by being “one with humanity even to the point of ‘death on a cross.’”⁷³ This is a sign of the radical love of God and of his desire to unite the human community and make the whole of humanity one. In the light of Jesus, human social activity such as for example cyber-volunteering, improves the image of the world, including the cyber-world with all its contradictions and ambiguities. It helps to rediscover that reality “as a place of life and hope, in that it is a sign of grace that is continuously offered to all and because it is an invitation to ever higher and more involved forms of sharing.”⁷⁴

Wikipedia is not a perfect system. There exist many negative moral issues such as frequent cases of vandalism, false facts, bias in coverage, racial and gender bias, and exposure of explicit content, including the pornography or obscenity. There are also cases of sharp disputes and conflicts among *wikipedants*.⁷⁵ Nevertheless, I believe that *Wikipedia*, understood both as a technological construct and as a community of volunteers, is an extraordinary example of human solidarity, and a specific structure of grace, a grace that “responds to the deepest yearnings of human freedom, calls freedom to cooperate with it, and perfects freedom.”⁷⁶

⁷² Pontifical Council for Justice and Peace, *Compendium of the Social Doctrine of the Church*, para. 195.

⁷³ *Ibid.*, para. 196.

⁷⁴ *Ibid.*

⁷⁵ See “Criticism of Wikipedia,” *Wikipedia*, February 5, 2017, https://en.wikipedia.org/w/index.php?title=Criticism_of_Wikipedia&oldid=763901416.

⁷⁶ *Catechism of the Catholic Church*, para. 2022.

Wikipedia is not an isolated example of a moral good that flourishes on the internet.

There are several other cases that enable people to rediscover their positive altruistic motivations of generosity, benevolence, selflessness, and helpfulness. Free and open-source software movement, the Creative Commons initiative, crowd-funding hubs such as kickstarter.com or patronite.com, or even some commercial social networks such as Facebook, Twitter or YouTube are only some of the many examples of systems in cyberspace that promote a culture of cyber-solidarity; the culture of generous and mutual sharing of knowledge, skills and even financial resources. I believe that, to some extent, all of them can be called structures of solidarity and grace.

2.3.2. Cyberspace as a structure of sin

Even very good internet systems are not free from serious negative moral issues. In other words, cyberspace is a place where evil is present in many forms. Cyberbullying, hate speech, fake news, promotion of terrorism, enormous spread of pornography, identity theft, use of computer viruses, cyberwars, scamming, hacking, phishing, etc., are examples of clearly unethical behaviors that have appeared or were amplified by the development of the internet.

One of the most esteemed values on the internet is a freedom of speech. Nevertheless, that value is frequently abused. Many people mistake it for a lack of any limitations on what can or should be said in cyberspace. Hate speech online and cyberbullying seem to be among the most visible and painful offences on the internet.⁷⁷ These are really serious issues, especially

⁷⁷ I define the concept of *hate speech online* as any public and aggressive behavior on the internet, which attack a person or group on the basis of attributes such as on the basis of national origin, ethnicity, color, religion, gender, gender identity, sexual orientation, or disability. See "Hate Speech," *Dictionary.com*, accessed April 6, 2017, <http://www.dictionary.com/browse/hate-speech>.

among adolescents and they can cause catastrophic effects on the lives of victims.⁷⁸ In extreme cases, cyberbullying can lead even to suicide, as happened in the cases of 15-year-old Natasha MacBryde and 14-year-old Hannah Smith.⁷⁹ This means that cyber hatred may have serious effects not only in cyberspace, but offline in people's lives.

According to the report about cyberbullying published by Ditch the Label in 2013, 70 percent of young people in the UK are victims of cyberbullying, and 20 percent are experiencing extreme cyberbullying on a daily basis.⁸⁰ More than half of the participants of the survey declared that cyberbullying has an impact on their self-esteem, social life, and optimism.⁸¹ Other research shows that nearly 12 percent of all tweeter messages seem to be abusive.⁸² That phenomenon affects all classes of people, including believing Catholics. My own research made on DEON.pl, the largest Catholic webpage in Poland, demonstrated that nearly 11 percent of the comments posted by users had to be removed because of aggressive or improper language.

The research about the motivations of people who use abusive language on the internet is still marginal.⁸³ Nevertheless, Karmen Erjavec and Melita Poler Kovačič analyzed hate speech online as posted in comments below the news publications on the three most popular Slovenian news websites and interviewed some of the authors of those abusive messages.⁸⁴ Their research

⁷⁸ "The Annual Cyberbullying Survey."

⁷⁹ "Teenager in Rail Suicide Was Sent Abusive Message on Social Networking Site." Association, "Teenager Hannah Smith Killed Herself because of Online Bullying, Says Father."

⁸⁰ "The Annual Cyberbullying Survey," 7.

⁸¹ Ibid., 11.

⁸² Pete Burnap and Matthew L. Williams, "Cyber Hate Speech on Twitter: An Application of Machine Classification and Statistical Modeling for Policy and Decision Making," *Policy & Internet* 7, no. 2 (June 1, 2015): 223–42.

⁸³ See Iginio Gagliardone et al., *Countering Online Hate Speech* (Paris: UNESCO Publishing, 2015), 12, <http://unesdoc.unesco.org/images/0023/002332/233231e.pdf>.

⁸⁴ See Karmen Erjavec and Melita Poler Kovačič, "'You Don't Understand, This Is a New War!' Analysis of Hate Speech in News Web Sites' Comments," *Mass Communication and Society* 15, no. 6 (November 1, 2012): 899–920.

goal was to categorize the authors of comments and distinguish their motivations. They found two main groups of commenters: organized producers of hate-speech comments called *the soldiers*, and self-organized commenters. *The soldiers* describe their motivation as a military discourse. They betray strong commitment to a group, whose interests they feel obligated to defend. An example of this discourse is the following: “I see that you do not understand that this is a war, a contemporary war. Today, an enemy can be destroyed on the Internet, as everything goes on the Internet.”⁸⁵ Moreover, they usually justify their hatred as the only efficient mean to communicate on the internet: “You must understand . . . here you cannot destroy the enemy in any other way. But you must destroy it, because it is about . . . our truth must win and not the lie.”⁸⁶

In the second group of commenters, Erjavec and Kovačič found three classes of people: *believers*, *players* and *watchdogs*. *The believers* have motivations very similar to *the soldiers*; nevertheless, their activity usually is not connected with a sense of belonging to some organization or group. They have a similar sense of mission, and the majority of them use pseudonyms that underline their power, justice, and leadership. In a similar way as *the soldiers*, they have a bipolar view of the world and attack anybody who has a different point of view.

The players use hate-speech comments as a game made for fun without any particular ideological background. Their goal is to win the conversation regardless of means; therefore, if the opponent uses hate speech, they answer with the same. They describe their motivations as follows: “I’m driven by the excitement over how the others will react to my writing, and then, whether I can manage to strike back well . . . this is exciting and fun.”⁸⁷

⁸⁵ Ibid., 909–10.

⁸⁶ Ibid., 910.

⁸⁷ Ibid., 912.

Finally, the last group, *the watchdogs*, is driven by their opposition to social injustice. They use strong language in order to draw attention to some social problems. That group alone recognizes hate speech as an “inappropriate manner of communication.”⁸⁸ Nevertheless, as others do, they emphasize that aggressive comments have different ethical weight than the usage of the same phrases in other situations, for instance, letters to an editor. *The watchdogs* is the only group that does not support the anonymity in comments: “If my name were clearly recognizable, I would probably be at least more careful as to what I write. Anonymity should be eliminated, so that we would all be on the same level.”⁸⁹

Erjavec and Kovačič note that the last two groups, *the players* and *the watchdogs*, represent liberal personalities. Independence, self-determination, equality, self-assertive participation in online activities, pleasure, openness, and tolerance of a plurality of different groups, ideas, and lifestyles seem to be the most important values for those people.⁹⁰

In conclusion, the analysis of Erjavec and Kovačič has shown that people who use hate speech online are not a homogenous group. Nevertheless, all of them agree that comments in cyberspace are morally different from other form of communication such as traditional readers’ letters. In other words, the internet somehow loosens moral boundaries on what is appropriate in human communication. Why is this so? How can we deal with this kind of demoralization?

Richard Delgado and Jean Stefancic tried to give an answer to those questions.⁹¹ In the beginning, they note that in modern society there is a firmly established public norm against hate speech. This means that, even if there occur some cases of hate speech, they usually receive little

⁸⁸ Ibid., 913.

⁸⁹ Ibid.

⁹⁰ Ibid., 914.

⁹¹ See Richard Delgado and Jean Stefancic, “Hate Speech in Cyberspace,” *Wake Forest Law Review* 49, no. 2 (Summer 2014): 319–43.

public support.⁹² Nevertheless, there are two exceptions: the lower judiciary and the internet.⁹³ Delgado and Stefancic focus on that second exception.

Analyzing the structural conditions that facilitate the spread of hate speech online, Delgado and Stefancic note that the behavior of many people is driven by two sets of values: official and private. Depending on one's situation and companion, people tend to behave differently. For example, when at work men and women tend to behave according to antiracist and antisexist norms; nevertheless, the same people in different situations, such as a party after work may feel much freer to tell racist or sexist jokes.⁹⁴ This observation finds particular application in cyberspace. People accessing the internet usually feel as though they are in private space. They connect to the network usually from their homes and they feel protected by the medium, which allows them to hide their proper identity. The lack of formal regulations and the atmosphere of leisure and informality, which are present in many places on the internet, may additionally increase that perception of being in a private space.

Delgado and Stefancic examine two classical solutions for the problem of hate speech: a social contract theory and a confrontation theory. The first one "aims to reduce racial prejudice by providing opportunities for members of different races to interact, often in group settings, such as school or sports."⁹⁵ The second suggests that there should be provided some reminders that prompt people about public social expectations for proper behavior and to remind them of social disapproval or sanctions for improper conduct. For example, in the military the promotion to a higher rank depends on an ability to work effectively with subordinates, whose skin colors

⁹² Ibid., 325.

⁹³ Ibid., 326.

⁹⁴ See *ibid.*, 333.

