

Reflection and Debate on the Universality of Truth and the Digital Society

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ABSTRACT :Universalization is a fundamental concept in philosophy that seeks to understand the nature of ideas and concepts that are applicable to all people in all places in the world and at all times. It is an approach that seeks to find principles and truths that are universally valid, regardless of any specific context.

The concept of truth involves many philosophical reflections and discussions, throughout the history of philosophy, from classical antiquity to modern philosophy, so we will understand very relevant philosophical concepts: **truth, lying and knowing**.

For the writing of this article, an analysis of the respective concepts was made, as well as the concepts of reality, objectivity, ethics, justice, politics, as well as their relationship with the different information and communication technologies, dissemination of sensationalist information, in the promotion of post-truth and the reflection on how philosophy can be used as a critical instrument in the valorization of universal truth.

Human beings seek to have solid beliefs and life patterns based on truth, as a form of emotional and mental stability, for the understanding of universal reality and the making of conscious, ethical and responsible decisions. The human being, based on his knowledge, reflects on these questions, through critical exercise, as a way of dealing with the crisis of truth in an ethical and conscious way.

KEYWORDS: *Truth, Post-Truth, Ethics, Reality, Universality, Digital Society.*

I. INTRODUCTION

The Digital Society has brought many challenges to science, namely the danger of fake news and "mismatched" information and other challenges. Discussing truth and post-truth, digital or not, and analyzing their effects, can raise pertinent reflections in the current sociocultural context. It seeks to trace a path of reflection and debate on the discursive functioning of what has been called truth, lies and knowledge.

Post-truth is a kind of social inclination, in which the truth is not as important as what was imagined to be true. It makes us think of the "phenomenon" as a discursive event based on the analysis that Pêcheux, (2015, p.19-20), made in his book: *The discourse: structure or event*, in which he analyzes the election of François Mitterand, in France, on May 10, 1981. At the time of the election, he uttered the phrase "On a gagné", marked a new fact, a political and media event, of the election of the French president, becoming the global event of the television industry and a "journalistic and media event that refers to a transparent socio-political content, but at the same time opaque".

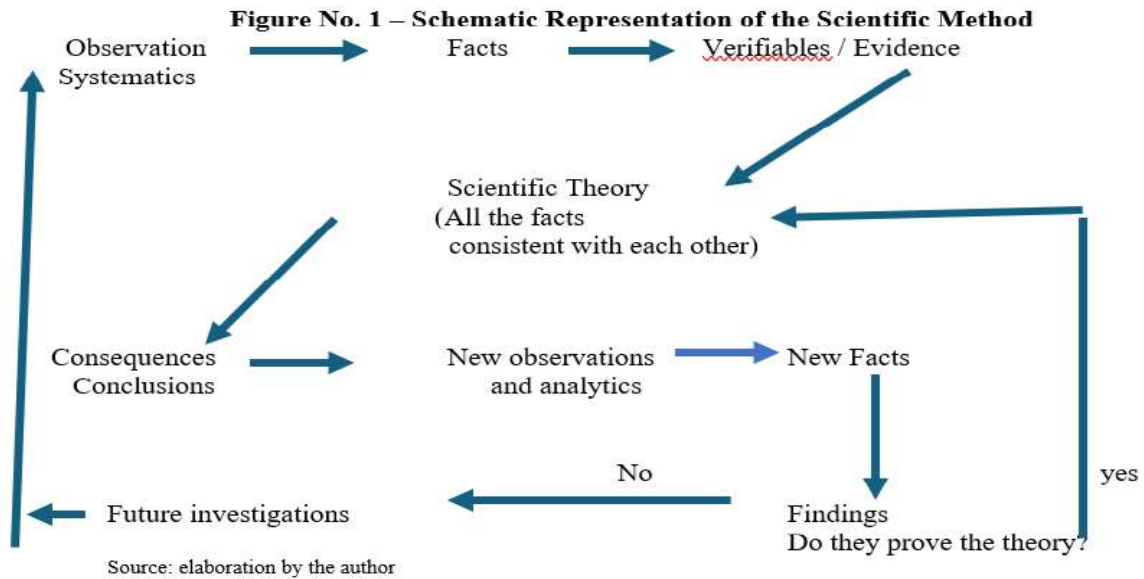
Pêcheux criticized science and positivism, which contributed to the understanding of the transparency of meanings, numbers, and competition. He analyzed the discourse and the practices of reading, implied in ideological rituals, philosophical discourses, cultural and aesthetic forms, through their relations with everyday life, thus allowing the questioning of positivist theories and philosophies of consciousness.

To promote this reflection and debate, we seek to establish the relationships between linguistic/discursive studies (Pêcheux, 2015; Orlandi, 2012a, 2012b), media studies and journalism (Charaudeau, 2013) and philosophy studies (Arendt, 2011; Foucault, 2013). This intersection of knowledge constitutes the approximation between the different ways of thinking about the concept of truth, as a condition of existence and which are involved in the regulation and functioning of interpretation and the human relationship with reality, and consequently linked to the chain of meanings of the term *post-truth*.

II. Scientific Method

This is an exploratory study that seeks to organize the main challenges faced by people in the Digital Society and their meaning presented in the literature of the Humanities, Social Sciences, Information Sciences, Philosophical Sciences, among others. It is not a proposal for new terms and concepts, but rather a universalization of them. that allows the identification of a common denominator among the different concepts already indicated in the literature, in order to enable their grouping by identity, application / use and pertinence / aggregation of value in the context in which the terms and concepts are inserted. The data collection is characterized by bibliographic research, on terms and concepts, referring to the different scientific fields.

It is a descriptive and analytical approach seeking to know and analyze the existing cultural and/or scientific contributions on this topic, based on the literature review. The research was structured based on the systemic approach to understanding the main challenges that citizens face in the Digital Society, seeking in practical, operational or application terms, the solution of real-life problems of organizations (public and private) and people.



Research Theme and Problem

The Concept of Universal Truth allows for active relationships between people, but the problem is that some do not know what it means, or do not want to use it, for personal or collective interests. To understand the way we think, perceive and feel, it is useful to create an analogy between universal norms, values and rules.

With the sophistication of new technologies, man has created forms of artificial intelligence that work in a similar way to himself, improving the ability to interpret and understand the global world. This includes object recognition, motion detection and pattern identification, and images. Automated reasoning refers to the ability of machines to process data (information), reach logical conclusions, and make decisions, based on these reasonings. This involves principle-based decision-making (norms and rules) and universal values to solve complex problems.

Issues:

- I. Does Universal Truth contribute to the Peace and Security of Humanity in the Digital Society?
- II. Does the digital Universal Truth contribute to the improvement of the Social and Economic Well-being of Humanity?

Goals

The Information Sciences, Human, Social, Economic, Philosophical and Political, seek the solution to the challenges of the Digital Society, that is, to define the paths, norms, rules and values that allow citizens (especially the owners of economic, political and financial power) to be guided, where rights and duties (responsibilities) are equal, for all, without exception. These paths, norms, and rules, to be implemented, require a commitment from them and from people in general, in their implementation.

Universal Truth is a multidisciplinary field of study that covers several areas of knowledge and represents a historical milestone in its interdisciplinary approach that involves the contribution of various areas of human knowledge. The Humanities, Philosophical, Social and Information Sciences provide the theoretical foundations for the modeling and analysis of the principles and values of universal truth.

Cognitive Science studies the mental processes of human intelligence, related to the understanding and modeling of cognitive processes, for the development of intelligent systems. Neuroscience seeks to understand the functioning of the human brain and apply these *insights* in the development of norms, rules and values, inspired by the human brain. The Philosophy of Mind explores the questions related to the nature of mind, consciousness, and intelligence, offering the important theoretical perspectives for the field of Universal Truth.

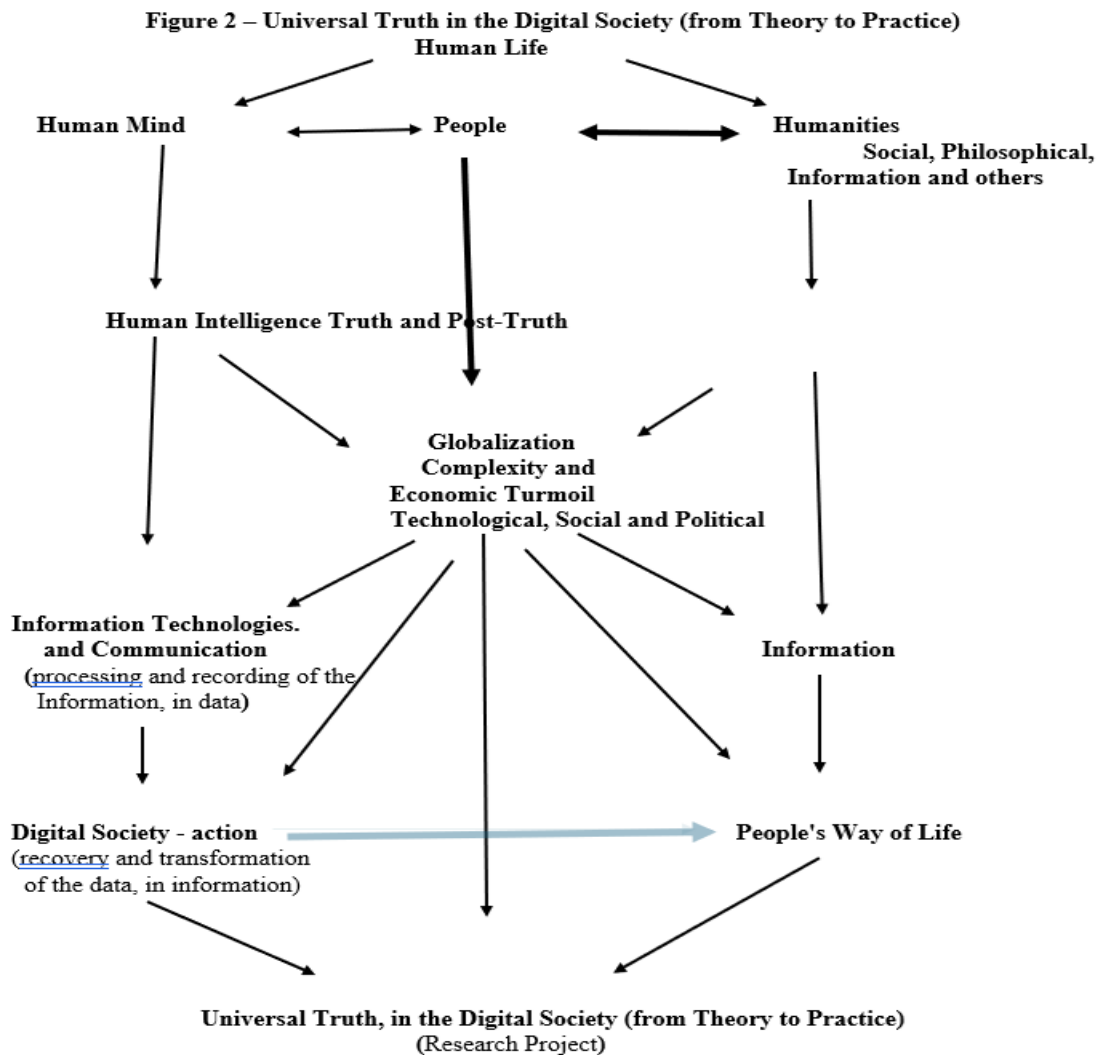
This article seeks to contribute to the clarification of the main challenges that people face with the (global) Digital Society, taking into account the great complexity and turbulence in which the world lives today, as well as the importance of the units of measurement for evaluating the results, the decisions of the different powers and their meanings, in the scope, of the different sciences, from a theoretical framework. The objective is a reflection and debate on the challenges identified by scientific research, developed by the different Sciences, in the Digital Society. The theoretical discussion of the concepts and meanings of empirical research constitute the basis for the outline of its structure, presented at the end, bringing together their universalization.

Methodological Approach

As for its nature, the research is qualitative, since it does not privilege statistical study. Its focus is the collection of descriptive data, that is, the incidence of topics of interest in fields such as Information Science, Humanities, Philosophical and Political Sciences, as well as other Sciences. With regard to the extremities, the research is exploratory and descriptive in nature, as the technique used is categorized, consensually, as a study of direct documentation, which provides for the consultation of sources related to the study, in different *media*, printed or electronic. The complexity and turbulence of the digital society have led to the globalization of research, as essential processes for the development and innovation of sciences and technologies. Information is the source of energy that drives the "engines" of the Digital Society, but in order to be able to use it we need to convert it into a usable form : **knowledge**, (Murteira, 2001).

The digital society is a complex society of technological innovation and communication, in which new environments are created and changes occur in the dynamics of people, in the way they understand reality, modifying the form, how they relate to each other and how they conceive themselves in the face of reality itself. Both meanings can be understood, as they result from the technological revolution, promoted, mainly, from the attempts to understand human intelligence, via computational bases. As a consequence, the pre-modern notion of information, as the *in-formation* that shapes or shapes the human mind, is gradually being replaced by information, as "data structure", Boland, (1987), representing intangible realities, too large to be experienced directly by people's senses.