⁹⁵ Ibid., 334.

are different. This rule is a kind of a reminder of the antiracist social norm.⁹⁶ Nevertheless, none of those strategies find an efficient application to the problem of hate speech online. The social contract does not work in cyberspace because the internet separates rather than connects people. Even if it allows creating some kind of communities, there are usually the groups of like-minded people. The ease to choose a theme or topic that one likes, propagates a *black and white* vision of the world where there are *us* and *them*. The confrontation theory is also difficult to apply to the internet. Because of the horizontal and non-hierarchical nature of cyberspace, it is quite difficult to find appealing reminders of the officially approved social norms. Moreover, internet users tend to omit those areas of cyberspace that would be challenging for them.⁹⁷ Freedom of speech is one of the central values for users of the internet, and because of this, it is also frequently abused. That value additionally strengthens the belief that every single thought should be expressed, at least potentially. Any limit, even if it is grounded in commonly approved social norms, seems like an attack on the foundation of cyberspace, and therefore rejected.

Delgado and Stefancic theorize about other possible solutions for the problem of hate speech online such as some legal sanctions, unmasking, group condemnation, or economic sanctions. Nevertheless, in my opinion, none of those seem to be an easily applicable and promising way out of this problem.

As I have tried to show, hate speech online is a complex problem motivated by different goals or ideologies, and supported by some values deeply rooted in cyber-culture, such as a freedom of speech. The technology of the internet, which supports anonymity and selectiveness of information, also plays an important role in facilitating hate speech, resisting potential legal

⁹⁶ Ibid., 335.

⁹⁷ See *ibid.*, 337–38.

sanctions, and making it difficult to apply traditional solutions. All these properties both of cyber-culture and of the technology of the internet look like a structure that leads users to immoral behavior. The Catholic Social Teaching calls them *structures of sin*, “obstacles and conditioning that go well beyond the actions and brief life span of the individual and interfere also in the process of the development of peoples, the delay and slow pace of which must be judged in this light.”⁹⁸ The teaching of the Church strongly underlines that every sin is always rooted and connected to personal sin expressed in concrete acts of individuals.⁹⁹ In other words, the final guilt and responsibility of any moral evil committed on the internet belong to particular human beings who commit it, and never to cyber-culture as a whole or to internet technology. Nevertheless, since these structures play an important role in the sinful act, it would be abusive to treat them as morally neutral. The internet, in some of its parts, is a structure of sin, and therefore it must be denounced as such. Nonetheless, the Christian perspective never leaves a sin as such, but always offers a hope for conversion, transformation, reconciliation, and salvation in Jesus Christ and through the Holy Spirit. Therefore, cyberspace as a social and technological structure must also be considered in these terms. In other words, the doctrines of sin and grace seem to be alternative and promising means to understand and repair the structural sin of cyberspace.

2.3.3. Jesus Christ as the Savior of Cyberspace

In the two previous sections, I have tried to show that cyberspace is a place where both grace and sin happen, and that the internet can be understood simultaneously as a structure of grace and a structure of sin. This ambiguity is not an exception; every other aspect of the world

⁹⁸ Pontifical Council for Justice and Peace, *Compendium of the Social Doctrine of the Church*, para. 119.

⁹⁹ See *ibid.*

is ambiguous in the same way, and therefore requires, and receives theological interpretation in the light of Jesus Christ. It is worth mentioning that the evil caused by sin and the good received through grace always affect only human persons, even if the whole structure of the internet is a fundamental condition for sin and grace that happen in cyberspace. This means that the subject for a theology of the internet is always a person in his or her relation to God, and cyberspace is only a particular condition in which we find that person. Actually, both cases that I presented in the previous sections, *Wikipedia* and the hate speech online, are in fact examples of interpersonal relationships, however mediated and conditioned by digital technologies.

The Pastoral Constitution *Gaudium et Spes* affirms that “one of the salient features of the modern world is the growing interdependence of men one on the other, a development promoted chiefly by modern technical advances. Nevertheless brotherly dialogue among men does not reach its perfection on the level of technical progress, but on the deeper level of interpersonal relationships.”¹⁰⁰ In other words, technology, and specifically the internet, on the one hand brings us all together but on the other hand does not always facilitate truly human encounter. *Gaudium et Spes* promises that Christian revelation can help us in achieving this goal through a deeper understanding of “the laws of social life which the Creator has written into man’s moral and spiritual nature.”¹⁰¹

One of the principal messages that is revealed by Jesus Christ is the Trinitarian character of God. Jesus calls God the Father using a special term *Abba*. This means that he has a unique and intimate relation with the One, whom he calls so. The reciprocity of that relation is expressed by God in words that accompanied the baptism of Jesus in the river Jordan and the

¹⁰⁰ Second Vatican Council, *Gaudium et Spes*, para. 23.

¹⁰¹ Ibid.

Transfiguration on Mount Tabor.¹⁰² Finally, the relation between *Abba* and the Son is fulfilled by the Third Divine Person; it is Holy Spirit who assists in the Incarnation, in the baptism of Jesus, is promised by Him, and finally is revealed on the day of Pentecost.¹⁰³

The revelation of God as Trinity is not only important from the dogmatic point of view, but it also has some moral consequences. God presents godself as a perfect community of love, of active, collaborative, and sacrificial action, of openness to internal and external diversity, and of mutual and respectful dialogue. The desires to imitate these qualities of the Trinity can be found in the hearts of all people, both Christians and non-Christians, because all people are created in God's image. God finds the way to speak to those hearts through the Gospel of his Son and through immediate communication with the consciences of all people. In other words, the self-revelation of the Trinity in Jesus Christ brought us a model for our human, interpersonal relations, and our relations in cyberspace in particular.

These ideals planted in our hearts lead many of us to action that might somehow *incarnate* the grace of God. The example of *Wikipedia*, which I presented in a previous section, shows this kind of grace. *Wikipedia* is a community of people who are mutually respectful to a large degree, who sacrifice themselves for others, who work actively and collaboratively, who are open to a diversity of points of view, and finally, who try to dialogue rather than to fight. Naturally, this community is not perfect; nevertheless, these qualities, analogical to the Trinitarian ones, bring extraordinary fruit: the free accessible and high quality online encyclopedia.

¹⁰² See Mk 1:11; Mk 9:7; Mt 3:17; Mt 17:5; Lk 3:21; Lk 9:35; 2 P 1:17.

¹⁰³ See Mk 1:10; Mk 13:11; Mt 1:20; Mt 28:19-20; Lk 1:35; Lk 3:22; Lk 11:13; Lk 12:12; Lk 24:49; J 1:32-33; J 14:16-17; J 15:26; J 20:22; Ac 1:8; Ac 2:1-4.

On the other hand, hate speech online seems to be caused by communities or individuals who are motivated by the opposite qualities. People who do not find enough love for others, who are not likely to sacrifice their own opinions, who are not open to diversity, or who do not know how to dialogue, frequently cause bitter consequences. The increasing hatred, bullying, blaming, injustice, violence, and even death are totally opposite to the image of God revealed by Jesus. In other words, cyber-haters somehow jam their internal call to be the image of God, and transform the structures around them totally opposite to God's plan of salvation. It seems that the only way to change this situation is by a slow process of conversion, a process of purification of the image of God, which everybody carries in the depths of their hearts and which was revealed and proclaimed by Jesus Christ.

Another aspect of Christian revelation, which is important for interpersonal ethics in cyberspace, is an image of Jesus as the Perfect Communicator.¹⁰⁴ Moral issues, which I have studied in previous sections, occur in and affect an interpersonal communication, which is mediated by the internet. Therefore, Jesus Christ as the Perfect Communicator seems to be a model that would help to understand and improve internet-mediated communication.

First, the mystery of the Incarnation itself reveals God's will to communicate with the beloved creature. In order to reveal God's love to our humankind, Jesus "did not regard equality with God something to be grasped. Rather, he emptied himself, taking the form of a slave coming in human likeness; and found human in appearance, he humbled himself (...)." ¹⁰⁵ This means that communication is not only an exchange of facts, ideas, or emotions, but it is a way of giving of oneself in love to others.¹⁰⁶ Jesus expresses this radical self-sacrifice in the Paschal

¹⁰⁴ See Pontifical Council for Social Communications, "Communio et Progressio," para. 11.

¹⁰⁵ Php 2:6-7.

¹⁰⁶ See Pontifical Council for Social Communications, "Communio et Progressio," para. 11.

Mystery, when the Son of God, in order to communicate unlimited love to the human kind, sacrifices his own life and dies on the Cross. In order to live this message for all times, the Sacrament of the Eucharist was established, a ritual, which is a constant reminder of this remarkable event. The strength of the Eucharist is realized, among other means, through the collective and sensual participation of all recipients in this Sacred Mystery. Finally, Jesus sends the Holy Spirit, as the living sign of his continuous resurrected presence, and which enables the Church to communicate the Good News. The image of Jesus as the Perfect Communicator is summarized in the prologue of the Gospel according to Saint John. The author of this text presents Christ as the Word of God; the Word that has active power to create the whole Universe; the Word that is the source of life; the Word that is “the light of the human race.”¹⁰⁷

Therefore, the revelation of Jesus as the Perfect Communicator brings a series of moral implications for human communication. Firstly, interpersonal communication itself is good and willed by God. Secondly, love should be always a final message, and final goal of any interpersonal communication. That task can be realized by sacrificial self-denial, by taking the role of a servant or even slave, and by humility. Thirdly, the participation in rituals is an effective way of communicating love and of constantly reminding us of fundamental truths. Fourthly, the spiritual life is a necessary condition to communicate the Good News. This requirement is not limited only to evangelization in the strict sense, but it concerns every interpersonal communication. Fifthly, human communication should always have some creative goal. This means that the communication should always finally call to some creative action, rather than merely to a passive reception of ideas. Finally, human communication should always be a source of life, hope, and spiritual light.

¹⁰⁷ See Jn 1:3-4.

Once again, the two examples of moral issues related to cyberspace that I presented in previous sections seem to some extent realize or reject those moral statements. Consequently, authors of articles on *Wikipedia* have a great attitude to serve others in humility. The organization of work on *Wikipedia* bears some hallmarks of a ritual; there is collaborative participation, multimedia content, and a sensation of unity, at least in the space that is represented by a webpage. To some extent, the ever-present invitation to the constant improvement of content by everybody realizes the requirement of creative power of communication. Finally, *Wikipedia* as a total project is a sign of a flourishing social life and may restore some hope to humanity.