The research method is likely to make meanings interact with each other. This interaction can range from the simple communication of ideas, to the mutual integration of concepts, epistemology, terminology, methodology, procedures, data and the organization of research. This is an exploratory study that seeks to clarify and organize the concepts presented in the literature of the different sciences. It is necessary to understand, through a theoretical review of the concepts, through the reference documents; of a psychosocial analysis of the concepts and meanings, applied to the Digital Society, in the context of people's social and economic life. The research was structured based on the systemic approach, to understand people's problems and possible improvements. This conceptual model is represented as follows:



The model approach for intervention in information actions, in the academic space, with the purpose of production, sharing of information and knowledge, among participants, in addition to promoting the development of skills of search, retrieval, organization, appropriation, production and dissemination of relevant information for scientific researchers, in the digital society, is presented.

III. THEORETICAL-METHODOLOGICAL FRAMEWORK OF THE RESEARCH

3.1 Humanities

The human sciences are a set of knowledge that aims to **study man, as a social being**, that is, they are the human sciences that carefully gather organized knowledge about the creative production of man and knowledge, based on specific discourses. Its goal is to unravel the complexities and turbulences of society, its creations and its thoughts. It is important to keep in mind that everywhere, human beings establish relationships with each other, whether they are friendship, affection or power. The human sciences seek to understand how these relationships are formed and how they evolve over time.

Thus, as a human condition, they have a multiple character, so they address theoretical characteristics, such as philosophy and sociology, while also addressing practical and subjective characteristics. As it is an area of knowledge that has the human being as its object of study, in sociability, the social sciences are based on disciplines such as philosophy, history, law, cultural anthropology, science of religion, archaeology, social communication, psychology, art theory, cinema, management, dance, music theory, design, literature, letters, philology, among others.

Humanism was a **philosophical and cultural movement that emerged in Europe during the fourteenth century**. He was inspired by Greco-Roman culture and philosophy, prioritized reason over faith, and was interested in the concept of the human being as the center of the universe. Although there have been several "humanisms", such as those of the Middle Ages or the humanism of the court of Charles the Great, but **when we talk about humanism we usually talk about the Italian Renaissance**, which is known as Renaissance humanism. In general, any study devoted to the reading and interpretation of classical texts is a humanistic study. Philosophical works that emphasize the human being, above all else, are also called humanists. Examples of this are the works of Werner Jaeger (1933-1947), Erich Fromm, (1900-1980), Erasmus of Rotterdam, (1466-1536), and Jean-Paul Sartre, (1905-1980).

Humanism from this anthropocentric perspective, inspired by scientific studies during Greco-Roman Classical Antiquity, diminished the cultural relevance of theocentrism that dominated European society since the Middle Ages. As an intellectual movement, Humanism disregarded the claim of the scholastic method as critical thinking, valuing rationality. According to humanist thought, human beings would be the supreme divine creation, thus being able to synthesize knowledge by themselves. In this way, the human being was, at the same time, a creature and a creator of the world, thus being able to act, as the architect, of its existence.

The multifaceted nature of the term and its breadth oblige academic studies on humanism to treat the term with care. Although they share some general characteristics, **it is not the same to speak of Renaissance humanism as to speak of existentialist humanism**. Humanistic thought prioritized the human being before the religious. Humanism was a **European philosophical, intellectual and cultural movement that emerged in the fourteenth century** and was based on the integration of certain values considered universal and inalienable, of the human being. This current of thought arose in opposition to theological thought, in which God was the one who ensured the fulfillment of the duties and obligations of others and the center of life.

Humanist thought is an **anthropocentric doctrine** that tries to ensure that the human being is the measure from which cultural parameters are established. This group privileged the sciences and was interested in all disciplines, whose purpose was to develop the values of the human being. Great thinkers of antiquity (e.g., Aristotle and Plato) **argued that knowledge empowered people, giving them happiness and freedom, and as such**, through classical works, knowledge was expanded and a more cultured society was created.

In 1945, the philosopher Jean Paul Sartre gave a lecture on the post-war climate, and what he said had a profound impact on all philosophical thought from that time on. This conference was called "Existentialism is a humanism" and marked a milestone by presenting a new conception of man and humanism. Paris in ruins after the Second World War, this conference set the tone for the search for a new human horizon, a **new moral horizon that embodies man 's responsibility and his existence**, beyond what is progress and the devastating consequences of war.

Characteristics of humanism:

- He developed an anthropocentric notion of the world and **set aside the theocentric idea**.
- It is a **much purer model of knowledge** than that existing in the Middle Ages.
- **He defended the idea of using human reason** as an engine in the search for answers, leaving aside the beliefs and dogmas of faith.
- **He reformed the teaching model** that existed until then, giving importance to the study of the classics of Latin and Greek and opening new schools that promoted the study of other languages and classical letters.
- **He developed the sciences, such** as grammar, rhetoric, literature, philosophy, morals and history, intimately linked to the human spirit.
- **He sought to eliminate any closed system** that did not allow for the multiplicity of perspectives of thought. It was thought that with this change, the total development of man would be achieved: physical and spiritual, aesthetic and religious.

Humanism and Renaissance

The Renaissance was a **historical period that extended from the fourteenth century to the sixteenth century**, which sought to leave the Middle Ages behind and give way to the Modern Age. This period was characterized by great artistic and scientific development, and by social, political, and economic changes, which sought to bury the vestiges of the Middle Ages (which they considered a dark phase) and lead to the development of the bourgeoisie.

Humanism was an intellectual current that developed in this historical period and promoted an anthropocentric view of the world, leaving aside the theocentric tradition and highlighting the capacities of man and human reason. Humanists did not see man from a theological perspective. They valued the human being for what he is: a natural and historical being. Unlike the men of the previous era, humanists ceased to see man from the theological point of view. They were men of religion, mostly Christians, but they looked for the answers to their questions about the world and things in ancient thinkers. They invalidated **the religion, but considered it to have a civil function** and to be a tool for maintaining the peace of society. Among the most prominent scholars of this era are:

- **Leonardo Bruni, (1370-1444)** - Italian historian and politician of notable performance in the rescue of the classics of Greco-Roman literature.
- **Giovanni Pico della Mirandola, (1463 – 1494)** - Italian philosopher and thinker, his most representative work "The 900 Theses" is a compendium of the most resonant philosophical ideas that existed until then.
- **Erasmus of Rotterdam, (1466-1536)** - Dutch philosopher and theologian, he was a critic of the institutions, the power of the time and the abuses of the members of the Catholic Church to which he belonged. He defended his "adages" (sayings), freedom of thought and Greco-Roman traditions. In addition, he sought that all people could have access to the gospel and with it, to the teachings of Jesus Christ. His work: "In Praise of Madness" had a great impact.
- **Thomas More, (1478-1535)** - English theologian and politician, he dedicated much of his life to the practice of law and the study of Greco-Roman theology and culture. "Utopia" was one of his famous works, written entirely in Latin. He was beheaded in 1535 for refusing to sign the act that established King Henry VIII as the leader of the Anglican church.
- **Juan Luis Vives, (1492-1540)** - Spanish philosopher, was a precursor of the idea of applying reforms in the academic field and the need for social assistance to the neediest.

Types of humanism

- **Christian Humanism** - Religious movement in which man is fulfilled in principle from a Christian structure.
- **Evolutionary humanism** - A current of thought that oscillates between philosophy, epistemology and anthropology and places the human being at the center of the Universe.
- **Secular humanism** - A movement that relies on certain philosophical currents and the scientific method to discard those supernatural explanations, such as creationism, that exist about the origin of the universe and humanity.

Importance and impact of humanism

Humanism is considered one of the predominant ideologies during the Renaissance, first and foremost, because **its anthropocentric ideas represented a paradigm shift**. This current focused on the development of the qualities of the human being and conceived rationality as a way of understanding the world.

The importance of humanism lies in the **rescue and dissemination of Greco-Roman traditions**. During this period, translations of the great classical works were made that allowed access to a larger portion of the population. In addition, **he promoted educational reforms** to make knowledge more accessible and valued humanistic studies, contributing to the development of sciences, such as rhetoric, literature and grammar. Humanism stands out for having expanded values, such as tolerance, independence and free will.

Humanist **philosophy**, in this sense, clashed with the expectations of the Middle Ages. Although the Middle Ages had a rich cultural life, it was still strongly linked to the Catholic Church, which helped dictate social positions and behaviors, as determined by a culture that exalted the submission of the human being to God. Humanism, however, defended man's ability to shape his destiny. By proceeding in this way, he changed not only the social focus from collectivism to individualism, placing in the human being himself the ability to alter the reality in which he lived, without depending on favor or divine will, but also the inspiring axis for the achievement of new knowledge. In this sense, it was the ancient sages who were seen as the best bases for these advances.

Some of the most significant examples of humanist thought are in the "Discourse on the Dignity of Man", a work by Giovanni Pico Della Mirandola. Considered one of the first books of modern philosophy, in which he presents the main thesis, about creation having occurred with God, allowing human beings the special freedom to build themselves. Through this emancipation, according to the author, the human

being cannot have a determined destiny, since it is the artisan himself who will decide what he will be, finding in the process, his essence through the rationality provided by God.

Although it is in the articulation of the themes, and not in the argument used, where the originality of Giovanni Pico Della Mirandola is found, the fact is that he represents a new line of thought that began to be adopted by several scientists, painters, philosophers and scholars in general, during the beginning of the Modern Era – even though most of the European population still lived marginalized, far from such intellectual and cultural processes. Because of this, Humanism, as well as its heir movement, the Renaissance, can be characterized as having occurred mostly among the European social-economic elite, who had the resources and time for the self-improvement valued by Humanism.

An example is in Leonardo da Vinci. Born in a small village near Florence, Leonardo would study for most of his life, until he mastered an impressive variety of sciences, such as engineering, architecture, sculpture and astronomy, teaching himself music, mathematics, physics and Latin. Gaining friends in high social spheres, due to his great intellectual abilities, he became one of the most celebrated Western artists of all time, being one of the most recognized names of the Renaissance today. Among his major works are Mona Lisa, Virgin of the Rocks and The Last Supper.

Human Dignity

Human dignity is the **right of every human being** to be respected and valued, as a social individual, with his or her particular characteristics and conditions, for the simple fact of being a person. History shows many cases where human dignity has been subjugated. Therefore, it is a fact that the dignity of the human person is not limited to having access to education, health and housing, for example. It also includes the most diverse faces of freedom, work, politics, integrity, among others, in addition to how these values are related.

The principle of human dignity is the basis of practically all law in democratic countries, since it is the realization that the fullness of the human being must be respected and preserved by the figure of the State, that is, a set of principles and values that has the function of ensuring that each citizen has his or her **rights respected by the State**. The main objective is to ensure the well-being of all citizens. The principle is linked to rights and duties, it involves the necessary conditions for a person to have a dignified life, with respect for these rights and duties. It is also related to moral values, because it aims to ensure that the citizen is respected in his personal issues and values.

Many basic rights of the citizen (fundamental rights) are related to the principle of the dignity of the human person, especially **individual and collective rights and social rights**. Respect for fundamental rights is essential to ensure the existence of dignity. It is precisely for this reason that the dignity of the human person is recognized as fundamental by the Constitution. Individual **and collective rights** are the basic rights that guarantee equality to all citizens. Some of the most important are:

- Right to life.
- Right to security.,
- Equal rights and obligations between men and women.
- Freedom of expression of thought (oral or written).
- Freedom of religious belief.

Individual and collective rights are also the protection of intimacy, freedom at work, freedom of movement and freedom to engage in artistic or intellectual activities. Social rights, on the other hand, are rights related to the well-being of the citizen. Some examples are:

- Right to education and work.
- Guarantee of access to health, transportation, security, social security.
- Protection of labor rights.
- Protection of children, maternity and the neediest.

The dignity of the human person is a **principle of the Democratic Rule of Law**, which is the State that respects and guarantees the human rights and fundamental rights of its citizens. Thus, it can be understood as a principle that places limits on the actions of the State. Thus, the dignity of the human person must be used to base decisions made by the State, always considering the interests and well-being of citizens. This means that, in addition to guaranteeing people the exercise of their fundamental rights, the State must also act with sufficient care so that these rights are not disrespected. It is an obligation of the State, through governments, to take measures to guarantee the rights and well-being of citizens. In the same way, it is also the task of the State to ensure that **fundamental rights are not violated**.