On the other hand, hate speech online realizes much fewer of those moral statements, if any. Online haters are usually less willing to sacrifice their ideas or humble themselves in order to express love to their opponents. Even if their participation is to some extent periodical and sometimes even communal, this activity hardly can be called a positive ritual. Some haters online may be motivated by religion; nevertheless, I have difficulty to call it a truly divine inspiration. The hate speech online can provoke an offline action; nonetheless, it rarely is a creative act that would bring life, hope, and light. More probably, it triggers a destructive and anti-life power, as happened, for instance, in the two mentioned examples of suicides of Natasha MacBryde and Hannah Smith, caused by cyberbullying.

To sum up, some aspects of the Christian revelation, such as the doctrine of the Trinity and the image of Jesus as the Perfect Communicator, seem to provide good theological and moral interpretations to address ethical issues related to interpersonal communication in cyberspace. God, who is a perfect community of love, of active, collaborative and sacrificial action, of openness to internal and external diversity, and of mutual and respectful dialogue, is a

model for all human relations and for relations in cyberspace in particular. Jesus, the Perfect Communicator, whose mission was to communicate the Good News, teaches us about the meaning, the depth, and the goal of any human communication.

Communication is a truly human way of establishing interpersonal relations, desired and used by God. Cyberspace, the most advanced space for human communication, affects this process radically; thanks to the internet, interpersonal relations may flourish or may be radically violated. In cyberspace, as in other dimensions of life, people experience tension between the desire of good and the weakness of nature contaminated by the original sin. The internet is a structure, which permits and sometimes even amplifies this tendency to sin; nevertheless, it is also a place full of God's grace. The Christian revelation brings hope to this place together with theological and moral interpretations. As long as we believe that Jesus Christ through His Cross and Resurrection has already defeated every sin, faith in Him and the collaboration with the Holy Spirit gives us all a reliable promise of salvation, understood as the ultimate defeat of every evil.

2.4. Virtues in video games

The opening scene of *2001: A Space Odyssey*, by Stanley Kubrick, is quite surprising for anyone who would expect a science-fiction movie. It presents the prehistoric era of some humanoid apes. The long stable shots on the animal-like life of these creatures is concluded by the discovery of a tool. An ape starts to use a bone, which helps him or her to fight for food by killing other animals. As a side effect of this discovery, there is a fight between apes, where the tool is used as a new weapon that hurts and kills the members of the same species. In other words, we see the dawn of humanity, whose emergence is correlated with the rise of technology and morality. In this scene, the human being is defined by Kubrick as a species able to develop

itself much faster than by natural evolution, through the transformation of its surrounding environment and by creating tools or technologies. This definition of a human being, no matter how reductive it may seem, is used by Kubrick for the subsequent philosophical reflection about the moral relation between humanity and technology.

Naturally, it would be an erroneous simplification to reduce the whole complexity of the human person to merely technological advancement; nevertheless, it is undeniable that one of the principal properties of humanity is continuous progress achieved in great part by the development of science and technology. Why do we almost always feel that the world where we live needs a continuous improvement? Can this “making the world better” also be considered in moral terms? Finally, how to interpret this phenomenon from a religious point of view?

The movie *2001: A Space Odyssey* tries to answer these philosophical questions by telling a story and by showing visually some hypothetical situations. This is how art usually works. The development of digital technologies created a new branch of art: virtual reality and video games. This is a new way to create hypothetical or virtual worlds, and a new, extremely powerful way of telling stories, or rather co-creating stories in collaboration with gamers. In this section, I analyze the relation between video games and the human desire for continuous development. Video games, in my opinion, are a good source of human ideas, and an excellent projection of desires and possible directions of progress. They are both an effect of technological development and a place where the desired future is anticipated.

Video games existed before the rapid development of the internet; nevertheless, in cyberspace they gained new social dimensions. Online multiplayer video games are more attractive and much more addictive than video games available before internet developed, and

also create unusual effects. Therefore, they will be the main subject of the following considerations.

In the first part of this section, I study the relation between video games and transhumanism. Following Robert M. Geraci, I try to show that video games became a tool for *transhumanist evangelization*.

In the second part, I present different dimensions of moral issues caused by video games. Addictiveness and the effects of transhumanism present in this branch of entertainment seem to be the most significant difficulties caused by gaming.

The third part is dedicated to playing online multiplayer video games. Following the research of Jane McGonigal, I define some virtues provoked by this type of gaming.

In the concluding part I reflect theologically on this reality. I postulate that three theological virtues – faith, hope, and charity – are partially present in virtual reality; nevertheless, they need to be rediscovered and developed into more Christian shape.

2.4.1. Transhumanism in video games

The vast majority of video games have an important common feature: they provide gamers an ability to transcend in some way their natural limits. The avatars of players usually can move faster, jump higher, teleport, and use other “magical powers” to achieve the goals of the game. One could say that “being a hero” existed before in literature and, maybe even more so, in movies. This is true, but I would argue that none of these traditional ways of telling stories allowed immersion in the virtual world to such extent as video games. It is not common among readers of novels or among those who watch movies to have a first person experience of a story. Video games make players feel that the narrative is not given to them, but rather created by them. There is a very strong identification of a player with his or her avatar. The immersion is so

strong that some gamers wish to live in a virtual world rather than in reality. For example, Edward Castronova in his survey of *EverQuest* players found that 22 percent of gamers would like to live in the virtual world of this game if that were possible.¹⁰⁸ The sensation of personal presence of a player in virtual reality (VR) is enforced by the development of new technologies. VR headsets, high resolution 3D graphic technologies, new techniques to generate a scene with photorealistic quality, advanced algorithms to simulate natural environment with detailed physical interactions, and the possibility to share the experience of gaming simultaneously with millions of players around the globe are examples of how the technology tends to blur the border between the real and the virtual worlds.

This confusion in the perception of reality affects directly the gamers' perception of self. In other words, such modified perception realizes one of the principal foundations of transhumanism, which states that a human should not only change the external environment through the use of technology, but also transform his or her body and, in effect, the whole of human nature.¹⁰⁹ This means that every element of human nature, including the ethical and religious sphere, are potentially at risk of being converted to some new set of values and beliefs. Regardless of the initial motives, the choice to transform human nature remains an ethical and religious decision, and it should be evaluated from this perspective.

The majority of promises offered by transhumanism is similar to some religious expectations of transcendence and final salvation. For example, transcending our limits such as the finite length of life, physical or mental capabilities, and our limited access to knowledge are

¹⁰⁸ See Edward Castronova, *Exodus to the Virtual World : How Online Fun Is Changing Reality* (New York: Palgrave Macmillan, 2007), 59; quoted in Robert M. Geraci, "Video Games and the Transhuman Inclination," *Zygon* 47, no. 4 (December 2012): 737.

¹⁰⁹ See Robert M Geraci, "There and Back Again: Transhumanist Evangelism in Science Fiction and Popular Science," *Implicit Religion* 14, no. 2 (June 2011): 143–44.

present in the eschatological imaginations of many religions and also in transhumanist discourse. Therefore, it should not be surprising that some elements of religion are used in transhumanism discourse in general, and in video games in particular. The relation between the transhumanism rooted in video games and religion is studied by Robert M. Geraci.¹¹⁰ His observations are based on analysis of some web forums, e-mail listservs, interviews with game designers, transhumanists, and players, and on a survey conducted by the author himself.

Geraci observes that transhumanism becomes a kind of new religion for modern society, and video games are used as a tool to promote this new doctrine.

Through specific design features and the intent of some designers, games engage transhumanist promises and hopes. As a consequence, many transhumanists have adopted video games and virtual worlds as spaces for preparation, participation, and evangelization.¹¹¹

There are three dimensions through which the subject of transcendence and transhumanism are present in video games: “(1) the presence of explicitly religious ideas in games, (2) the use of transhumanism in games, and (3) transhumanist beliefs held or interrogated by designers.”¹¹²

First, game designers use religious content to comment on contemporary culture and to make a plot more interesting. They use a rich variety of religious elements such as mythologies, religious symbolism, architecture, and even morality. For example, games like *Viking—Battle for Asgard* (2008), or *World of Warcraft* (2003) rely heavily on Norse mythologies. The series *Halo*

¹¹⁰ See Geraci, “Video Games and the Transhuman Inclination.”

¹¹¹ Ibid., 738.

¹¹² Ibid.

(2001–2010) uses a term “Covenant” as the name of an alliance of alien invaders that are in holy war against humanity. The game *Ultima IV: Quest of the Avatar* (1985) provides a highly developed and complex system of virtues such as honesty, compassion, valor, justice, sacrifice, honor, spirituality, and humility. There are even games, such as *Black & White* (2001) or *Populous: The Beginning* (1998), which allow players to act as gods. In other words, all these games allow gamers to experience the situation of transcendence understood in a traditional, religious way.¹¹³

Nevertheless, the modern transhumanist vision of transcendence is much more frequent in video games. Geraci shows that this ideology is present there both implicitly and explicitly. The first implicit way is achieved through what I mentioned above: video games in general give players a sensation of transcendence of their natural limits and allow them to do things that would not be possible in everyday life. For example, in one of the most frequently played massive multiplayer games such as *World of Warcraft* (2003) or *League of Legends* (2009) players are represented by heroes with unique magical or physical powers, armed with a variety of different weapons, and able to defeat enemies even stronger than the current level of a player. In other words, games provide a space where the transhumanist promises can be, to some extent, fulfilled and experienced by players.

One of the central promises of transhumanism is the continuous development of humanity, probably unlimited, rather than some final state of ultimate transcendence. As Martine Rothblatt expresses it: “Utopia is not so much a place as a direction, a good direction.”¹¹⁴ This

¹¹³ See *ibid.*, 739.

¹¹⁴ Martine Rothblatt, “From Mind Loading to Mind Cloning: Gene to Meme to Beme. A Perspective on the Nature of Humanity,” in *H±: Transhumanism and Its Critics*, ed. Gregory R. Hansell and William Grassie (Philadelphia, PA: Metanexus Institute, 2011), 119; quoted in Geraci, “Video Games and the Transhuman Inclination,” 740.

promise is particularly realized in video games by the possibility of dynamic growth and a development of main protagonists in games. As it is expressed by one of the transhumanists: “Video games provide a setting in which self-actualization and self-improvement are strongly encouraged (as exemplified by the concept of ‘leveling up’) ... Essentially, transhumanism can be seen as general approval of improvement of everything without artificial boundaries.”¹¹⁵ Virtual reality, which allows creating the worlds limited almost solely by the imagination of game designers, easily provide the sensation of almost limitless possibilities and a space for seemingly unlimited growth. Computer algorithms, which operate with ease on very big numbers, may create the sensation of infinite possibilities and multiple levels of growth. The design of game characters, who are always dynamic, who continuously learn new skills, whose power increases after any completed task, and whose abilities can be easily improved by a variety of weapons, magical potions, or spells, seems to be a direct answer to this deep desire for growth and continuous improvement expressed in transhumanist claims.

Second, video games address transhumanism also in explicit ways. Since the popular culture already addresses this topic, it would be surprising if transhumanism did not find a privileged place in the design of the plots of video games. Joshua Ortega, a writer who worked on the popular game *Gears of War 2* (2008), says that “the influences of transhumanism are found everywhere in games,” and he believes that transhumanism “has currency in video game circles. It is a fascinating and important subject to address now rather than later.”¹¹⁶ As examples of an explicit usage of transhumanist themes in video games, Geraci comments on two opening videos of the following video games: *Deus Ex: Human Revolution* (2011) and *EVE Online*

¹¹⁵ Geraci, “Video Games and the Transhuman Inclination,” 741.

¹¹⁶ Joshua Ortega, “E-Mail Interview with Robert M. Geraci,” June 2, 2012; quoted in Geraci, “Video Games and the Transhuman Inclination,” 741.

(2003).¹¹⁷ Both of these creations address explicitly some transhumanist claims such as immortality and the transformation of human nature through the use of technology. The transhumanist vision of the world is presented in these games as something currently present and unavoidable.

Third, there are examples of video games that critique ideas of transhumanism. For example, the *Deus Ex* franchise allows players to choose between two factions: one that strongly supports human augmentation, and the other, which is against it. This approach forces players to be more thoughtful about the possible consequences of transhumanism. Mary DeMarle, who was the main writer for *Deus Ex: Human Revolution*, says that *Adam*, the main protagonist in this game, “gets exposed to the full brunt of prejudice on both sides.”

Since you are playing Adam, you get to experience this firsthand as well. Thus, how Adam’s perspective changes over the course of the game really depends on how your perspective shifts. You’re the one playing him. You are the one making choices and witnessing the consequences.¹¹⁸

Another example of a video game which opens a debate on the consequences of transhumanism is *Immortality* (2007), designed by Jason Rohrer. In this game, the players can choose between being mortal or immortal. As mortals, players have only five minutes to complete a goal. After this time, the lifespan of a player and the game is over. As immortal players, there is no time limit and the game is seemingly infinite. In other words, this game ends

¹¹⁷ Geraci, “Video Games and the Transhuman Inclination,” 742.

¹¹⁸ Kyle Munkittrick, “‘I Would Hope That Saner Minds Would Prevail’ Deus Ex: Human Revolution Lead Writer Mary DeMarle on the Ethics of Transhumanism,” *Science Not Fiction*, August 12, 2011, <http://blogs.discovermagazine.com/sciencenotfiction/2011/08/12/i-would-hope-that-saner-minds-would-prevail-deus-ex-human-revolution-lead-writer-mary-demarle-on-the-ethics-of-transhumanism/>; quoted in Geraci, “Video Games and the Transhuman Inclination,” 742.

when a player becomes so bored that he or she voluntarily decides to end this in-game life. The design of this game is not focused on advocacy against transhumanism, but is rather a “thought experiment ... it was challenging some of those people who would want to live forever, or think they’re going to, about whether they really would want to and what that would really mean.”¹¹⁹

Probably the most interesting category of games is the one which not only speaks about transhumanism, but also tries to practice it. The most popular example of this approach is *Second Life* (2003), an online multiplayer virtual world. In 2013, *Second Life* reported 36 million created accounts and more than 1 million visits every month.¹²⁰

Designers underline that in *Second Life* there are no hardcoded conflicts nor any set of objectives so it should not be called *a game*, but rather “an entirely open-ended experience.”¹²¹ According to the testimonies of *Second Life* programmers, transhumanist ideas were present in the development of this system from the beginning. For example, John Lester, one of the designers of *Second Life*, admitted that employees “really did think about things like transhumanism (...) and really thought about how this technology was something that was not just going to improve the way human beings did things in one particular fashion, but how it was going to change how people did things, how it would change lives.”¹²²

In *Second Life*, users are invited to and have freedom to shape the virtual world according to their creativity, imagination, and desires. Each user is represented by an avatar that can be

¹¹⁹ Jason Rohrer, Personal Skype Interview with Robert M. Geraci, April 26, 2012; quoted in Geraci, “Video Games and the Transhuman Inclination,” 745.

¹²⁰ See Linden Lab, “Infographic: 10 Years of Second Life,” *Linden Lab: Press Releases*, June 20, 2013, <https://www.lindenlab.com/releases/infographic-10-years-of-second-life>.

¹²¹ Kristin Kalning, “If Second Life Isn’t a Game, What Is It?,” *Msnbc.com*, March 12, 2007, http://www.nbcnews.com/id/17538999/ns/technology_and_science-games/t/if-second-life-isnt-game-what-it/.

¹²² John Lester, Personal Skype Interview with Robert M. Geraci, December 6, 2011; quoted in Geraci, “Video Games and the Transhuman Inclination,” 746.

freely modified, both in appearance and in behavior. In other words, users receive seemingly godly attributes such as the power of creation, the ability of bodily augmentation, and, to some extent, the capability to make this virtual world happier than the real world. This fulfils the fundamental transhumanist concept that the world can be remade by technology to something wondrous, to a paradise. Theologically, one wonders whether this is a transhumanist approach to salvation.

This transformation of the world is not limited exclusively to virtual reality. The experience of virtual reality affects the behavior of users in their normal life. As Colin Milburn explains:

In living their “second lives,” residents inhabit the virtual dimension of nanotechnology, playing out its core concepts and conforming to its dreams, enfleshing it, adopting its modes of operation as a durable habitus, and thereby bringing it forth into the world, into real life, contained inside themselves – whether they know it or not.¹²³

The experience of living in the transhumanist dream provided by virtual reality becomes a part of the actual lives of *Second Life* users. In other words, it becomes possible to experience an unlimited control over the surrounding environment, including one’s body, behavior, and nature. This experience gained in the virtual world is real, not virtual. Even if it is an avatar acting as the *Second Life* protagonist, the interaction always starts and ends in the real human person. It is a real human being who controls the avatar in *Second Life*, makes decisions, realizes

¹²³ Colin Milburn, “Atoms and Avatars: Virtual Worlds as Massively-Multiplayer Laboratories,” *Spontaneous Generations* 2, no. 1 (2008): 71; quoted in Geraci, “Video Games and the Transhuman Inclination,” 747. Milburn presents a very wide understanding of the term “nanotechnology”. In this specific phrase, he refers to virtual reality as an efficient playground for testing some bodily enhancements through technologies that does not yet exist in the real world.

desires, participates in this virtual life, experiences all sorts of emotions, is a recipient of narrations presented there, and finally is actually transformed by this whole experience.

Geraci concludes his article by noting that video games are not neutral intermediaries in human communication. Video games carry some sort of rooted values and significantly transform players. These values, on the one hand, have a lot in common with a particular interpretation of elements of religious discourse, but on the other hand, are mostly compatible with transhumanism. Hence, video games became a kind of a tool for *transhumanist evangelization*. As Geraci affirms, “insofar as games produce conversions to, or even simply understanding or appreciation of, transhumanism, then they are important players in religious thought and practice.”¹²⁴ Nevertheless, why is this morally relevant?

2.4.2. Moral implications of transhumanism in video games

Probably, the most obvious moral issue related to video games is their addictiveness. According to available medical research, the prevalence of video games addiction ranges from 0.3 percent to 2.3 percent of the global population.¹²⁵ Nevertheless, it is highly dependent on regions and the specific populations. For example, in South Korea and in Japan the prevalence of video game addiction is reported to be as high as 5 percent. An even higher rate is reported among adolescents and college students, especially among players of massive multiplayer online role-playing games (MMORPG) where the prevalence ranges from 8 to 15 percent.¹²⁶

The addiction caused by video games may produce several physical and psychological effects. Some players suffer from epileptic seizures, motion sickness, headaches, dry eyes,

¹²⁴ Geraci, “Video Games and the Transhuman Inclination,” 752.

¹²⁵ See Daniel L. King, Paul H. Delfabbro, and Mark D. Griffiths, “Video Game Addiction,” *Principles of Addiction: Comprehensive Addictive Behaviors and Disorders* 1 (2013): 821.

¹²⁶ See *ibid.*

muscle pains, various repetitive strain injuries, auditory hallucinations, carpal tunnel syndrome, and migraine headaches. In extreme isolated cases, prolonged video game use caused death from heart failure.¹²⁷ Daniel L. King *et al.* present the following psychological symptoms of video game addiction: salience (video game becomes the most important activity), mood modification (changes in a person's mood that occurs as a result of playing video games), tolerance (increasing amounts of video game play are required), withdrawal (frustration, irritability, and flattened affect when the video game is suddenly disconnected), relapse (tendency for the player to revert back to earlier patterns of video game play), and harm (personal psychological distress as well as conflicts with other people).¹²⁸ In other words, prolonged and uncontrolled use of video games is dangerous for both physical and psychological health. Nevertheless, as King *et al.* note, "there appears to be little evidence of serious acute adverse effects on health from moderate play."¹²⁹

However, the transhumanism rooted in video game design seems to be much more morally relevant. The moral implications of transhumanism are studied, among others, by Andrea Vicini and Agnes M. Brazal.¹³⁰ The main moral issue Vicini and Brazal address in their article is a promise of immortality achieved by transforming human bodies into cyborgs. This belief has serious anthropological consequences, including the understanding of the human body, the meaning of human life, and the concept of salvation.

As it is shown in Geraci's article, video games create the sensation that the virtual world is better and more attractive than physical reality. In other words, the whole physical reality,

¹²⁷ See *ibid.*

¹²⁸ *Ibid.*, 820.

¹²⁹ *Ibid.*, 824.