Human rights

The origin of the concept of human rights originated in the seventeenth century, and is a product of the theory of "natural rights" (Natural rights were established by God and reason, to all men, because they are all equal to each other – Principle of Equality among Men), by John Locke, defender of religious freedom and tolerance. However, in the era before Christ, there was already an embryonic perception of the concept and of human specificity:

- Cyrus Cylinder decree of (539 BC)., - protects the right to equality and religious freedom;
- Pact of the Virtuous (Hifl-al-fudul) – drawn up by Arab tribes around 590 A.D. is considered one of the first human rights alliances.
- No tribute may be imposed without the consent of Parliament,
- No subject can be imprisoned without a demonstrated reason (the reaffirmation of the right of habeas corpus),
- No soldiers may be quartered in the homes of citizens.
- Magna Carta - establishes equality before the law and the right to property;

After King John of England violated a number of ancient laws and customs by which England had been governed, in 1215 his subjects forced him to sign the Magna Carta, which enumerated what later came to be regarded as human rights. Among them were:

- The right of the church to be free from government interference,
- The right of all free citizens to own, inherit property(s), and be protected from excessive taxation.
- The right of widows to own property and to decide not to remarry,
- Establish the principles of equality before the law. It also contains provisions prohibiting bribery and official misconduct. (A Brief History of Human Rights - The Magna Carta (1215);
- The Petition of Right (1628), - the English Parliament passed a declaration of civil liberties, which safeguards civil liberties, such as the right of *habeas corpus*;
- The Constitution of the United States of America (1787) - defines the basic rights of citizens;

The Declaration of Independence of the United States of America "was the document in which the Thirteen Colonies of North America declared their independence from Great Britain, which inspired human rights documents around the world". (Declaration of Independence of the United States (1776). The Constitution of the United States of America (1787) "is the oldest National Constitution, and defines the principal organs of government, its jurisdictions, and the basic rights of citizens." (A Brief History of Human Rights - The Constitution of the United States of America (1787) and the Bill of Rights (1791).

The Declaration of the Rights of Man and of the Citizen (1789) marks in a broader and more significant way the historical process of Western awareness of the intrinsic value of Man. The French Declaration of Human Rights emerged in the context of great political and social upheaval, under the Enlightenment influence of natural rights and Renaissance ideas that evoked equality among all human beings, calling into question the old ideals.

The Bill of Rights (1791) - «... protects freedom of expression, freedom of religion, the right to keep and use weapons, freedom of assembly and freedom of petition.» (A Brief History of Human Rights - The Constitution of the United States of America (1787) and the Bill of Rights (1791).

Only in the nineteenth and twentieth centuries were initiatives with some significance put into practice in the international protection of human beings, namely, in the eradication of the slave trade; treaties aimed at improving the conditions of the sick and wounded in war; the protection of minorities; the creation of the Leagues of Nations; concern for the fair treatment of refugees; the legal status of women, and the creation of the International Labour Organization (ILO), with the humanitarian mission of eradicating poverty and social inequalities, along with concerns about equal opportunities among men.

On October 24, 1945, the United Nations (UN) was created. Its founding principle of seeking and maintaining peace was to rebuild the world on the pillars of freedom and justice, through cooperation between peoples, to strengthen human rights and to seek solutions to the economic, social, cultural or humanitarian problems that occurred after the end of the 2nd World War. A war where many atrocities were committed, 6 million lives were lost among soldiers and civilians, entire cities in ruins and flames in which the Holocaust is an example.

Article 55 of the UN Charter itself proclaims that the United Nations shall promote "universal **respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex language, or religion.**" Article 55 of the UN Charter. In Article 56, the member states express their willingness to develop cooperation actions with the UN, both joint and individual, with a view to achieving those objectives (states with different legal and cultural origins, from all regions of the world).

The Universal Declaration of Human Rights (UDHR), signed on December 10, 1948 by the United Nations General Assembly in Paris, appears as a landmark document in the history of human rights, in the desire to regulate international relations, in the repudiation of violence and barbarism, and between peoples, in the maintenance of peace, in the opposition to discrimination and exploitation of peoples. The UDHR established, for the first time in history, the universal protection of human rights, as an ideal to be achieved by all peoples and all nations, in the promotion of respect for these rights and freedoms. The 14 States that signed this Declaration were bound to accept the precepts that, despite not having coercive value or legal imposition, have ethical and moral value, with the commitment assumed, making them responsible for developing the appropriate legislation, in their countries, so that these rights could be implemented.

The United Nations Universal Declaration of Human Rights marked the twentieth century, bringing legal and global recognition of human rights, innovating civil and political rights, namely, the right to life, the right not to be subjected to torture or slavery, the right to freedom of thought, conscience, religion and expression, and in particular to inspire the constitutions of the States and of recent democracies. Two decades later, given that the UDHR of 1948 had only the quality of a recommendation (resolution), therefore not binding, States needed to create other instruments.

At the United Nations Assembly of 16 December 1966, two multilateral treaties were concluded which recognised and strengthened the rights and duties of the UDHR; more articles were added extending the number of rights, giving them greater protection, surpassing the Fundamental Declaration itself. These Treaties are the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR), which have made human rights mandatory and binding precepts of the signatory States.

The ICCPR is a Covenant that strengthens civil (individual freedoms) and political (access to justice and political participation) rights. The ICESCR has established the human rights - economic, social and cultural - that must be implemented in the long term, in a progressive and programmatic way, whose duty to comply with them is addressed to the States themselves.

The principles of the UDHR are present in almost all humanitarian documents, such as the International Convention on the Elimination of All Forms of Racial Discrimination, Convention on the Elimination of All Forms of Discrimination Against Women, International Convention on the Rights of the Child, Convention against Torture and Other Cruel Treatment or Punishment, Inhuman or Degrading, among many others" (Universal Declaration of Human Rights). It was up to the signatory States to transpose it into the internal legal order of these States, producing new legislation, adapting the existing one and giving it effective application in order for these norms to be respected. Failure to comply with the rules, whether by acts or omissions, puts States in a situation where they have to justify themselves before the International Court of Justice (ICJ).

3.2 Philosophical Sciences

Considering philosophical practice, as the art of interpreting reality from the formulation of conceptual schemes about the human being, nature and society, can Philosophy face the problems that arise from the new organizational dynamics of society today? We understand that Philosophy alone, without interdisciplinary tools of analysis, does not seem capable of facing, perhaps even formulating, the problems raised by ICTs.

Floridi, (2011, p. 14), characterizes the Philosophy of Information (IF) as follows: a philosophical area that is related to:

- a) The critical investigation of the conceptual nature and basic principles of information, including its dynamics, use and sciences; and refers to IF, as a new area of research in Philosophy, guided by the investigation of the content of information and not only in its form, quantity and probability of occurrence (thus differing from the proposal of Shannon & Weaver, (1949/1998). It is important to emphasize that the IF does not seek to develop a "unified theory of information", but to integrate the different forms of theories that analyze, evaluate and explain the various concepts of information defended.
- b) The characterization, in turn, indicates, according to Floridi, (2011, p. 15-16), that the IF has its own methods for analyzing philosophical, traditional and new problems. These methods have information as their central element, are interdisciplinary in nature and maintain the relationship with computational methods, in addition to using concepts, tools and techniques already developed in other areas of Philosophy (e.g., Philosophy of Artificial Intelligence, Cybernetics, Philosophy of Computing, Logic, among others).

Thus, IF will provide a broad conceptual framework for the treatment of the issues that emerge from the "new" dynamics of contemporary society, Floridi, (2011, p. 25). An example of this dynamic is the possibilities of interaction provided by ICTs which, depending on the degree of familiarity of people with such technologies, promote a feeling of dependence on being online. In addition, even if people do not want to be online most of the time, such a feeling remains, due to the dissemination of informational devices in everyday life, such as cameras, credit cards, among others. In this situation, the question arises: what are the implications of the insertion of ICTs in society for people's daily action?

Considering (a) and (b), Floridi, (2002, 2011), argues that IF constitutes a new paradigm and an autonomous area of investigation in Philosophy. It is characterized as a new paradigm, as it would break with previous paradigms of Philosophy, since it is neither anthropocentric nor biocentric, admitting information as the central focus in the analysis of concepts and social dynamics. The autonomy of the IF, on the other hand, would be sustained by the presence of its own topics (problems, phenomena), methods (techniques, approaches) and theories (hypotheses, explanations), according to other areas already recognized, such as legitimately philosophical, Floridi, (2002, 2011); Adams & Moraes, (2014).

Information what is it?

Among the topics of IF, the question "what is information?", referring to the ontological and epistemological natures of information, stands out. It is the answer to this question that directs the paths to be developed by FI and delimits its scope of investigation, Floridi, (2011). The importance of this issue is also due to the fact that there is no consensus among scholars in their proposals.

Since the "informational turn in Philosophy", several conceptions of information have been developed in an attempt to respond to concerns about the ontological and epistemological status of information. Although Adams (2003) indicates the milestone of the informational turn in Philosophy with the publication of Turing's article (1950), there are precursors of information theory in several areas, especially in Semiotics, such as the works of Charles S. Peirce (1865-1895). Some examples can be given with the following proposals:

- Wiener, (1954, p. 17): "The commands through which we exercise control over our environment are a type of information that we impose on it." In addition, for this author, information would be a third constituent element of the world, along with matter and energy, and is not reducible to them.
- Shannon & Weaver, (1949/1998): the authors establish, the Mathematical Theory of Communication, a technical notion of information conceived in probabilistic terms resulting from the reduction of possibilities of choice of messages, which can be understood objectively.
- Dretske, (1981): information is understood as a commodity that exists objectively in the world, independent of a conscious mind of the first person who captures it. The information would constitute an indicator of the regularities of the environment, from which representations, beliefs, meaning, mind, mental states, among others, would be made.
- Stonier, (1997, p. 21): information would be on the physical plane, objectively, and the theorists of Physics, in turn, would have to expand their vocabulary and admit *infons* (particles of information) as a constituent element of the world. «(...) information exists. It does not need to be perceived to exist. It does not need to be understood to exist. It does not require intelligence to interpret it."
- Floridi, (2011, p. 106): «Information is a well-formed datum, with meaning and truth». Well-formed and meaningful data that refers to the intrinsic relationship that the data would need to have in relation to the choice of system, code, or language in question. These would have their aspect of "true" and "truth" related to the adequate supply of the contents, to which they refer in the world.
- Gonzalez, (2014): conceives of information as an organizing process of dispositional (counter-factual) relations that bring together properties attributable to material/immaterial objects, structures or forms) in specific contexts.

Information and Truth

Although the concepts of information are different, there is in common the naturalistic stance in relation to the objective aspect of information. In addition, proposals such as those of Dretske and Floridi denote an intrinsic relationship between information and truth. According to Dretske (1981, p. 45), characterizing "false information" as information would be the same as saying that "rubber ducks are types of ducks". Since the information cannot be false, the information would be true, as well as its source. This source can be interpreted as the world itself, making it possible to deal with another problem of IF, that is: what is the nature of knowledge? Regarding the nature of knowledge, the theories of knowledge stand out, from which it is analyzed, through the relationship between the cognitive and the world. For Dretske (1981, p. 56), the information processors of the sensory systems of organisms are channels for receiving information about the external world.

The naturalistic stance of Philosophy consists of disregarding the supernatural, in the explanation of nature and mind, conceiving reality constituted only by natural elements and laws, which are explained through scientific methods. The term "natural" encompasses other terms such as "physical", "biological" or "informational" that express a rejection of transcendent assumptions in the foundation of knowledge, Moraes, (2014). According to Adams, (2010), knowledge acquires its properties from its informational base; Thus, if someone 'knows that P' it is because he is told 'that P'. In such a relationship, knowledge is about the world, about truth, constituting the bridge between the cognitive agent and the world.

The problems of the ontological and epistemological nature of information, and the nature of knowledge, are part of the IF's research agenda the following questions: "what is meaning?", "what is the relationship between mental states and informational states?", "can reality be reduced to informational terms?", "can information support an ethical theory?", among others. Having presented the topics (problems) and theories (hypotheses and explanations) of IF, we highlight two methods specific to this area of investigation: the "synthetic method of analysis" and the "levels of abstraction".

Such methods come from the influence of Turing's works (1950) in Philosophy (marked, in particular, by the informational turn). The "synthetic method of analysis" is the result of Turing's hypothesis (1950), according to which the study of the mind is appropriate when carried out from the use of mechanical functions that could be manipulated by digital computers, Gonzalez, (2005), Floridi, (2012). By means of such functions it would be possible to construct mechanical models of the structure and dynamics of intelligent thought. The understanding that underlies this conception is that **the ability to manipulate information, in a mechanical way, constitutes thinking.**

This understanding enables the development of mechanical models of the mind, which initially generated two strands in Cognitive Science, Teixeira, (1998): strong Artificial Intelligence, which defends the thesis, according to which, mechanical models of the mind, when successful, not only simulate/emulate mental activities, but explain and instantiate such activities; and weak Artificial Intelligence, according to which the model is only a limited explanatory tool of intelligent mental activity. The common point of such notions is that both accept the thesis that to simulate is to explain, in order to attribute to mechanical models, the value of theories.

Relationship between information and intelligent thinking

The "levels of abstraction", in turn, derive from Turing's algorithmic approach, which is summarized by Floridi, (2013b, p. 210), as follows: We have seen that questions and answers never occur in a vacuum, but are always incorporated into a network of other questions and answers. Likewise, they cannot occur in any context, without any purpose, or independent of any perspective. According to this perspective, a philosophical question is analyzed, considering its context and purpose, which delimit the field of possible answers.