¹³⁰ Andrea Vicini and Agnes M. Brazal, "Longing for Transcendence: Cyborgs and Trans- and Posthumans," *Theological Studies* 76, no. 1 (2015): 148–165.

including human bodies, seems to be a burden that makes liberation and salvation difficult. The body is no longer perceived as a fundamental part of human identity, but rather as a tool that should be repaired, transformed, or totally changed by something else. Some transhumanists postulate that the human body, understood until now as *hardware*, should be transformed into *software*. For example, Ray Kurzweil affirms:

Up until now, our mortality was tied to the longevity of our hardware. . . . As we cross the divide to instantiate ourselves into our computational technology, our identity will be based on our evolving mind file. *We will be software, not hardware*. . . . As software, our mortality will no longer be dependent on the survival of the computing circuitry. . . . Our immortality will be a matter of being sufficiently careful to make frequent backups.¹³¹

Treating the human person as *software*, which can be archived, copied, and restored, seems to be particularly relevant considering transhumanism in video games. The majority of games allows making those kinds of backups that protect against the unwanted death of the game's character. Moreover, many players use saved games to move back into virtual time in order to avoid the consequences of bad choices or decisions. In other words, players experience some kind of immortality provided by technology. This allows users not only to avoid the unexpected end of a virtual life, but also to provide a mechanism that will let them avoid responsibility for their moral choices.

The concept of person as *software* is very reductive and inhibits our understanding of the human person. As Michael DeLashmutt observes:

¹³¹ Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Viking, 1999), 129; quoted in Vicini and Brazal, "Longing for Transcendence," 157.

Posthuman speculative science reflects an implied reductionistic philosophical anthropology. The complexity of the human subject – one's spirituality, materiality, and sociality – is perceived as being reducible to a collection of patterns that can be decoded and reembodied in whatever substrate a given future technology provides.¹³²

This simplistic approach implies that human control extends not only to the surrounding nature, but it embraces also a complete control over the human body, including such important elements of life as birth and death. In other words, transhumanists, by lowering the value of a physical body and by redefining the meaning of a person, claim the right to control one's own life avoiding any major moral obligation.

Transhumanism, particularly when present in video games, promotes the idea of almost obligatory constant improvement. The characters in games must develop in order to achieve upcoming tasks and goals. This creates the sensation that the value of one's avatar depends exclusively on its achieved level of development. This sensation is so strong that sometimes it has real financial expressions, as in case of *Zeuzo*, a player of *World of Warcraft*, who in 2007 sold his highly developed avatar for seven thousand euros.¹³³

The value of an avatar is not only virtual or financial. As I mentioned above, there is a strong identification between players and their avatars. In other words, the value of an avatar may be correlated with the player's perception of self-worth. This means that through video games the obligation of constant improvement is promoted also in the physical world. Moreover,

¹³² Michael W DeLashmutter, "A Better Life through Information Technology?: The Techno-Theological Eschatology of Posthuman Speculative Science," *Zygon* 41, no. 2 (June 2006): 268; quoted in Vicini and Brazal, "Longing for Transcendence," 159.

¹³³ See Christina Jimenez, "The High Cost of Playing Warcraft," *BBC News Online*, September 24, 2007, <http://news.bbc.co.uk/2/hi/technology/7007026.stm>.

this creates also some moral concerns for the social perception of the value of the human person. Since in the transhumanism the value of the person is correlated to the level of one's improvement, it may create an artificial division between those who execute those enchantments faster than others. Furthermore, at stake is one's personal autonomy and the freedom to shape one's life according to personal plans and desires.¹³⁴

Finally, transhumanism, including that in video games, proposes an alternative concept of human fulfillment and salvation. Contrary to the majority of religions, transhumanism omits the idea of God as a necessary source and condition for human redemption. Instead of this, human ingenuity alone, expressed by the development of science and technology, guarantees the fulfillment of one's ultimate human desires. It is probably not a mere coincidence that fundamental promises of transhumanism, such as immortality, surpassing all physical limitations (omnipotence), and access to unlimited sources of knowledge (omniscience), are largely consistent with attributes of God described in the Judeo-Christian tradition. In other words, transhumanism promises that a human will become god exclusively through one's own effort; therefore, religious belief in God is no longer necessary, helpful, nor required.

This theological, or rather atheistic statement has particular moral consequences, which I studied briefly in §2.1. Furthermore, this belief in the self-salvation of the human being creates a risk of some morally dangerous approaches. As was mentioned above, the transhumanist vision tends to simplify the concept of the human person, including the one-dimensional vision of people's ultimate desires. The transhumanist promise of salvation usually omits such dimensions of human longings as true love, spirituality, sociality, the value of sacrifice, responsibility, forgiveness, etc. According to many religious and philosophical approaches, the integral

¹³⁴ See Vicini and Brazal, "Longing for Transcendence," 158.

development of the human person is not possible without improving these dimensions of human life.

The transhumanist vision of salvation seems also to be contrary to the religious offer of universal and unconditional salvation. On the one hand, transhumanism tends to transcend the material world, but on the other hand, it is radically conditioned by the natural and intellectual resources. The promise of transhumanism assumes the existence of machines and algorithms, which provide the expected results. Hence, transhumanism is always conditioned by finite matter and by limitations rooted in every branch of human ingenuity. This also means that the fulfilment of the promises of transhumanism will always be dependent on access to these resources and it will be neither universal nor unconditional.

To conclude, video games are not morally neutral. The obvious addictiveness of games is a fact. Nevertheless, it is probably not the most important issue related to this branch of entertainment. It seems that more significant is the transhumanism present in video games because it affects morality in various dimensions such as the understanding of the human body, the meaning of human life, and the comprehension of salvation. The concept of the human person as *software* influences the understanding of life, death, and moral responsibility. Moreover, this approach oversimplifies the understanding of the human person, lowers the value of the human body, and, in effect, invites people to have a full control over their own bodies independently of any moral obligation. The obligation of constant improvement deprives people of the freedom and autonomy to shape their own lives according to personal plans and desires. The transhumanist vision of salvation creates a risk of selectiveness in answering to multidimensional human longings. Finally, the transhumanist transcendence from matter seem to be only virtual, which means that it cannot be universal nor unconditional.

2.4.3. Video games and virtuous behavior

To reflect on the moral consequences of using of video games would be incomplete without some attention to the positive effects and opportunities created by this modern construct of technology and art. Video games have found their positive applications in many aspects of social life such as education,¹³⁵ therapy,¹³⁶ and even in military training.¹³⁷ They also seem to be an efficient tool for positive social transformation. As Jane McGonigal notes: “If we want to solve problems like hunger, poverty, climate change, global conflict, obesity, I believe that we need to aspire to play games online for at least 21 billion hours (sic) a week, by the end of the next decade.”¹³⁸

McGonigal presents various positive effects of playing video games. The first is the *epic win*. Most video games encourage players to participate in demanding tasks, which seem to be beyond their capabilities. Nevertheless, the accomplishment of these tasks is almost always possible; the fight with a far stronger monster can be ended by an *epic win*. Moreover, winning generates extremely positive feelings of surprise about a player’s abilities, gives a lot of joy, and motivates one to take on harder and harder tasks. *Epic win* is for gamers a fundamental source of hope that every task can be accomplished, and that there is no problem that cannot be solved. In

¹³⁵ See Alessandro De Gloria, Francesco Bellotti, and Riccardo Berta, “Serious Games for Education and Training,” *International Journal of Serious Games* 1, no. 1 (February 3, 2014), doi:10.17083/ijsg.v1i1.11.

¹³⁶ See H. Lynn Horne-Moyer et al., “The Use of Electronic Games in Therapy: A Review with Clinical Implications,” *Current Psychiatry Reports* 16, no. 12 (December 1, 2014): 520–29.

¹³⁷ See Kaushal Kumar Bhagat, Wei-Kai Liou, and Chun-Yen Chang, “A Cost-Effective Interactive 3D Virtual Reality System Applied to Military Live Firing Training,” *Virtual Reality* 20, no. 2 (June 1, 2016): 127–40.

¹³⁸ Jane McGonigal, *Gaming Can Make a Better World* (TED Talks, 2010), http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.

other words, video games provide a very optimistic attitude toward a variety of problems, including the most difficult ones.¹³⁹

Problems, which are the content of the majority of games, usually seem very important, on a global scale, heroic, and very urgent. Hence, problems create two following positive effects. Firstly, a player feels that he or she is important, that a lot depends on him or her, that the task he or she is participating in is a problem of global-scale, that the (virtual) world trusts him or her, that she or he is really necessary to solve this problem. In other words, video games create in players the sensation of being a hero who is responsible for the whole (virtual) world. This feeling is frequently additionally stimulated by *epic wins*. Secondly, the level of difficulty in the majority of games is usually adjusted to the current level of gamers. It creates a sensation that everything is possible to them and additionally motivates them to play. In other words, through gaming, players feel they are participating in solving global, extremely important projects, and strongly believe that they are always able to accomplish them.¹⁴⁰

A collaborative approach in problem solving is another benefit of playing online video games. Online gamers, in order to achieve the game's goals, must cooperate with other players. In some games, the tasks are designed in such way that a single player could never accomplish them alone. Furthermore, the unique capabilities of each avatar controlled by a player bring the additional benefits of complementing each other. In other words, for gamers it becomes natural to assure that some sorts of problems can be accomplished only through mutual cooperation between individuals with different skills and abilities.

¹³⁹ See *ibid.*

¹⁴⁰ See *ibid.*

This cooperative approach is not limited only to the time spent in playing. Gamers are strongly dedicated to sharing knowledge, strategies, and hints that are helpful in completing in-game tasks with other players. Many video games have wikis, the webpages built on the mechanism similar to *Wikipedia*, which allow gamers to share their knowledge about the game and help others to be successful players. Wikis dedicated to video games are one of the biggest wikis in the internet; for example, the second biggest wiki in the world, after *Wikipedia*, is the *World of Warcraft wiki*, having more than one hundred thousand articles¹⁴¹ and being visited nearly six million times per month.¹⁴²

This means that video games build a “collective intelligence,” as described by Piere Levy.¹⁴³ McGonigal underlines that “gamers may be the world’s most literate and practiced community when it comes to developing these new, real-world skills of collaboration and collective intelligence.”¹⁴⁴ The majority of games create virtual, visual-spatial, psychological, and strategic problems to solve. This artificial and safe environment allows gamers to test different approaches, to be creative, and to look for the most effective strategies. All of these approaches and strategies are shared and repeated by thousands of other gamers, which allows games be exceptionally efficient problem-solving systems. This potential of games, including the non-digital ones, was already appreciated by Albert Einstein, a passionate chess player, who wrote, “Games are the most elevated form of investigation.”¹⁴⁵

¹⁴¹ See “WoWWiki,” accessed March 31, 2017, <http://wowwiki.wikia.com/wiki/Portal:Main>.