Considering the topics, theories and methods of IF, Adams & Moraes, (2014) propose the "argument of analogy" to analyze the autonomous aspect of IF. These authors point out that, like the Philosophy of Mathematics and the Philosophy of Biology, the IF has characteristics such as:

- Proximity to the scientific approach, epistemological and metaphysical problems, in addition to the presence of problems of their own, not previously dealt with in other areas of Philosophy. Given that IF shares characteristics present in areas already recognized by the philosophical society as legitimate, it would be counterintuitive not to accept IF, as an autonomous area of investigation, in Philosophy.

As we have indicated, the development of information studies in the philosophical-scientific sphere contributed to the constitution of the IF in the academic sphere. This is illustrated with the constitution of IF, as an autonomous and interdisciplinary area of Philosophy: due to its relationship with Computing, Sociology, Engineering, among other areas, generating methods and theories to deal with its problems; and autonomous, depending on its own (and new) problems. With the development of the academic scope of IF, the influence in the social

sphere is also highlighted, illustrated by the growing presence of ICTs in the daily lives of people and organizations. Such presence would be influencing the dynamics of contemporary society, constituting the "Information Society / Digital Society".

3.3 Social sciences

Although thought and reflection on social reality and social relations has been a constant in the history of humanity, since Classical Greece, through the Middle Ages and during the Renaissance, it is only in the nineteenth century that it becomes possible to speak of "social sciences", as it is the set of reflections of this period that, incorporating Baconian principles and the Cartesian method, it will consist of the form of knowledge historically known as "modern science". If the eighteenth century knew important thinkers of society, such as Montesquieu, Locke, Hume and Rousseau, it is with Auguste Comte that the beginning of the social sciences is usually identified.

Positivism

Comte, a French thinker known as the father of Positivism, proposed to carry out studies on society with maximum objectivity, in search of universal laws that would govern the behavior of social life, everywhere. His theory, also called Social Physics, proposed that the whole society evolve in the same way and in the same direction. And so, he proposed the Law of the Three States, according to which the whole society should evolve from a theological or fictitious state, to a metaphysical or abstract state, and from there, finally, to a positive or scientific state, Lakatos & Marconi, (1999, p. 45-46). Comte's Social Physics provides the theoretical foundation for a process that had already been taking place in Europe two centuries earlier, a process by which "the calculus of probabilities, the foundations of which were laid by Pascal and Huyghens around 1660, became a new form of objectification of human society, Mattelart, (2002, p. 18).

Theories of Probability

The mathematical sociology of the Belgian Adolphe Quételet (1796-1874), the probabilistic theories, the application of statistics in the management of societies and the anthropometry of Alphonse Bertillon (1853-1914) were developed, in a direction that was only partially different, since its direct influence comes from the work of Darwin (1870) on the evolution of species. At the same time, the Englishman Herbert Spencer began Social Biology, Lakatos & Marconi, Araújo, (1999, p. 47).

Based on the reflections on the division of labor by Smith & Stuart Mill (2008, 2018), on the models of material flows in social groupings (Quesnay, Babbage, (1980) and on the theorization of networks (Saint-Simon), Spencer elaborates his organizational model of understanding social reality, promoting an analogy between society and a living organism, with the parts performing functions, for the proper functioning of the whole. Among the various impacts caused by this theoretical model is the foundation of the doctrine of Social Darwinism, which justified the European colonizing action in the nineteenth century, in Africa and Asia, the elaboration of the Psychology of Crowds (Sighele, Le Bon) and the use, in the social sciences, of various terms and concepts "borrowed" from biology (isolation, contact, cooperation, competition and others).

The synthesis between the two pioneering theorizations and their systematization in a body of "sociological" knowledge was carried out by Émile Durkheim, "Frenchman, considered by many scholars to be the founder of sociology, as a science independent of the other social sciences", Lakatos & Marconi, (1999, p. 48). His proposal, to consider social facts as "things", and a radical empiricism, are in perfect harmony with the positivist spirit. His idea of "primitive societies" and "complex societies" takes up both elements of the Law of the Three States, and Spencer's biological perspective, which is not taken without criticism. His study of suicide is the application of the rules of the sociological method defined by him two years earlier: the exclusion of individual and psychological causes, the search for properly social causes, the elaboration of laws and quantification.

Functional Sociology

With Durkheim, Functionalist Sociology, also known as the Theory of Integration, is inaugurated, which sees society, as a whole, formed by constituent, differentiated and interdependent parts. The study of society must always be carried out from the point of view of functions, of its units. In the twentieth century, Functionalist Sociology developed and became the "*strong program*" of the social sciences, mainly with the works of Talcott Parsons, (1902-1979), (Harvard University), Robert Merton, (1910-2003), and Paul Lazarsfeld, (1957), (Columbia University), inspiring the other social sciences, such as anthropology, political science, and communication.

This is the trend of higher education courses in sociology structured throughout the century, the nature of the first professional associations, and the type of research funded by large foundations and government agencies. The first major split experienced in the scope of the social sciences has its origin in the Hegelian dialectic, taken up by Marx for the understanding of social reality, Demo, (1989, p. 88). Applied to social life, dialectical thought, which operates with the unity of opposites, sees social life from the presupposition of social conflict, perceiving that "all social formation is sufficiently contradictory to be historically surmountable", Demo, (1989, p. 89-90). Also known as Conflict Theory, the Marxist perspective is the first model that is really specific to the social sciences – since functionalism borrows its concepts and methods from physics and biology – even though an approximation with philosophy has been built.

Another approach from the social sciences poses a whole range of new concepts and objects to be studied: domination, ideology, alienation, reification. Its application, throughout the twentieth century, contributed to the construction of different perspectives: the Critical Theory of the Frankfurt School, the Dependency Theory, the Theory of Cultural Imperialism, the Gramscian Political Theory, and, even in the United States, has in the formulations of Wright Mills, (1916-1962), a sympathizer of the "critical" stance as opposed to the "sociology of bureaucrat or intelligence official", that is, to the positivist and functionalist social sciences.

Structuralism

Structuralism, which is often identified as a third approach to the social sciences, Demo, (1989, p. 171) can, in fact, be understood as a specific perspective that, in fact, constitutes manifestations of both functionalism and Marxism, as exemplified by the works of Manilowski, (1884-1942), Radcliffe-Brown, (1881-1955), and even Parsons' "structural-functionalism", in the first case, or the works of Levi-Strauss, (1908-2009), & Althusser, (1970), in the second.

The second split in the social sciences occurred from the fusion of the works of two other precursors of the social sciences – Max Weber, (1864-1920), and Georg Simmel, (1858-1918), – both Germans. Weber is considered the founder of Interpretative Sociology or Comprehensive Sociology, insofar as he formulates the concept of social action, which is the action of the individual, endowed with meaning for him – in what differs radically from the concept of social fact in Durkheim. His work on *the Protestant Ethic and the Spirit of Capitalism* seeks to explain the development of capitalism in the United States, not from the idea of linear progress of societies or the functions of each part in the whole (functionalism) or from material or economic conditions, or from the class conflict originated by the distribution of modes of production (Marxism). but from the "spirit of capitalism", that is, from the *ethos*, the atmosphere of values of a given population, from the beliefs and meanings attributed to their actions.

Simmel, on the other hand, proposed the study of social relations based on small everyday interactions, giving rise to a field known as microsociology. The importance of his work will be at the beginning of the century, with the research of the Chicago School. One of its representatives, Robert Park, (1932-2010), took the city as a "social laboratory", installing a method of study in which subjects could not be studied outside their environment. Ernest Burgess, in the same vein, carries out work in "social ecology", from an ethnographic perspective. The first major attempt at synthesis between the two possibilities of understanding social reality (the focus on the micro dimension and on the interpretative attitude of the subjects) was achieved by Symbolic Interactionism, a current that brought together researchers from different schools that have, as a precursor, George Herbert Mead, (1863-1931). One of his students, Herbert Blumer, (1900-1987), created the term in 1937, publishing in 1969 its three basic assumptions:

- Human behavior is based on the meanings of the world;

- The source of meanings is social interaction;
- The use of meanings occurs through a process of interpretation, Blumer, (1980).

Berger & Luckmann (1985, 1966) addresses the social construction of reality, which is seen not only as a process of construction of objective/subjective/intersubjective reality, in the context of infinite daily interactions, but also of processes of institutionalization and socialization.

Yet another current, in the same vein, is ethnomethodology, a discipline founded by Harold Garfinkel, (1967), which aims to try to understand how individuals see, describe and propose, together, a definition of the situations in which they find themselves, Coulon, (1995). His proposal provoked great controversy against traditional sociology, for criticizing the idea of social fact, as something stable and objective, proposing a vision in which it is understood, as a product of the continuous activity of men. Starting a whole branch of studies, it spread first to the University of California (Sudnow, Schegloff, Zimmerman), then to the United States (Cicourel), England (Heritage) and France (Fornel, Ogien). If, until the 1970s, the social sciences found themselves in the clash between "administrative" and "critical" perspectives, Horkheimer, (1983), or faced with the opposition between "apocalyptic" and "integrated" (Eco, 1985). Since that time we have witnessed the growing influence of interpretative and micro-sociological currents.

This whole movement has provoked, since the 80s, an attempt to synthesize the different perspectives, their proposals and their concepts. Examples of this work are the Theory of Communicative Action by Jürgen Habermas, the Praxiological Model of Louis Quéiré and Pierre Bourdieu, the Reflective Sociology of Anthony Giddens, Scott Lash and Ulrich Beck, the Sociology of Everyday Life by Michel de Certeau and Michel Maffesoli, the Cultural Studies descended from the Birmingham School and which have today in Stuart Hall, Douglas Kellner and Fredric Jameson as its main representatives, the proposals for connection with the hermeneutics of Clifford Geertz, among others.

3.4 Information Science

It is difficult to pinpoint the emergence of a new science, even when it is a recent scientific discipline, as is the case of Information Science. However, Foskett (1969) and Ingwersen (1992) point to the date of 1958 as one of the milestones in the formalization of the new discipline, when the *Institute of Information Scientists* (IIS) was founded in the United Kingdom. Meadows, (1990), describes the origin of the new discipline, based on specialized libraries (in industries and other organizations). According to Meadows (1990), the discipline underwent a marked development after the Second World War, due to the emergence of the Mathematical Theory of Information, described by Shannon and Weaver, in the late 40s. This theory has been adopted by many other areas because it explains the problems of transmitting messages through mechanical communication channels. The industrialization of the commercial press promoted the bibliographic explosion, a phenomenon no less important than the advent of the Gutenberg press, which occurred around 1450, whose effects became more evident after the 2nd world war.

His contribution to the development of Information Science was small, but important for the history of the area, as it attracted attention to two needs. The first to clearly define the nature of the information that people cared about, and the second to define the conceptual framework to be applied in the organization of that type of information. According to (Dias, 2002), it is a consensus among authors in the area that information science emerged in the middle of the twentieth century. According to Pinheiro & Loureiro (1995), Norbert Wiener in 1948, in his work "*Cybernetics or control and communication in the animal and machine*", and Claude Shannon and Warren Weaver in 1949, in the book "*The mathematical theory of communication*", marked the beginning of what would become information science. Also, according to the authors, it is in the 60s that the first concepts and definitions are elaborated, and the debate on the origin and theoretical foundations of the new area of knowledge begins" (Pinheiro & Loureiro, 1995, p. 42). The authors point out several facts that occurred in the 60s that meant the true milestones of the formation of a new disciplinary field:

- The conference held at the *Georgia Institute of Technology*, (1962),
- The *Weinberg Report* (1963)
- Mikhailov's work *Informatics* (1966)
- The study by Rees and Saracevic, (1967),
- Boroko's definition, in *Information Science: what is it?* (1968).

Boroko (1968) defined information science as a discipline that investigates the properties and behavior of information, the forces that govern its flow, and the means of processing to optimize its accessibility and use. It is related to the body of knowledge related to the production, collection, organization, storage, retrieval, interpretation, transmission, transformation and use of information. This includes the investigation of the representation of information in natural and artificial systems [...]. It has a pure science component that investigates the essence of the subject, without considering its application, and another applied science component that develops services and products [...]. For Goffman (1970) the objective of Information Science is to establish a unified scientific approach to study the various phenomena that involve the notion of information, whether such phenomena are found in biological processes, in human existence or in machines created by human beings. Consequently, the subject must be related to the establishment of a set of fundamental principles that govern the behavior of the entire communication process and its associated information systems.

Griffith (1980) proposed a similar definition that establishes Information Science as a discipline that seeks the creation and structuring of a body of scientific, technological and systemic knowledge related to the transfer of information. Saracevic (1991) studied the evolution of Information Science and defined it as "a field dedicated to scientific issues and professional practice, focused on the problems of effective communication, knowledge and knowledge records, between human beings, in the social, institutional or individual context, of the use and needs of information. In dealing with these issues, the advantages of modern Information and Communication Technologies (ICTs) are considered of particular interest.

Information Science was born after the Second World War, to solve a major problem, which was also the great concern, both of Documentation and of Information Retrieval, which is to gather, organize and make accessible the cultural, scientific and technological knowledge produced throughout the world. Information science is a recent science and was born from the exact sciences, that is, seeking to achieve exact knowledge from the inspiration of mathematical and quantitative models. Bronowski, (1977, p. 47), based on objectivity, sought to formulate universal laws of the "behavior" of information. Strongly influenced by the empirical sciences, it intended to establish universal laws that represented the informational phenomenon and hence the need to resort to mathematical (information theory), physical (entropy) or biological (epidemiological theory) models.

In the seventies, a character enters the scene who redirects the focus of information science: "man (decision-maker) and as such the human and social sciences also begin to contribute with their methods and practices to the composition of this emerging science", Cardoso, (1996: 73-74). Initially very connected to computing and automatic information retrieval. According to González de Gomez, (2000, p. 6), from the 1970s onwards, he effectively inscribed himself in the social sciences, as a "symptom of the ongoing changes that would affect the production and direction of knowledge in the West", González de Gomez, (2000, p. 2). It is from this decade onwards that we can refer to the "social foundations of information". However, some relevant questions, if we are asked right now, what is the branch of science to which information science is most close? What are the theories, concepts and methods that feed information science?

The first studies in information science, as a social science, were to study social reality from a statistical, i.e., quantitative, perspective. Berger & Luckmann (1985) presented reality as something that is socially constructed and not as an existence in itself, and pave the way for the understanding of information not as a given, a thing that would have meaning and importance *per se*, but as a process. That is, something

that will be perceived and understood, in various ways by people, which according to Borko's (1968) definition of behavior and information flows, is something that is outside of people and with Buckland's (1991) definition that sees information as a "thing" outside people.

The subjectivity of information becomes fundamental for understanding the different planes of reality and the distinction, between the different forms of knowledge and mechanisms, of their configuration and legitimation. People need to be included in studies on information and in their daily interactions, forms of expression and language, rites and social processes. Several studies can be presented, as an example, of the incorporation of these concepts in the field of information science studies, such as the *sensemaking approach* inaugurated by Dervin, Atwood & Palmour, the studies of MacMullin & Taylor on the values of people, the studies of a cognitive nature inspired by the theory of Maturana & Varela, the hermeneutic approach to information science, the studies of Capurro, (2003), on information networks based on the theoretical framework of Bourdieu (1983, p. 46-81), as well as the studies of bibliometrics and scientific communication and the contributions of Foucault's Archaeology of Knowledge and the Sociology of Science (Latour, Knorr-Cetina, among others).

Information Science is a discipline that has a very broad field of practices, but it does not yet have a defined theoretical field as is the case with other areas of knowledge, such as Linguistics, Anthropology and others. He has not yet arrived at a theoretical construction that integrates all his concepts and practices. That is why it operates based on more or less fragmented theoretical constructions, for example, the Representation of Information would be one construct, among another, etc. The most important feature of information science is its interdisciplinary nature in which the magnitude of the problems faced (ecological, ethnic, and demographic) is demanding innovative solutions. Information science has been consolidating itself from elements "borrowed" among others, by mathematics, physics, biology, psychology, sociology, anthropology, semiology and communication theory and other sciences that contributed to its foundation and applicability. Cardoso, (1996, p. 74). "*Information science is not to be looked at as a classical discipline, but as a prototype of the new kind of science*" Wersig, (1993, p. 235).

Information science evolves to new stages of dialogue and insertion in the social sciences. Reflection on the evolution of information science, its relations with the social sciences and as a model of science as a whole, is fundamental for research to continue and to incorporate all the knowledge accumulated in this process. Since scientific investigation is one of the main ways for the formulation of theories in an area, what can be seen is that research in Information Science has been consolidating itself over the last decades and opening new horizons of discussions. Great contribution has been made by professors and researchers in the various international universities.

It can be seen that some important steps have been taken in order to theoretically strengthen the area of Information Science and that research is expanding and has a Scientific Community that over the years has been consolidating internationally. There are many and different challenges that are presented today for Information Science. As an applied science, it needs to respond to society's demand for information and, as an object of research, to the fundamental conceptual needs of the area. The realization and sociability of research are the safest ways to create and share new paradigms. Thus, it becomes increasingly important to seek the theoretical, philosophical and social foundation in the field of Information Science and, above all, to further strengthen its scientific community.

Interdisciplinarity with other sciences

Interdisciplinary can be understood as "dialogue between the fields of knowledge", in the words of Japiassu (1976), or "mutual appropriation of methodologies, principles, theories, concepts and constructions between two or more areas of knowledge", Pinho, (2004). For Klein (2004), the concept of interdisciplinarity is linked to complexity. The convergence between these two ideas has significant implications for understanding the nature of knowledge, for solving scientific problems, and for the dialogue between science and humanity. According to Klein (2004), the nature of complex systems provides a comprehensive rationality for interdisciplinary studies, unifies apparently divergent approaches, and serves as a criterion to direct the integration process.

The ultimate goal of interdisciplinary research comprises the portion of the world shaped by a complex system. Interdisciplinarity is characterized by the exchange of knowledge, the transformation of areas of knowledge and the sharing of objectives. Interdisciplinarity is not a simple appropriation of concepts, theories and methods from one area of knowledge to another, it only materializes from the concrete dialogue between different areas of knowledge. Effective interdisciplinarity is that which is updated in the field of theoretical abstractions, establishing methodologies, but also interventions that promote different areas of knowledge in the social, Gomes, (2001). According to Klein (2004), the interdisciplinary approach stems from the need to understand complex objects, which constitute a single area of specialization and would be unable to deal with adequate coverage. Among these, the phenomena of the explosion of information and cultural diversity, social and technological problems, multifaceted concepts such as "body", "mind" and "life" are mentioned. A significant number of areas of multi or interdisciplinary knowledge have been developed since the mid-twentieth century, and among them is information science.

Information Science and Ethics

The concern with ethical principles and moral values spreads with globalization and makes us reflect on a society with social responsibilities. According to Sá (2007), the word ethics is sometimes understood in the sense of morality, but not always in an adequate way. It has also been understood as a science of human conduct towards the being and its fellow human beings, to study the action of men and their considerations of value. For Du Mont (1991), ethics aims to establish the principles of behavior that help people to choose alternative forms of action. These considerations lead us to the definitions of ethics and morals, instigating us to refer to deontology, such as the study of codes or ethics of professions.

Targino (2006, p. 135) tells us that the definitions of ethics originate from the "Greek term *ethos*, as the etymology suggests, that is, it is the part of philosophy that deals with reflection on customs and actions". As a moral "term from the Latin *mores* refers to acts and customs *per se*, that is, to the set of objective norms of conduct, changeable, in time and space". According to Targino (2006, p.135) ethics "comes from the Greek *deontos*, it is duty; *logos*, discourse or treatise, etymologically equivalent to a treatise or science of duty, and designating the doctrinal precepts related to the various professions", highlighting ethical action in the context of society and, mainly, with regard to its social responsibility.

The confirmation of right or wrong is usually determined by legislation, although not all situations can be included in such codes, since laws are designed for the well-being of society and change over time, in the social groups and locations in which these groups live. Therefore, the social being establishes ethical or unethical actions. From birth, human beings begin to live in social groups, which get involved and go through a process of exchange of knowledge, habits and customs, allowing their moral growth. Thus, Du Mont (1991) says that the basic components of an ethical system are the values accumulated by the individual, the group or society.

Ethical or unethical procedures start from human coexistence and raise ethical questions and discussions, bring paradigm shifts and make us rethink the actions of our daily lives. People, regardless of social origins or groups, live according to the ethical aspects disseminated in society. Among the groups that disseminate these concepts, we mention the family, the school, the church, the favorite club, the university, friends, the political party, among others. Living with these institutions is important, because it is through them that individuals accumulate unique experiences, enriching their knowledge, Targino, (2006).

Ethics is related to the incorporation of moral standards in the conduct of people involved in the dissemination of information, aiming to guide their actions. According to Camargo (1999, p. 31), "professional ethics is the application of general ethics in the field of professional activities", since the professional incorporates his own principles and values to experience them in his professional activities. It is through the profession that people are able to fully realize themselves, exercising theirs: capacities, skills, wisdom and intelligence, affirming their personality, raising their morale, being able to be useful to the community and to elevate and stand out in it.

The concern with ethics and social values leads us to reflect on social responsibilities in institutions, companies and social groups. For Du Mont (1991), social responsibility is an ethical concept that involves notions of change, of how human needs should be satisfied. In addition, the author emphasizes the interest in the social dimensions of the information service, which has to do with improving the quality of life. Social responsibility gained greater prominence from the 90s onwards, with a greater influence of society, the media, in the organizational world. According to Cajazeiras, (2006, p. 13) social responsibility was often confused with "welfare" (donations) and for this reason he proposed "another conception of social responsibility" that stems from industrial advances, globalization and the intense flow of information and technology with immediate prestige, causing degradation of the quality of life, intensification of environmental problems and precariousness of labor relations.

According to Pedro Anunciação, (2012), "The relationship between ethics and information is closely associated with its usefulness, value and respective enjoyment. Information is only economically and socially relevant if it is useful, that is, if there is the ability to interpret, understand and use it. This means that whenever conditions are created for the change in the patterns of interpretation or valuation, one is or may be influencing the conduct or behavior of the receiver and, consequently, entering the ethical domain of information". According to the same author, "Information, when transmitting to people something they do not know, involves the reception and communication of intelligence and knowledge. It is the information recognized as valid, accepted and related to certain contexts that should serve as support for the generation of knowledge, decision and consequent action. The ability to screen, combine and interpret allows the development of skills related to use, responsibility in use and innovation".

Information Science and Human Cognition

According to Saracevic, (1996, p. 16), in the 60s information science was concerned with the properties of information and with the "forces" that managed its flows and the means to facilitate its use, that is, it tried to formalize "...the properties of information by applying information theory, decision theory, and other constructs of cognitive science, logic, and/or philosophy." According to Lima, (2008, p. 78) information science studies have focused on the processes of information communication. From the years management was included and in the 90s studies focused on the use/needs of information by people and organizations.80 a

In understanding the informational phenomenon there are multiple perspectives in understanding it and it operates with language. According to Saracevic, (1996), information science is "a field dedicated to scientific issues and professional practices focused on the problems of the effective communication of knowledge and its records among human beings, in the social, institutional or individual context, of the use and needs of information. Among the various functions is that of intellectually describing information."

Capurro, (1991, p. 3-4), states that "human beings are biological processors of information. Information is a doubly encoded reality... Information science aims to study information itself, that is, to contribute to its analysis and construction and that it proposes to establish a consistent scientific approach to the study of the various phenomena that surround the notion of information, whether they are found in biological processes, in human existence, or in machines".

Understanding the Human Mind

Cognitive science is an area of interdisciplinary studies that, among others, is related to cognitive psychology, computer science, neurosciences and Linguistics, Lima, (2003). According to the same author, the research developed on human cognition has sought to apprehend the way people think, interpret and perceive the world. Studies on the nature and cognitive development of human beings are focused on four main theories of cognitive development:

- ✓ Piaget's - "human cognition is a form of biological adaptation in which knowledge is built little by little from the development of cognitive structures that are organized according to the stages of development of intelligence. Thus, cognitive development is linked to the processes of assimilation and accommodation that promote balance that varies according to age" Flavell; Miller, P.H.; Miller, S.A., (1999); Sternberg, (2000).
- ✓ The neopietagians - "emphasize cognitive skills, such as processing and coordinating elements that enable the differentiation of information in the determination of subjective to achieve a goal. In addition, they include the concept of mediation and interaction in problem solving".
- ✓ Vygotsky's (1998) - "knowledge is built during interactions between individuals in society, triggering learning. Thus, the mediation process is established when two or more people cooperate in an activity". Flavell, (1979; Miller, P.H; Miller, S.A. (1999).

Information processing research encompasses text comprehension, i.e., cognitive activity that involves perception, memory, inference, and deduction. The comprehension of the text occurs from the knowledge of the world and of various types of text, requiring semantic awareness. According to Sternberg, (2000) the processing of text in memory occurs in the following way and sequence: 1st there is the perception of graphic representation; then the translation of letters into sounds and the chaining of these sounds into a word, being necessary to master the lexical processes that are used to identify letters and words and activate the relevant information in memory about these words. According to Sternberg, (2000); Koch; Travaglia, (2001) the process of comprehension involves semantic coding, the acquisition of new vocabulary, the creation of mental models and the comprehension of the ideas of the text. Semantic coding is the process by which sensory information is translated into words. Vocabulary acquisition adds to the existing vocabulary of new meaningful terms. Mental models are a set of propositions that can lead to more than one mental model and simulate the reality that surrounds us, Johnson-Laird, (1983).

According to Eysenck and Keane, (1994) and Seternberg, (2000), among others, the most used mental models are the following:

- Schemas – are cognitive structures related to a set of knowledge stored in temporal or causal sequence, in which the sets of characteristics of the objects and beings that surround us are maintained. For example: procedures to make a piece of equipment, mobile phone, etc., work;
- Plans – are a set of knowledge on how to act to achieve certain goals. For example: how to win a chess game;
- Scripts – are stereotyped and predetermined actions applied to defined situations. For example, the script applied, when we go to the cinema or a restaurant;
- Superstructures or textual schemes – a set of knowledge acquired as we read different types of texts and correlate them.