¹⁴² See “SimilarWeb,” accessed March 31, 2017, <https://www.similarweb.com/website/wowwiki.wikia.com>.

¹⁴³ Pierre Lévy, *Collective Intelligence: Mankind’s Emerging World in Cyberspace* (Cambridge, MA: Perseus Books, 1997), xxiv; quoted in Jane McGonigal, “Why I Love Bees: A Case Study in Collective Intelligence Gaming,” in *The Ecology of Games: Connecting Youth, Games, and Learning*, ed. Salen Katie (Cambridge, MA: MIT Press, 2008), 199.

¹⁴⁴ Jane McGonigal, “Gamers Have Skills. Let’s Tap ’Em.,” *Christian Science Monitor*, November 5, 2007, <http://www.csmonitor.com/2007/1105/p09s01-coop.html>.

¹⁴⁵ Ibid.

It might seem that all these benefits of playing video games are limited only to virtual reality and have no positive effects on physical reality. For McGonigal, the potential of online gamers has been used to address and solve some real issues. Together with the Independent Television Service, she designed an online game called *World Without Oil*. The idea of this project was to involve the massive collective intelligence of gamers in order to look for possible effects and find satisfying solutions for the theoretical problem of the global oil shortage. More than 1,800 players from 12 countries spent 32 days to create their own stories related to this issue and to look for strategies and solutions to address them. The participants had access to real economic data such as oil prices and availability, descriptions of impact of these factors on regional economies, society, and quality of life. This served as inspiration for participants and helped them produce numerous blog posts, podcasts, videos, and wiki articles. “The result is an online, immersive archive of the collective forecast and solutions toolkit created by the players.”¹⁴⁶

In conclusion, online multiplayer video games might have interesting beneficial influence on players’ attitudes, especially those related to problem-solving tasks. Video games make players happier, more optimistic, self-confident, creative, and courageous in facing perplexing tasks. They create positive attitude to address difficult problems. Moreover, they foster a feeling of global responsibility and a desire to participate in great heroic challenges. Finally, video games stimulate cooperative approaches to problems, and of sharing knowledge, skills, and strategies. For McGonigal, these examples of virtuous behavior can not only inform the virtual reality but also influence how people address real world problems.

¹⁴⁶ Ibid.

2.4.4. Faith, Hope, and Charity in video games

In the introduction to this section, I presented the opening scene of *2001: A Space Odyssey* by Stanley Kubrick as a common, scientific, and transhumanist approach to the understanding of the human person. It is worth reminding that the movie presents a conflict between people and machine, which is the fruit of a continuous technological development of the human race. The reasons for this conflict are deeply moral. The conflict arises when some very important human values – such as human life, hope, trust, and friendship – are questioned. I believe that it is not a coincidence that exactly these values are very rarely brought up in transhumanist discourse. In other words, the world presented in *Space Odyssey* collapses, because it is a place where important human, emotional, and spiritual values are rejected, and there is no place for hope, love, and probably neither for faith.

I believe that this dark vision of human development will not prevail. Our fast developing world is not as devoid of spirituality as the one presented by Kubrick. The internet is not as ruthless and despotic a system as was *Hal 9000*, the on-board computer presented in *Space Odyssey*. Cyberspace is not totally empty of important human and spiritual values as was *Discovery One*, the spaceship, which was the main scenery in this movie. In my opinion, even in video games it is possible to identify some marks of spirituality, and signs of divine presence, providence, and care.

In the first section of this chapter, where I studied God's creative participation in the development of cyberspace, I wrote that good creative works, such as the internet, can carry elements of divine will and love. In my opinion, these elements can be identified through the lenses of theological virtues of faith, hope, and charity, since "they have the One and Triune God

for their origin, motive, and object.”¹⁴⁷ I am aware that it is probably not easy to present flourishing theological virtues in cyberspace. Nevertheless, instead of this I try to focus on some marks or seeds, which would testify about the divine presence, and which could inform and give life to all necessary moral virtues.¹⁴⁸

Probably the most difficult thing would be to identify true faith in God as a common virtue in video games. As Geraci has demonstrated, video games frequently use religious references. Nevertheless, in the majority of cases the main reason is to make a narrative more interesting. In many video games, designers and writers invite gamers to experience some kind of mystery, and religious content helps in achieving this goal. Naturally, there are some examples of video games that want to speak directly about religion content such as the Bible, or the sacraments; nonetheless, they have not often been very successful.

As I tried to show above, transhumanism, which is deeply rooted in the culture of video games, manifests many similarities to a religious belief; it addresses some deep human desires of transcendence, promises some kind of liberation and salvation, and is based on some dogmatic and unquestionable statements. From the purely moral perspective, this ideology is highly problematic, as I already presented in §2.4.2. Theologically, it might be viewed from the two following perspectives.

Transhumanism as an alternative religion is obviously idolatrous. In this sense, video games, as expressions of transhumanism, would threaten the religious dimension of the human person. The corruptibility of every human being is incompatible with the transcendental vision promised by transhumanism. The deeply human desire of unconditional trust is threatened when

¹⁴⁷ *Catechism of the Catholic Church*, para. 1812.

¹⁴⁸ See *ibid.*

the only subject of trust is another weak and sinful person. Even if humanity as such can be a source of some hope and love, it will never be such a steadfast and transcendental source of these virtues as is faith in God.

Nonetheless, there is another possible theological perspective to reflect on the phenomenon of transhumanism. The mere fact that transhumanism exists, and is so much rooted in video games, speaks about some very deep human desire for faith in liberation, redemption, and salvation. Gamers have hearts which yearn for transcendence, which are thirsty for greatness, and which are hungry for goodness. Naturally, transhumanism, on the one hand, promises the easiest fulfillment of these desires, but on the other hand, is unable to satisfy them in all personal dimensions. In my opinion, these hearts open and thirst for God seem to be seeds of faith that still require proper nourishment to grow. The existence of these seeds of faith testifies to divine presence and action in cyberspace. I believe that the identification and proclamation of God on the internet would be the best nourishment for faith in cyberspace.

The positive perspective of gamers, which I presented in §2.4.3, following McGonigal, helps to identify some other moral and theological virtues in the culture of video games. As it was already mentioned, gamers are a very highly motivated and hopeful people. Their desire for an *epic win* gives them power to continuously transcend their limitations and achieve ever-greater goals. This characteristic of players manifests some analogies to the virtue of hope, which “responds to the aspiration to happiness which God has placed in the heart of every man; it takes up the hopes that inspire men’s activities and purifies them so as to order them to the Kingdom of heaven; it keeps man from discouragement; it sustains him during times of abandonment; it opens up his heart in expectation of eternal beatitude.”¹⁴⁹

¹⁴⁹ Ibid., para. 1818.

I am aware that the hope of gamers is probably only a seed of true Christian hope. Nevertheless, even this seed gives many good fruits, which I tried to present in §2.4.3. The hopefulness of gamers is a grace. It helps them to look positively forward, be self-confident, active, and highly motivated. Naturally, this virtue of hope requires also proper nourishment in order to grow in the right direction. The *Catechism of the Catholic Church* affirms that God is the source of hope. Hence, probably, to address the virtue of faith would be the best way to develop a truly divine hope of players.

Online gamers manifest also some elements of charity, the third theological virtue. In §2.4.3, I wrote about the virtues of global responsibility, of cooperative approach to problems, and of sharing knowledge, skills, and strategies to solve problems. I think that it would not be an overstatement to affirm that online gamers often create a communion of friends. It seems that their relationships are to some extent based on charity as described in the *Catechism of the Catholic Church*: “The fruits of charity are joy, peace, and mercy; charity demands beneficence and fraternal correction; it is benevolence; it fosters reciprocity and remains disinterested and generous; it is friendship and communion.”¹⁵⁰ In other words, the culture of gamers is a place where, to some extent, charity happens. An example of *World of Warcraft* wiki shows that disinterested, generous and reciprocal good deeds are not sporadic among players. A long time spent together on completing difficult tasks without doubt gives a lot of joy and it helps to create a communion of friends. Finally, as McGonigal has shown in her project *World Without Oil*, charity of gamers is not limited only to players, but it can offer some significant fruits for the global community.

¹⁵⁰ Ibid., para. 1829.

Similar to other virtues, charity among gamers is not the fully developed Christian theological virtue. The communion of players is far from an ideal. Nevertheless, in my opinion, it manifests some features of divine inspiration. I believe that since “love comes from God”¹⁵¹ the friendship, generosity, and reciprocity of gamers somehow testifies to the divine presence in this culture.

The Christian approach to morality does not start from human action but from God’s grace, which inspires, motivates, and directs toward good desires. Speaking about morality in cyberspace, and particularly in online video games, requires a similar approach. Through the lenses of the theological virtues – faith, hope, and charity – I tried to show that in the world of video games there might be found some marks or seeds of God’s grace. In other words, cyberspace, and in particular the virtual reality of video games, is not devoid of spirituality, or of God’s will and love. This identification, on the one hand, suggests that God participates in human development of the internet, but on the other hand, sets a task before us to continue looking and finding traces of the divine, and to drive the development of cyberspace according to these guideposts.

¹⁵¹ Jn 4,7.

Conclusion

In the introduction, I have presented the unlimited Library of Babel as some analogy to the reality of cyberspace. I hope that my understanding of cyberspace, which I have presented in this thesis, is not as hopeless and meaningless as it was the reality described by Borges. I hope that I have shown some meaning and an *Order* in cyberspace, which, as I believe, is highly related to the divine presence in creation and in history.

The internet has changed our way of living and interpreting reality. It brought us new perspectives and transformed even such fundamentals as the notion of freedom. As I presented in the first chapter, this new notions of liberties that came to exist together with the development of the internet, caused some moral issues and social conflicts. Some of these problems, such as for example SPAM, find satisfying solutions thanks to the development of digital technologies. Others, such as these related to the freedom of speech, seem to require other, more humanist moral approaches.