When we read a text, we try to keep as much information as possible in our memory for the comprehension of the text. We do not seek to store the exact words, but rather to try to extract the ideas from a group of words, to store them in order to try to retrieve them later.

Authors such as Kintsch and Van Dijk, (1983), in the information processing model, also included the model of production through analysis and synthesis, called situational model, that is, a model common to all readers. They affirm that essential thematic propositions last longer in the memory of those that are considered less important. According to Jacob and Shaw (1998), from the cognitive point of view of information science it implies that each act (preceptive or symbolic) of information processing is mediated by a system of categories and concepts which, for the information processing mechanism, constitute a model of the world, that is, all actions performed involve cognitive activities.

Information Science and Knowledge

Although the terms information and knowledge are used very often, they are not the same thing. Information is not the same thing as data, although the two words are often confused, so it is understood that the subtle distinction between these concepts is essential. Data do not carry the meaning or significance of facts, images or sounds, since they lack relational elements indispensable to the establishment of a complete meaning, lacking an internal relational structure for a cognitive purpose. This structure is one of the attributes of information. Data is transformed into information when its creator adds meaning to them, Davenport and Prusak, (1998).

William G. Zikmund, (2000, p.19), defines knowledge as "the mixture of information, experience and understanding that provide a structure that can be applied in the evaluation of new information or new situations". Information "feeds" knowledge. Knowledge can thus be defined as a person's ability to relate complex structures of information to a new context. New contexts imply change - action, dynamism. Knowledge cannot be shared, although technique and information components can be shared. When a person internalizes information to the point of being able to use it, we call it knowledge Zikmund, (2000). This is a fluid blend of experiences, values, contextual information and expert insight, structured that provides a framework for evaluating and incorporating new experiences and information. In organizations, it is found not only in documents and reports, but also in organizational routines, processes, practices, and standards. Knowledge originates from and is applied, in the minds of connoisseurs, Davenport and Prusak, (1998), William Zikmund, (2000).

Knowledge is information as valid and accepted, integrating data, acts, information and sometimes hypotheses. Knowledge requires someone to filter, combine and interpret information. Information can be considered as a "substance" that can be acquired, stored and possessed by a person or a group and transmitted from person to person or from group to group. Information has a certain stability and is perhaps better seen, as it exists at the level of society, Davenport and Prusak, (1998). Although we can store it using various physical supports, the information itself is not physical, but abstract and not purely mental. Knowledge is stored in people's memory, but information is out there in the world. Whatever it is, it exists somewhere between the physical world around people and the mental world of human thoughts. Knowledge = Internalized information + ability to use it in new situations.

Knowledge is fundamentally and intrinsically found within people. These are much more complex and unpredictable at the individual level than an entire society, so it is not surprising that knowledge is much more difficult to obtain than information. Knowledge exists mainly within people, it is an integral part of human complexity and unpredictability, Davenport and Prusak, (1998). Knowledge has a fundamental duality: it is something that can be stored (at least sometimes we intend to do so) and something that flows (something that is communicated from person to person). It is possibly the duality of knowledge (thing that flows and the process of storage) that makes it difficult to treat and manage. According to Dahlberg, (2006), knowledge is organized into units of knowledge (concepts) according to their characteristics (objects/subjects/subjects). The organization of knowledge is related to a process of conceptual analysis of a domain of knowledge and from there, it is structured / architected generating a representation of knowledge about such domain that will be used for the organization of information about that domain of knowledge.

3.5 Data Science

Multidisciplinary approach

Data Science is the study of data to extract meaningful insights for organizations. It is a multidisciplinary approach that combines principles and practices from the fields of mathematics, statistics, artificial intelligence, and computer engineering to analyze large amounts of data. This analysis helps data scientists ask and answer questions such as what happened, why it happened, what will happen, and what can be done with the results.

Data Science is important because it combines tools, methods, and technology to generate meaning based on data. Modern organizations are inundated with data; There is a proliferation of devices that can automatically collect and store information. *Online* systems and payment portals capture more data in the areas of e-commerce, medicine, finance, and all other aspects of human life. We have text, audio, video and image data, available in large quantities.

While the term Data Science is not new, the meanings and connotations have changed over time. The word first appeared in the 1960s, as an alternative name for statistics. In the late 1990s, computer science professionals formalized the term. A proposed definition for Data Science saw it as a separate field with three aspects: data design, collection, and analysis. It still took another decade for the term to be used outside of academia.

Artificial intelligence and *machine learning* innovations have made data processing faster and more efficient. The demand from the sector has created an ecosystem of courses, diplomas and positions in the area of Data Science. Due to the cross-functional skill set and experience required, Data Science shows strong projected growth in the coming decades.

Data Science is used to study data in four ways:

1. **Descriptive analytics** - Descriptive analytics analyzes data to gain insights into what has happened or what is happening in the data environment. It is characterized by data visualizations, such as pie charts, bar charts, line charts, tables, or generated narratives. For example, a flight booking service may record data such as the number of tickets booked per day. The descriptive analysis will reveal booking spikes, booking dips, and high-performing months for this service.
2. **Diagnostic analysis** - Diagnostic analysis is an in-depth or detailed analysis of data to understand why something happened. It is characterized by techniques such as *drill-down*, data discovery, data mining, and correlations. Various operations and data transformations can be performed on a given dataset to discover unique patterns in each of these techniques. For example, the flight service can *drill down* into a particularly high-performance month to better understand peak bookings. This can lead to the discovery that many customers visit a particular city to attend an event.
3. **Predictive analytics** - Predictive analytics uses historical data to make accurate predictions about data patterns that may occur in the future. It is characterized by techniques such as machine learning, prediction, pattern matching, and predictive modeling. In each of these techniques, computers are trained to reverse-engineer causal connections in the data. For example, the flight service team can use Data Science to predict flight booking patterns for the next year at the beginning of each year. The computer program or algorithm can analyze past data and predict booking spikes for certain destinations in May. Having anticipated the future travel needs of its customers, the company could start targeted advertising for these cities from February.
4. **Prescriptive analytics** - Prescriptive analytics takes predictive data to the next level. It not only predicts what is likely to happen, but also suggests an optimal response to that outcome. She can analyze the potential implications of different choices and recommend the best plan of action. Prescriptive analytics uses graph analysis, simulation, complex event processing, neural networks, and machine learning recommendation engines.
5. Going back to the flight booking example, prescriptive analytics can analyze historical marketing campaigns to maximize the upside of the next booking spike. A data scientist can project booking outcomes for different levels of marketing spend across multiple marketing channels. These data predictions would give the flight booking company more confidence to make its marketing decisions.

Data Science is revolutionizing the way businesses operate. Many companies, regardless of size, need a robust data science strategy to drive growth and maintain a competitive edge. Some of the key benefits include:

Uncover unknown transformative patterns - Data science enables businesses to uncover new patterns and relationships that have the potential to transform the organization. It can reveal low-cost changes in resource management to achieve maximum impact on profit margins. For example, an e-commerce company uses Data Science to discover that many customer inquiries are being generated after business hours. Research reveals that customers are more likely to buy if they receive an immediate response rather than a response on the next business day. By implementing 24/7 customer service, the company increases its revenue.

Innovate new products and solutions - Data science can reveal flaws and problems that would otherwise go unnoticed. More insights into purchasing decisions, customer feedback, and business processes can drive innovation in internal operations and external solutions. For example, an online payment solution uses data science to collect and analyze customer feedback about the company on *social media*. The

analysis reveals that customers forget their passwords during peak purchase periods and are dissatisfied with the current password recovery system. The company can innovate a better solution and see a significant increase in customer satisfaction.

Real-time optimization – It is very challenging for companies, especially large ones, to respond to changing conditions in real time. This can cause significant losses or disruptions to business activity. Data Science can help businesses anticipate changes and react optimally to different circumstances. For example, a trucking company uses Data Science to reduce downtime when trucks break down. They identify the routes and change patterns that lead to faster breakdowns and adjust truck schedules. They also set up an inventory of common spare parts that need to be replaced frequently so that trucks can be repaired faster.

A business problem typically starts the data science process. A data scientist will work with stakeholders in organizations to understand what the needs are. Once the problem is defined, the data scientist can solve it using the OSEMN Data Science process:

O: Get Data – Data can be pre-existing, newly acquired, or a data repository that can be downloaded from the Internet. Data scientists can pull data from internal or external databases, the organization's CRM software, web server logs, social media, or purchase it from trusted third-party sources.

S: Suppress data - Data suppression, or data cleansing, is the process of standardizing data according to a predetermined format. It includes, dealing with missing data, correcting data errors, and removing any atypical data. Some examples of data suppression are:

- Change all date values to a common standard format.
- Correct spelling errors or additional spaces.
- Correct mathematical inaccuracies or remove commas from large numbers.

E: Explore data – Data exploration is a preliminary data analysis that is used to plan other data modeling stratagems. Data scientists gain an initial understanding of data using descriptive statistics and data visualization tools. They then explore the data to identify interesting patterns that can be studied or acted upon.

M: Model data – Software and machine learning algorithms are used to gain deeper insights, predict outcomes, and prescribe the best plan of action. Machine learning techniques such as association, classification, and clustering are applied to the training dataset. The model can be tested against predetermined test data to assess the accuracy of the results. The data model can be adjusted multiple times to improve results.

N: Interpret results – Data scientists work together with analysts and organizations to convert data insights into action. They make diagrams, graphs, and charts to represent trends and forecasts. Data summarization helps stakeholders understand and implement the results effectively.

Data Science professionals use computer systems to keep track of the Data Science process. The main techniques used by data scientists are:

Sorting - Sorting is the sorting of data into specific groups or categories. Computers are trained to identify and classify data. Known datasets are used to create decision algorithms on a computer that quickly processes and categorizes the data. For example:

- Classify products as popular or not popular.
- Classifying insurance applications as high risk or low risk.
- Classify *socialmedia* comments as positive, negative, or neutral.

Data Science professionals use computer systems to keep track of the Data Science process.

Regression – Regression is the method of finding a relationship between two seemingly unrelated data points. The connection is usually modeled around a mathematical formula and represented as a graph or curves. When the value of one data point is known, regression is used to predict the other data point. For example:

- The rate of spread of airborne diseases.
- The relationship between customer satisfaction and the number of employees.
- The ratio between the number of fire stations and the number of people injured as a result of a fire in a given location.

Clustering – *Clustering* is the method of grouping closely related data together to look for patterns and anomalies. Clustering is different from classification because data cannot be accurately classified into fixed categories. Therefore, the data is grouped into most likely relationships. New patterns and relationships can be discovered with *clustering*. For instance:

- Group customers with similar buying behavior to improve customer service.
- Group network traffic to identify patterns of daily usage and identify a network attack faster.
- Group articles into several different news categories and use that information to find fake news content.

Basic principles of Data Science techniques

While the details vary, the underlying principles behind these techniques are:

- Teach a machine to classify data based on a known data set. For example, sample keywords are provided to the computer with their respective ranking values. "Happy" is positive, while "Hate" is negative.
- Provide unknown data to the machine and allow the device to classify the dataset independently.
- Allow inaccuracies of results and deal with the probability factor of the outcome.

Data Science professionals work with complex technologies, such as:

- Artificial intelligence: Machine *learning models* and related software are used for predictive and prescriptive analytics.
- Cloud computing: Cloud technologies have given data scientists the flexibility and processing power needed for advanced data analytics.
- Internet of Things: IoT refers to various devices that can automatically connect to the internet. These devices collect data for Data Science initiatives. They generate large amounts of data that can be used for data mining and data extraction.
- Quantum computing: Quantum computers can do complex calculations at high speed. Skilled data scientists use them to create complex quantitative algorithms.

Data Science is an umbrella term for other data-related functions and fields. Let's look at some of them here:

- **Difference Between Data Science and Data Analytics** – While the terms can be used interchangeably, data analytics is a subset of Data Science. Data Science is an umbrella term for all aspects of data processing, from collection to modeling and insights. On the other hand, data analysis mainly involves statistics, mathematics, and statistical analysis. It focuses solely on data analysis, while Data Science is related to the big picture around organizational data. In most workplaces, data scientists and data analysts work together to achieve common organizational goals. A data analyst can spend more time on routine analysis by providing regular reports. A data scientist can design the way data is stored, manipulated, and analyzed. Simply put, a data analyst makes sense of existing data, while a data scientist creates new methods and tools for processing data to be used by analysts.
- **Difference Between Data Science and Business Analytics** - While there is an overlap between Data Science and business analytics, the main difference is the use of technology in each area. Data scientists work more closely with data technology than business analysts. Business analysts reconcile business and IT. They define business cases, gather input from stakeholders, or validate solutions. Data scientists, on the other hand, use technology to work with business data. They can write programs, apply *machine learning* techniques to create models, and develop new algorithms. Data scientists not only understand the problem, but

they can also create a tool that provides solutions to the problem. It's not uncommon to find business analysts and data scientists working on the same team. Business analysts take the output of data scientists and use it to tell a story that the organization as a whole can understand.