The interpretation of cyberspace in light of religious perspectives can provide new and efficient insights, hints, and solutions to address moral issues in cyberspace. The internet as a gift of God, cyberspace as a structure of grace and a structure of sin, and virtues were perspectives discussed in the second chapter. On one hand, they allowed me to address some moral issues such as for example cyber-exclusion, hate speech online, or a controversial attitude toward the human body caused by transhumanism. On the other hand, these theological perspectives helped in looking and finding the divine presence on the internet, which is always creative and which provides redemption and salvation. In my opinion, precisely these signs of divine presence could make cyberspace a meaningful and hopeful place.

Bibliography

- “Apple - Press Info - iTunes Store Tops 10 Billion Songs Sold.” Accessed December 5, 2016.
<http://www.apple.com/pr/library/2010/02/25iTunes-Store-Tops-10-Billion-Songs-Sold.html>.
- Catechism of the Catholic Church*. 2nd ed. Accessed January 30, 2017.
<http://www.vatican.va/archive/ccc/index.htm>.
- “Criticism of Wikipedia.” *Wikipedia*, February 5, 2017.
https://en.wikipedia.org/w/index.php?title=Criticism_of_Wikipedia&oldid=763901416.
- “Freedom on the Net 2016.” Washington, DC: Freedom House, November 2016.
https://freedomhouse.org/sites/default/files/FOTN_2016_BOOKLET_FINAL.pdf.
- “Hate Speech.” *Dictionary.com*. Accessed April 6, 2017.
<http://www.dictionary.com/browse/hate-speech>.
- “Liberty.” *Wikipedia*, September 14, 2016.
<https://en.wikipedia.org/w/index.php?title=Liberty&oldid=739473827>.
- “Liberty, n.1.” *OED Online*. Oxford University Press. Accessed November 4, 2016.
<http://www.oed.com/view/Entry/107898>.
- “Microsoft Partners with Old Rival Linux Foundation.” *BBC News*, November 17, 2016, sec. Technology. <http://www.bbc.com/news/technology-38012708>.
- “SimilarWeb.” Accessed March 31, 2017.
<https://www.similarweb.com/website/wowwiki.wikia.com>.
- “Teenager in Rail Suicide Was Sent Abusive Message on Social Networking Site,” July 22, 2011, sec. Technology. <http://www.telegraph.co.uk/technology/social-media/8653867/Teenager-in-rail-suicide-was-sent-abusive-message-on-social-networking-site.html>.
- “The Annual Cyberbullying Survey.” Brighton, UK: Ditch the Label, 2013.
<https://www.ditchthelabel.org/research-papers/the-cyberbullying-survey-2013/>.
- “What Is Free Software?” *Gnu.org*. Accessed November 29, 2016.
<https://www.gnu.org/philosophy/free-sw.en.html>.
- “Wikipedia.” *Wikipedia*, November 29, 2016.
<https://en.wikipedia.org/w/index.php?title=Wikipedia&oldid=752077036>.
- “Wikipedia:Wikipedians.” *Wikipedia*, February 5, 2017.
<https://en.wikipedia.org/w/index.php?title=Wikipedia:Wikipedians&oldid=763749853>.
- “WoWWiki.” Accessed March 31, 2017. <http://wowwiki.wikia.com/wiki/Portal:Main>.
- Abbate, Janet. *Inventing the Internet*. Cambridge, MA: The MIT Press, 1999.
- “Apple - Press Info - iTunes Store Tops 10 Billion Songs Sold.” Accessed December 5, 2016.
<http://www.apple.com/pr/library/2010/02/25iTunes-Store-Tops-10-Billion-Songs-Sold.html>.

- Association Press. "Teenager Hannah Smith Killed Herself because of Online Bullying, Says Father." *The Guardian*, August 6, 2013, sec. Society.
<http://www.theguardian.com/society/2013/aug/06/hannah-smith-online-bullying>.
- Bakunin, Mikhail Aleksandrovich. *God and the State*. New York: Dover Publications, 1970.
- Barth, Karl. *Church Dogmatics*. Edinburgh: T & T Clark, 1936.
- Bently, Lionel, Jennifer Davis, and Jane C. Ginsburg. *Copyright and Piracy: An Interdisciplinary Critique*. Cambridge, UK: Cambridge University Press, 2010.
- Bhagat, Kaushal Kumar, Wei-Kai Liou, and Chun-Yen Chang. "A Cost-Effective Interactive 3D Virtual Reality System Applied to Military Live Firing Training." *Virtual Reality* 20, no. 2 (June 1, 2016): 127–40.
- Borges, Jorge Luis. "The Library of Babel." In *Collected Fictions*, translated by Andrew Hurley, 112–18. New York: Viking, 1998.
- Briggs, Kristie, Joshua Eiermann, Thomas Hodgson, and Elizabeth McNamara. "Reducing Copyright Piracy Using Entrepreneurial Intermediary Platforms." *Journal of Entrepreneurship and Public Policy* 3, no. 2 (October 14, 2014): 306–16.
- Burnap, Pete, and Matthew L. Williams. "Cyber Hate Speech on Twitter: An Application of Machine Classification and Statistical Modeling for Policy and Decision Making." *Policy & Internet* 7, no. 2 (June 1, 2015): 223–42.
- Castronova, Edward. *Exodus to the Virtual World : How Online Fun Is Changing Reality*. New York: Palgrave Macmillan, 2007.
- Catechism of the Catholic Church*. 2nd ed. Accessed January 30, 2017.
<http://www.vatican.va/archive/ccc/index.htm>.
- Clary, E. Gil, Mark Snyder, Robert D. Ridge, John Copeland, Arthur A. Stukas, Julie Haugen, and Peter Miene. "Understanding and assessing the motivations of volunteers: A functional approach." *Journal of Personality and Social Psychology: Personality Processes and Individual Differences* 74, no. 6 (June 1998): 1516–30.
- Clifford, Richard J. "Election in Genesis 1." In *The Call of Abraham: Essays on the Election of Israel in Honor of Jon D. Levenson*, edited by Gary A. Anderson and Joel S. Kaminsky, 19:7–23. Christianity and Judaism in Antiquity. Notre Dame, IN: University of Notre Dame Press, 2013.
- . "Genesis 1-3: Permission to Exploit Nature?" *Bible Today* 135 (May 1988): 133–37.
- "Criticism of Wikipedia." *Wikipedia*, February 5, 2017.
https://en.wikipedia.org/w/index.php?title=Criticism_of_Wikipedia&oldid=763901416.
- Dawkins, Richard. *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design*. New York: W. W. Norton & Company, 1986.
- . *The God Delusion*. London: Houghton Mifflin, 2006.
- DeLashmutt, Michael W. "A Better Life through Information Technology?: The Techno-Theological Eschatology of Posthuman Speculative Science." *Zygon* 41, no. 2 (June 2006): 267–87.

- Delgado, Richard, and Jean Stefancic. "Hate Speech in Cyberspace." *Wake Forest Law Review* 49, no. 2 (Summer 2014): 319–43.
- Dennett, D. C. *Breaking the Spell: Religion as a Natural Phenomenon*. New York: Viking, 2006.
- Erjavec, Karmen, and Melita Poler Kovačič. "'You Don't Understand, This Is a New War!' Analysis of Hate Speech in News Web Sites' Comments." *Mass Communication and Society* 15, no. 6 (November 1, 2012): 899–920.
- Feuerbach, Ludwig. *The Essence of Christianity*. Translated by Marian Evans. London: J. Chapman, 1854.
- Francis. *On Care for Our Common Home: Laudato Si': Encyclical Letter*. Washington, DC: United States Conference of Catholic Bishops, 2015.
- "Freedom on the Net 2016." Washington, DC: Freedom House, November 2016.
https://freedomhouse.org/sites/default/files/FOTN_2016_BOOKLET_FINAL.pdf.
- Gagliardone, Iginio, Danit Gal, Thiago Alves, and Gabriela Martinez. *Countering Online Hate Speech*. Paris: UNESCO Publishing, 2015.
<http://unesdoc.unesco.org/images/0023/002332/233231e.pdf>.
- Geraci, Robert M. "There and Back Again: Transhumanist Evangelism in Science Fiction and Popular Science." *Implicit Religion* 14, no. 2 (June 2011): 141–72.
- Geraci, Robert M. "Video Games and the Transhuman Inclination." *Zygon* 47, no. 4 (December 2012): 735–756.
- Giles, Jim. "Internet Encyclopaedias Go Head to Head." *Nature* 438, no. 7070 (December 15, 2005): 900–901.
- Gloria, Alessandro De, Francesco Bellotti, and Riccardo Berta. "Serious Games for Education and Training." *International Journal of Serious Games* 1, no. 1 (February 3, 2014).
 doi:10.17083/ijsg.v1i1.11.
- Goel, Vindu. "Facebook's Internet for All Is a Tough Sell in India." *The New York Times*, October 25, 2015. <https://www.nytimes.com/2015/10/26/technology/facebook-meets-skepticism-in-bid-to-expand-internet-in-india.html>.
- Harris, Sam. *The End of Faith: Religion, Terror, and the Future of Reason*. New York: W. W. Norton & Company, 2004.
- Harrison, Peter. "Subduing the Earth: Genesis 1, Early Modern Science, and the Exploitation of Nature." *The Journal of Religion* 79, no. 1 (1999): 86–109.
- "Hate Speech." *Dictionary.com*. Accessed April 6, 2017.
<http://www.dictionary.com/browse/hate-speech>.
- Hitchens, Christopher. *God Is Not Great. How Religion Poisons Everything*. New York: 12/Twelve, 2007.
- Horne-Moyer, H. Lynn, Brian H. Moyer, Drew C. Messer, and Elizabeth S. Messer. "The Use of Electronic Games in Therapy: A Review with Clinical Implications." *Current Psychiatry Reports* 16, no. 12 (December 1, 2014): 520–29.