- **Difference Between Data Science and Data Engineering** – Data engineers build and maintain the systems that allow data scientists to access and interpret data. They work more closely with the underlying technology than a data scientist. The role typically involves building data models, building data pipelines, and overseeing extract, transform, and load (ETL). Depending on the layout and size of the organization, the data engineer may also manage related infrastructure, such as **big data** storage, streaming, and processing platforms, such as Amazon S3. Data scientists use the data that data engineers have processed to create and train predictive models. Data scientists can then hand over the results to analysts for later decision-making.
- **Difference Between Data Science and Machine Learning** – *Machine learning* is the science of training machines to analyze and learn from data in the same way that humans do. It is one of the methods used in Data Science projects to obtain automated data insights. *Machine learning* engineers specialize in computation, algorithms, and coding skills specific to *machine learning* methods. Data scientists can use *machine learning* methods as a tool or work closely with other *machine learning* engineers to process data.
- **Difference Between Data Science and Statistics** - Statistics is a mathematical base area that seeks to collect and interpret quantitative data. On the other hand, Data Science is a multidisciplinary scope that uses scientific methods, processes, and systems to extract knowledge from data in various ways. Data scientists use methods from many disciplines, including statistics. However, the scopes differ in their processes and in the problems they study.

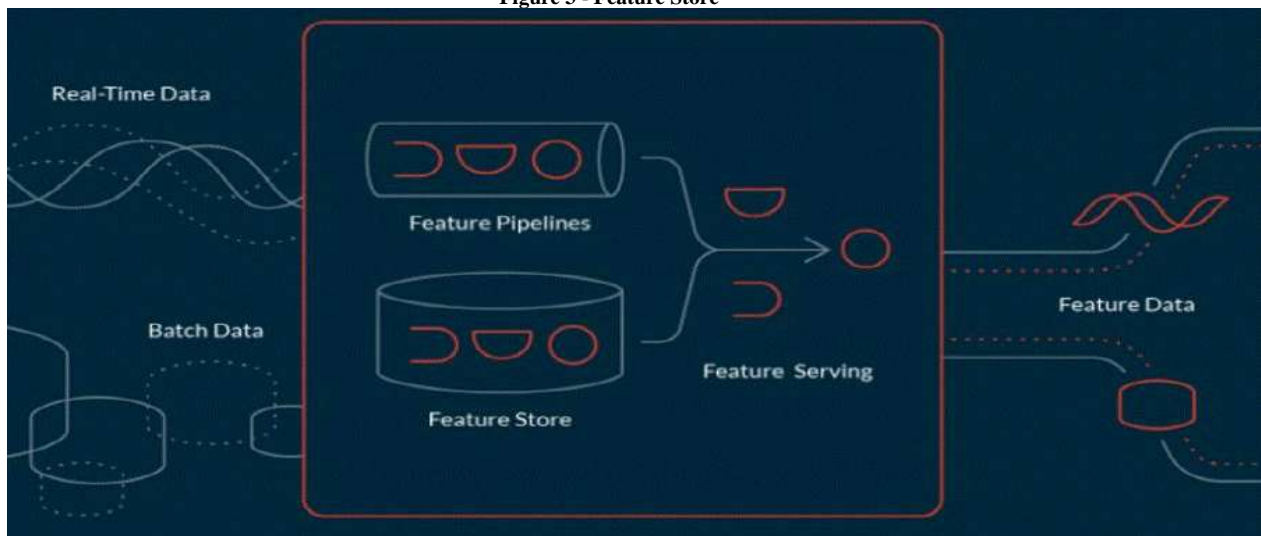
AWS has a number of tools to support data scientists around the world:

- **Physical data warehousing** - For *data warehousing*, [Amazon Redshift](#) can run complex queries on structured or unstructured data. Analysts and data scientists can use [AWS Glue](#) to manage and search data. AWS Glue automatically creates a unified catalog of all data in the Data Lake, with Meta data attached to make it discoverable.
- **Machine learning** - [Amazon SageMaker](#) is a fully managed machine learning service running on Amazon Elastic Compute Cloud (EC2). It enables users to organize data, build, train, and deploy machine learning models, and scale operations.

Analysis:

- Or [Amazon Athena](#) is an interactive query service that facilitates data analysis in the [Amazon S3](#) or in the [Glacier](#). It's fast, serverless, and works using standard SQL queries.
- [Amazon Elastic MapReduce \(EMR\)](#) processes big data using servers such as Spark and Hadoop.
- [Amazon Kinesis](#) enables real-time aggregation and processing of streaming data. It uses website clickstreams, application logs, and telemetry data from IoT devices.
- [Amazon OpenSearch](#) enables searching, analyzing, and visualizing Petabytes of data.

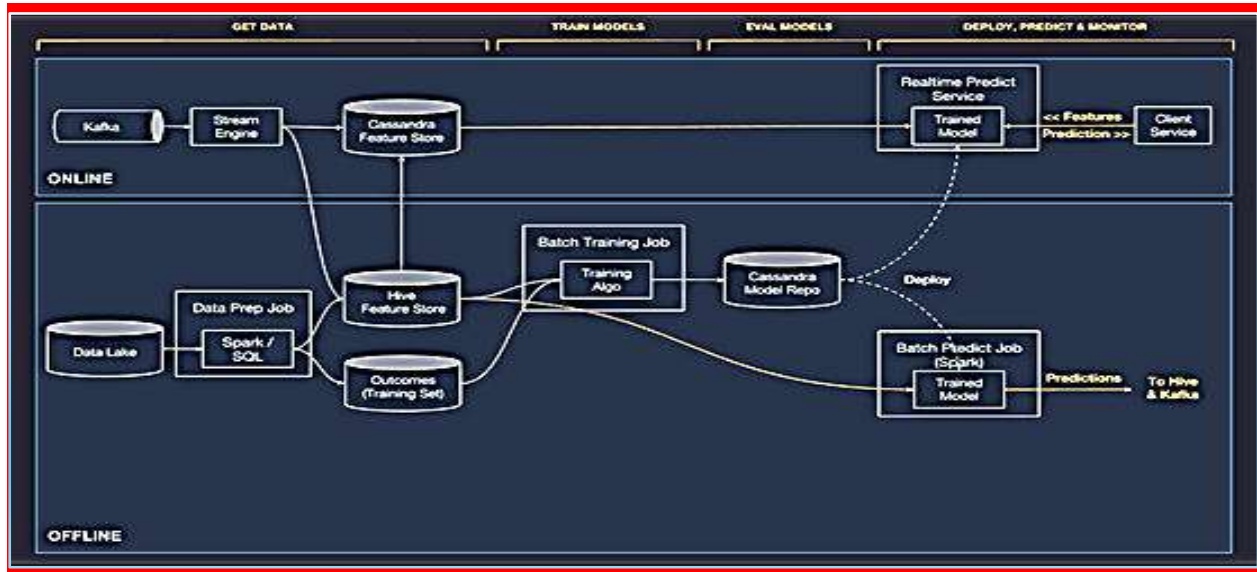
Figure 3 - Feature Store



Source: Microsoft Industry Blogs

The data can be stored in memory or in a very fast key-value database. The process itself can be carried out on multiple cloud services or on one platform. Here's an example of an online and offline pipeline using data store (Feature Store). It was designed by Uber, as part of its Michelangelo platform:

Figure 4 - Michelangelo Platform of the Uber Project



Source: Microsoft Industry Blogs

Challenges for Data Scientists

A data scientist can use a number of distinct techniques, tools, and technologies as part of the Data Science process. Based on the problem, it chooses the best combinations to get faster and more accurate results. The role and day-to-day work of a data scientist varies depending on the size and requirements of the organization. While they typically follow the Data Science process, the details may vary. In larger data science teams, a data scientist may work with other analysts, engineers, *machine learning* specialists, and statisticians to ensure that the data science process is followed end-to-end and that business goals are met.

However, in smaller teams, a data scientist may have more than one role. Based on experience, skills, and academic background, he may perform multiple roles or have overlapping roles. In that case, your day-to-day responsibilities may include engineering, analytics, and *machine learning*, along with key data science methodologies.

Data sources - Different types of applications and tools generate data in various formats. Data scientists need to clean and prepare data to make it consistent. This can be tedious and time-consuming.

Understand the problem of organizations - Data scientists need to work with various stakeholders and managers of organizations to define the problem to be solved. This can be challenging, especially in large organizations with multiple teams with varying requirements.

Eliminate drift - *machine learning tools* are not entirely accurate, and as a result, there may be uncertainties or deviations. Deviations are disparities in the model's test data or prediction behavior across different groups, such as age or income bracket. For example, if the tool is trained primarily on data from middle-aged people, it may be less accurate when making predictions involving both younger and older people. The field of *machine learning* offers an opportunity to address deviations by detecting and measuring them in the data and model.

Online and offline data have different characteristics. Behind the scenes, offline data is mostly built on frameworks such as Spark or SQL, where the actual data is stored in a database or as files. While online data may require data access using APIs for *streaming* engines such as Kafka, Kinesis, or in-memory key-value databases such as Redis or Cassandra.

Working with a data store abstracts this layer, so that when a Data Scientist is looking for data, instead of writing engineering code, they can use a simple API to retrieve the data they need.

One of the main challenges in implementing machine (computer) learning in production arises from the fact that the data being used to test a model in the software development environment (programs) is not the same as the data in the production service layer. Therefore, enabling a consistent feature set (machine and software) between the test and service layer allows for a smoother deployment process, ensuring that the tested model truly reflects the way, how things will work in production.

In addition to the actual data, the data store maintains **additional meta data** for each feature. For example, a metric that shows the impact of the resource on the model it's associated with. This information can help Data Scientists tremendously select the features for a new model, allowing them to focus on those that have achieved better impact on similar existing models.

The reality today is that almost all businesses are based on *Machine Learning*, so the number of projects and resources is growing exponentially. This reduces our ability to have a good comprehensive overview of the resources available, since there are so many. Instead of developing in silos, data warehousing allows us to share our resources with our colleagues' Meta data. It's becoming a common problem in large organizations that different teams end up developing similar solutions, simply because they're not aware of each other's tasks. Data stores bridge this gap and allow everyone to share their work and avoid duplication.

To meet guidelines and regulations, especially in cases where the generated Artificial Intelligence (AI) models serve industries such as healthcare, financial services, and security, it is important to track the lineage of the algorithms under development. Achieving this requires visibility into the end-to-end data flow to better understand how the model is generating its results. As the data is being generated, as part of the process, it is necessary to track the flow of the data generation process. In the data store, you can maintain the lineage of data and a resource. This provides the necessary tracking information, how the data was generated, and provides the insight and reporting needed for regulatory compliance.

MLOps is an extension of DevOps where the idea is to apply DevOps principles in machine learning pipelines. Developing a machine learning (computer) pipeline is different from developing software (programs), mainly because of the look and feel of the data. Model quality is not based solely on code quality. It is also based on the quality of the data and resources that are used to run the model. According to Airbnb, about 60%-80% of Data Scientists' time is spent creating, training, and testing.

Data stores allow Data Scientists to reuse resources instead of rebuilding them over and over again for different models, saving valuable time and effort. Data stores automate this process, and resources can be triggered by code changes that are pushed to Git or by the arrival of new data. This automated feature engineering is an important part of the MLOps concept.

Some of the largest information and communication technology companies that deal extensively with AI have created their own Feature Stores (Uber, Twitter, Google, Netflix, Facebook, Airbnb, etc.). This is a good indication to the rest of the industry of how important it is to use data warehousing as part of an effective machine learning pipeline. Given the growing number of AI projects and the complexities

associated with putting these projects into production, the industry needs a way to standardize and automate the core of feature engineering. Therefore, it is fair to assume that data warehousing is positioned to be a basic component of any machine learning pipeline (computer and software).

IV. REFLECTION AND DEBATE ON HUMAN LIFE WITH UNIVERSAL PRINCIPLES, ETHICS AND DEONTOLOGY, IN THE DIGITAL SOCIETY (FROM THEORY TO PRACTICE)

4.1 Digital Society

It will not be an exaggeration or mistake to say that the current society is increasingly qualified by the adjective digital, where the new information and communication technologies (ICTs) have a constant daily influence, configuring themselves as mediators of social relations, the economy and even in the way of producing/disseminating knowledge. There are forms of knowledge absorption about users in a ubiquitous way, in which ICTs can be seen as new forms of surveillance, Lupton, (2015, p. 02; p. 189). Digital ICTs play a crucial role in the globalization process, as a phenomenon characterized by the wide circulation of people, ideas and habits, which, although it did not begin historically with technologies, develops at high speed through them, De Mul, (2015, p. 106).

The growing insertion of Information and Communication Technologies (ICTs) in people's daily lives has promoted a relationship of deep dependence between them. In this context, everyday actions have become essentially informational, given the need for mediation for their performance.