- Hosseinmardi, Homa, Zhili Yang, Qin Lv, Rahat Ibn Rafiq Han, Shivakant Mishra, Shaosong Li, and Richard Han. "A Comparison of Common Users across Instagram and Ask.fm to Better Understand Cyberbullying." In *IEEE Fourth International Conference on Big Data and Cloud Computing (BdCloud)*, 355–62, 2014.
- Jimenez, Christina. "The High Cost of Playing Warcraft." *BBC News Online*, September 24, 2007. <http://news.bbc.co.uk/2/hi/technology/7007026.stm>.
- John Paul II. *Laborem Exercens*. Washington, DC: United States Conference of Catholic Bishops, 1981.
- . *On the Hundredth Anniversary of Rerum Novarum: Centesimus Annus*. Washington, DC: United States Conference of Catholic Bishops, 1991.
- . *Sollicitudo Rei Socialis*. Washington, DC: United States Conference of Catholic Bishops, 1988. http://w2.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_30121987_sollicitudo-rei-socialis.html.
- . "The Christian Message in a Computer Culture - Message for the 24th World Communications Day," May 27, 1990. http://w2.vatican.va/content/john-paul-ii/en/messages/communications/documents/hf_jp-ii_mes_24011990_world-communications-day.html.
- Kalning, Kristin. "If Second Life Isn't a Game, What Is It?" *Msnbc.com*, March 12, 2007. http://www.nbcnews.com/id/17538999/ns/technology_and_science-games/t/if-second-life-isnt-game-what-it/.
- King, Daniel L., Paul H. Delfabbro, and Mark D. Griffiths. "Video Game Addiction." *Principles of Addiction: Comprehensive Addictive Behaviors and Disorders* 1 (2013): 819–827.
- Kurzweil, Ray. *The Age of Spiritual Machines: When Computers Exceed Human Intelligence*. New York: Viking, 1999.
- Kuznetsov, Stacey. "Motivations of Contributors to Wikipedia." *SIGCAS Comput. Soc.* 36, no. 2 (June 2006). doi:10.1145/1215942.1215943.
- Lee, Ralph. *The Secret History of Hacking*. Documentary. The Learning Channel, 2001.
- Lessig, Lawrence. *Code*. Version 2.0. New York: Basic Books, 2006.
- Lester, John. Personal Skype Interview with Robert M. Geraci, December 6, 2011.
- Lévy, Pierre. *Collective Intelligence: Mankind's Emerging World in Cyberspace*. Cambridge, MA: Perseus Books, 1997.
- "Liberty." *Wikipedia*, September 14, 2016. <https://en.wikipedia.org/w/index.php?title=Liberty&oldid=739473827>.
- "Liberty, n.1." *OED Online*. Oxford University Press. Accessed November 4, 2016. <http://www.oed.com/view/Entry/107898>.
- Linden Lab. "Infographic: 10 Years of Second Life." *Linden Lab: Press Releases*, June 20, 2013. <https://www.lindenlab.com/releases/infographic-10-years-of-second-life>.
- Lipinski, Tomas, Elizabeth Buchanan, and Johannes Britz. "Agents of Harm or Agents of Grace: The Legal and Ethical Aspects of Identifying Harm and Assigning Responsibility in a

- Networked World.” In *Readings in Cybernetics*, by Richard A. Spinello and Herman T. Tavani, 214–252, 2nd ed. Sudbury, MA: Jones and Bartlett Publishers, 2004.
- Locke, John. *Two Treatises on Government: A Translation into Modern English*. Manchester, UK: Industrial Systems Research, 2013.
- Lohr, Steve. “Buy a Laptop for a Child, Get Another Laptop Free.” *The New York Times*, September 24, 2007.
<http://www.nytimes.com/2007/09/24/business/worldbusiness/24laptop.html>.
- Mantelero, Alessandro. “The EU Proposal for a General Data Protection Regulation and the Roots of the ‘Right to Be Forgotten.’” *Computer Law & Security Review* 29, no. 3 (June 2013): 229–35.
- Marx, Karl. *Critique of Hegel’s “Philosophy Of Right.”* Cambridge: CUP Archive, 1977.
- McGonigal, Jane. “Gamers Have Skills. Let’s Tap ’Em.” *Christian Science Monitor*, November 5, 2007. <http://www.csmonitor.com/2007/1105/p09s01-coop.html>.
- . *Gaming Can Make a Better World*. TED Talks, 2010.
http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.
- . “Why I Love Bees: A Case Study in Collective Intelligence Gaming.” In *The Ecology of Games: Connecting Youth, Games, and Learning*, edited by Salen Katie, 199–227. Cambridge, MA: MIT Press, 2008.
- Metz, Cade. “Google Says Its AI Catches 99.9 Percent of Gmail Spam.” *WIRED*. Accessed December 8, 2016. <https://www.wired.com/2015/07/google-says-ai-catches-99-9-percent-gmail-spam/>.
- “Microsoft Partners with Old Rival Linux Foundation.” *BBC News*, November 17, 2016, sec. Technology. <http://www.bbc.com/news/technology-38012708>.
- Milburn, Colin. “Atoms and Avatars: Virtual Worlds as Massively-Multiplayer Laboratories.” *Spontaneous Generations* 2, no. 1 (2008): 63–89.
- Mill, John Stuart. “On Liberty.” In *On Liberty and Other Essays*, 1–114. Oxford World’s Classics. Oxford; New York: Oxford University Press, 1998.
- Munkittrick, Kyle. “‘I Would Hope That Saner Minds Would Prevail’ Deus Ex: Human Revolution Lead Writer Mary DeMarle on the Ethics of Transhumanism.” *Science Not Fiction*, August 12, 2011.
<http://blogs.discovermagazine.com/sciencenotfiction/2011/08/12/i-would-hope-that-saner-minds-would-prevail-deus-ex-human-revolution-lead-writer-mary-demarle-on-the-ethics-of-transhumanism/>.
- Newbart, Dave. “Microsoft CEO Takes Launch Break with the Sun-Times.” *Chicago Sun-Times*, June 1, 2001.
<https://web.archive.org/web/20011108013601/http://www.suntimes.com/output/tech/cst-fin-micro01.html>.
- Nietzsche, Friedrich. *The Gay Science: With a Prelude in German Rhymes and an Appendix of Songs*. Cambridge: Cambridge University Press, 2001.

- Nov, Oded. "What Motivates Wikipedians?" *Communications of the ACM* 50, no. 11 (November 2007): 60–64.
- Oliphant, Roland. "Russia 'Tried to Cut Off' World Wide Web." *The Telegraph*, October 15, 2015, sec. World. <http://www.telegraph.co.uk/news/worldnews/europe/russia/11934411/Russia-tried-to-cut-off-World-Wide-Web.html>.
- Omernick, Eli, and Sara Owsley Sood. "The Impact of Anonymity in Online Communities." In *2013 International Conference on Social Computing (SocialCom)*, 526–35, 2013.
- Ortega, Joshua. "E-Mail Interview with Robert M. Geraci," June 2, 2012.
- Penrose, Roger. *The Emperor's New Mind: Concerning Computers, Minds, and the Laws of Physics*. Oxford: Oxford University Press, 1989.
- Pontifical Council for Justice and Peace. *Compendium of the Social Doctrine of the Church*. Washington, DC: United States Conference of Catholic Bishops, 2004.
- Pontifical Council for Social Communications. "Communio et Progressio," May 23, 1971. http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_23051971_communio_en.html.
- . "Ethics in Communications," June 2, 2000. http://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_20000530_ethics-communications_en.html.
- Rohrer, Jason. Personal Skype Interview with Robert M. Geraci, April 26, 2012.
- Rothblatt, Martine. "From Mind Loading to Mind Cloning: Gene to Meme to Beme. A Perspective on the Nature of Humanity." In *H±: Transhumanism and Its Critics*, edited by Gregory R. Hansell and William Grassie, 112–19. Philadelphia, PA: Metanexus Institute, 2011.
- Schleiermacher, Friedrich. *On the Glaubenslehre: Two Letters to Dr. Lücke*. Texts and Translations Series (American Academy of Religion), No. 3. Chico, CA: Scholars Press, 1981.
- Second Vatican Council. *Gaudium et Spes, Pastoral Constitution on the Church in the Modern World*, 1965. http://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_const_19651207_gaudium-et-spes_en.html.
- "SimilarWeb." Accessed March 31, 2017. <https://www.similarweb.com/website/wowwiki.wikia.com>.
- Spinello, Richard A. *Cyberethics: Morality and Law in Cyberspace*. 6th ed. Burlington, MA: Jones & Bartlett Learning, 2017.
- "Teenager in Rail Suicide Was Sent Abusive Message on Social Networking Site," July 22, 2011, sec. Technology. <http://www.telegraph.co.uk/technology/social-media/8653867/Teenager-in-rail-suicide-was-sent-abusive-message-on-social-networking-site.html>.

- “The Annual Cyberbullying Survey.” Brighton, UK: Ditch the Label, 2013.
<https://www.ditchthelabel.org/research-papers/the-cyberbullying-survey-2013/>.
- Tillich, Paul. *Systematic Theology*. Vol. I. Chicago: University of Chicago Press, 1967.
- United Nations General Assembly. *Universal Declaration of Human Rights*. Lake Success, NY: United Nations Department of Public Information, 1949.
- Vicini, Andrea, and Agnes M. Brazal. “Longing for Transcendence: Cyborgs and Trans- and Posthumans.” *Theological Studies* 76, no. 1 (2015): 148–165.
- Welter, Brennan Scott. “The Netflix Effect: Product Availability and Piracy in the Film Industry.” Master thesis, The University of Georgia, 2012.
https://getd.libs.uga.edu/pdfs/welter_brennan_s_201212_ma.pdf.
- “What Is Free Software?” *Gnu.org*. Accessed November 29, 2016.
<https://www.gnu.org/philosophy/free-sw.en.html>.
- “Wikipedia.” *Wikipedia*, November 29, 2016.
<https://en.wikipedia.org/w/index.php?title=Wikipedia&oldid=752077036>.
- “Wikipedia:Wikipedians.” *Wikipedia*, February 5, 2017.
<https://en.wikipedia.org/w/index.php?title=Wikipedia:Wikipedians&oldid=763749853>.
- Williams, Sam. *Free as in Freedom: Richard Stallman’s Crusade for Free Software*. Boston: Free Software Foundation, 2010.
- “WoWWiki.” Accessed March 31, 2017. <http://wowwiki.wikia.com/wiki/Portal:Main>.
- Yang, Heng-Li, and Cheng-Yu Lai. “Motivations of Wikipedia Content Contributors.” *Computers in Human Behavior*, Online Interactivity: Role of Technology in Behavior Change, 26, no. 6 (November 2010): 1377–83.