The digital society is a complex society of technological innovation and communication, in which new environments are created and changes are made in people's organizational dynamics, in the way people understand reality, modifying the way, how they relate to the environment, to other people and how they conceive themselves in the face of their own reality. Both meanings can be understood, as they result from the informational revolution, promoted mainly from the attempts to understand human intelligence, via computational bases

The works developed by Turing, (1950), had a great influence on studies in the second half of the twentieth century, including Philosophy, mainly due to his algorithmic approach to the nature of thought, in which he proposes the thesis, according to which, "to think is to calculate", Turing, (1950, p. 436). Such is that given that digital computers operate from calculations and manipulate rules for the organization of symbols, if we consider that thinking consists of the activity of manipulating symbols according to a set of logical rules, constituting algorithms, then digital computers could, in principle, think. Once intelligent thinking is understood mechanically, it would be possible to build mechanical models of the structure and dynamics of this type of thinking. This understanding enabled the development of mechanical models of the mind, which initially generated two strands in Cognitive Science, according to Teixeira, (1998):

- **Strong Artificial Intelligence** – is one in which mechanical models of the mind, when successful, not only simulate/emulate mental activities, but explain and instantiate such activities.
- **Weak Artificial Intelligence** – is one in which the model is only a limited explanatory tool of intelligent mental activity.

The common point of such notions is that both accept the thesis that to simulate is to explain, in order to attribute to mechanical models the value of theories, in which the computer is employed, as a fundamental tool. As for the social sphere, the development of information theory studies has promoted the social changes that we are currently experiencing and that have generated new types of problems, especially those related to the relationship between action and technology and environment. Given its impact on the academic and social spheres, the approximation between Philosophy and Information Science, and the role of computers in the development of theories, theoretical production occurred concomitantly with technological improvement.

Floridi, (2008, p. 3-4), states that during the second half of the twentieth century there were events such as: the massification of the computer, which promoted the generation of the "personal computer"; the advancement of scientific discoveries due to the use of ICTs; and the emergence of new ways of experiencing the world, based on such technologies. These events illustrate the influence of ICTs in various spheres of society (sociological, economic, scientific and cultural), providing elements for its characterization as an information and knowledge society. According to Floridi, (2002, p. 127): "Post-industrial societies live fed by information".

ICTs play a central role in the characterization of the digital society, insofar as they are present and related to the person and their well-being, and to their continuous use in everyday situations (e.g., leisure, work, etc.). It constitutes a relationship of dependence between the person and ICTs. This relationship is strengthened, according to Floridi, from the following factors:

- Increase in the power of ICTs, while reducing their production and marketing costs;
- Improvement of ICTs in their interaction potential (machine-machine and man-machine);
- Emergence of the Age of "zettabytes" (dated 2010).

The factors indicated are responsible for the approximation between people and ICTs, generating a deep relationship of dependence for the performance of routine actions in today's world. Such dependence is based on the digital presence, as a mediator of common actions, such as financial transactions (home banking), the acquisition of products and services (virtual stores, e-commerce), personal and professional interrelationships (via social networks, such as Facebook, Twitter, or dating apps, such as Tinder), access to movies (via streaming, YouTube, Netflix, etc.), urban mobility (via app, Uber, Taxi 99), making calls (using the network, via Skype, Whatsapp), the practice of physical activity (Runkeeper, for example), professional activities via SOHO (small office / home office), political organization (via websites or social networks), among others. Situations in which there is no mediation of artifacts connected to the **Internet**, by people, but which require technological mediation by the service to be requested, such as: credit card payment for face-to-face purchases, biometric systems for the withdrawal of books in libraries, among others, can also be highlighted.

In order to understand the influence of ICTs on the constitution and alteration of people's self, the three types of self highlighted by Floridi (2014, p. 60) are made explicit:

- **Personal Identity** - refers to "who we are". We live in an era where people spend a great deal of time transmitting information about themselves, interacting digitally with other people, which is a good example of how ICTs are affecting and shaping people's personal identity.
- **Self-conception** - consists of "who we think we are".
- **Social self** - refers to what we are, based on other people's thoughts.

It is mainly this third notion of self that ICTs have a deeper channel of action in the conception of people's identity, as there is a growing adhesion and overvaluation of social networks, illustrated, for example, by the intensification of a "narcissistic culture".

The Web enhances the narcissistic culture, typical of our time, by expanding the forms of self-celebration and self-promotion. Dating sites, in turn, end up encouraging vanity and competition. [...] Young people strive to show in their profiles, photos and texts that value them and promote the increase in the number of people they add as "friends". [...] This type of behavior is justified by a constant search for attention and recognition. The ease of access to information about oneself generated by third parties fosters self-understanding, from others (social self), constitutes a scenario in which people, especially those who correspond to Generation Z, feed the network with personal information, in an intense way.

The greatest of all changes is the transformation of the information and knowledge society into the digital society. The focus of work has shifted to "remote work - telework". In the societies of developed countries, access to good jobs and a professional career will increasingly depend on a university degree with remote work, anywhere, in a country, in the globalized world. That is, the logical result, since we

stopped working in the office and in large urban centers, we moved on to intellectual work and teleworking at home or elsewhere, outside the large urban centers. This last stage represents a break with the past.

- The fact that knowledge and education have been a passport to the achievement of good jobs and a career, has meant above all that in society, companies are no longer the only means for someone to progress in life and have become one of the various opportunities available.
- Knowledge has become the capital of developed economies and knowledge workers, who determine the values and norms of society.

The great challenge for developed countries is to maintain their commitment to the economic performance necessary for organizations and countries to remain competitive. Governance and entrepreneurship contain the entrepreneurial spirit. They are not antagonistic concepts, nor mutually exclusive. Both are always necessary and at the same time. Both must be coordinated, that is to say, both must work together. No existing organization can survive without innovation and at the same time, without being managed.

4.2 The Philosophy of Truth

Introduction

According to Simon Blackburn, (1977), Mautner, (1997), theories of truth provide a definition of truth for a controversial language in three respects:

- **What is true** – is it a belief, a proposition, a statement, or a phrase?
- **What does it correspond to** – to a state of things, to a situation, to a reality, or to a fact?
- **What is the relationship** – between what is true and what makes it true?

A theory is needed about what is true. The notion of truth occurs frequently in our reflections on language, thought, and action. In principle, truth is the genuine goal of scientific inquiry. An explicit theory of truth is essential, for the question of truth seems to be far more complex than the idea of correspondence makes it seem. However, discovering what truth is may well be outside of our knowledge.

Throughout the history of philosophy there are several questions about truth and n answers, the main ones being:

Metaphysics is the philosophical discipline that studies the essence of things and determines what kinds of things exist.

Metaphysical question – what is truth, or what is the essence of truth or nature of truth?

The essence or nature of a thing Y is conceived as the set of necessary and sufficient conditions for something to be Y, that is, as the set of characteristics that all Ys possess and only Ys possess.

Epistemology is the philosophical discipline that studies essence and knowledge.

Epistemological question: how can one know the truth or have beliefs about the truth?

Semantics is the part of the philosophy of language that studies the meaning, or the relationship between linguistic expressions and what they mean.

Semantic Question: What is the definition (meaning) of the word "truth" and what is truth for?

There is controversy about what the relationship between these questions is. For example: aren't the metaphysical question and the epistemological question the same question?

According to Quine, W., (1908), the answer to this question depends very much on what is meant by "meaning". If the meaning of "truth" is determined by the criteria and the essence of truth is independent of those criteria, i.e., one can use the word "truth" and partially ignore its essence, then an analysis of the meaning of the word "truth" will not necessarily provide knowledge about the essence of truth. Furthermore, some philosophers think that the correct answer to the semantic question implies a dissolution of the metaphysical question.

If the essence of knowledge is constituted partially by truth (knowledge = justified true belief), then this shows that truth and knowledge cannot be the same thing, that is, the answer to the semantic question has philosophical relevance, insofar as it determines the answer to the metaphysical question.

Two types of truth must be distinguished: objective truth and subjective truth, that is, the glass is half full (objective truth or the glass is half empty – subjective truth). Sometimes truth is attributed to things that are thought or believed to be true. Fake gold is not a type of gold, even though it is a metal that looks like gold but is not. Gold is a true metal, that is, genuine.

Truth, Post-Truth and Fake News

According to the Encyclopedia of Meanings (accessed on 2 October 2024), truth means that which is intimately linked to all that is sincere, which is true, it is the absence of lies. Truth is also the affirmation of what is correct, what is surely right and is within the reality presented. Truth is often discredited, and skepticism is disbelief or unbelief in the truth. The truth of the facts is of great importance in judging human actions. When a truth leaves doubts, it is essential to verify its veracity.

According to philosophical relativism, truth is relative, that is, there is no absolute truth that applies in general. Thus, absolute truth is that which is true all the time and in all places. What is true for one person is true for all (e.g., we all need air to breathe, in the past, present, and future).

Post-truth is the phenomenon through which public opinion reacts more to emotional appeals than to objective facts. The truth of the facts is put on the back burner, when information appeals to the beliefs and emotions of the masses, resulting in manipulable public opinions. The term "post-truth" was named the word of the year in 2016 by the Oxford Dictionary, in which it was defined as "the idea that a concrete fact has less significance or influence than appeals to emotion and personal beliefs".

According to the dictionary, the prefix "post" conveys the idea that the truth is behind us. This concept was taken from the psychological concept of cognitive bias, which explains the natural tendency of human beings to judge facts based on their own perception. Although they have similar effects, the concept of post-truth is not to be confused with the concept of fake news. These, regardless of their origins and motivations, are objective lies, that is, they are illegitimate information that does not match reality, formulated to induce a commotion on a certain subject, so it is possible that fake news gives rise to post-truth. This does not necessarily imply a lie, taking into account that the information may be true, but it always implies negligence in relation to the verification of the truth.

According to João Angelo Fantini (2016), Bassas, Antoni (November 17, 2016), post-truth is a neologism that describes the situation in which, at the moment of creating and shaping public opinion, objective facts have less importance and influence than appeals to emotions and personal beliefs. According to Fundéu, (2016), in political culture, post-truth politics (or post-factual politics) is **the one** in which the debate is framed in emotional appeals, disconnecting from the details of public policy, and by the repeated affirmation of discussion points in which the factual replies — the facts — are ignored.

Post-truth differs from the traditional dispute and falsification of truth by giving it a "secondary importance". It is summarized as the idea that "something that appears to be true is more important than the truth itself", For some authors, post-truth is simply lies, fraud or falsehood covered up with the politically correct term of "post-truth", which would hide traditional political propaganda.

Theories of Truth

There are four metaphysical theories of truth:

1. **Correspondence theories** - a statement is true if it corresponds to objective reality, i.e., a statement is true if it describes or reflects what it really is. It is a relational relationship (or property) between two types of entities: a truth-bearer and a truth-generator. The generator of truth is called the state of things, or fact. The theory says that the truth-bearer f expresses or

represents the truth-generator p (f says p) and that the truth-bearer is true when the truth-generator occurs or is actual. (f is true if, and only if, f says p and p)

- Theories of coherence** - A statement is true if it is in line with other statements considered true. That is, a statement is true if it does not contradict other statements considered true. There are two types of correspondence theories, such as congruence and correspondence, such as correlation. Correspondence as congruence requires that the elements of the truth generator and the truth bearer be structured in an analogous way. (Ludwig Wittgenstein in *Tractatus Logico-Philosophicus* and Bertrand Russell).

The correspondence theory is a realist theory of truth, that is, one that conceives of truth generators (the states of affairs or facts) as entities independent of the mind, so it seems that there may be a non-realistic correspondence theory of truth, that is, a theory that conceives of truth generators as dependent on the mind. The independence of the mind is something as **to its actual existence** (the glass is half full), or as to the intentional states of thought, belief (the glass is half empty). The realist theory of truth requires that truth generators be independent of intentional states, i.e., correspondence theory conceives truth generators as dependent on the existence of the mind being realistic.

- Pragmatic theories** - a statement is true if it is useful to achieve a certain goal. That is, a statement is true if it is useful to achieve a certain goal, even if it does not correspond to objective reality. Truth is a property that truth-bearers possess independently of the relationships they maintain with each other or with truth-generators. The theory says that a truth-bearer is true when belief in his truth is useful in the long run. An immediately useful belief can prove to be an obstacle to action in the long run. The utility in question refers mainly to the actions of dealing with objects in the world, communicating, predicting and explaining events. More formally:

(f) (true faith if, and only if, the belief that f is true is useful, in the long run)

- Theories of Social Construction** - the concept of truth is socially constructed and can vary according to the beliefs and values shared by a specific social group. That is, a statement can be considered true for a specific social group, even if it does not correspond to objective reality. Truth is not a substantial property, the nature of which is hidden awaiting discovery. This theory is supported by an analysis of the function of the predicate "is true". The function of this predicate is trivial and can be completely explained through the T-schema. (But accepting that the instances of the T-schema are true is not the same as accepting deflationism, i.e., the function of the predicate "is true" can be completely explained through the T-schema.) For deflationists, theories of truth are all wrong, because they assume that truth is a substantial property, the hidden nature of which must be exhibited by a theory.

Philosophical Approach to Truth

Since Socrates (470 – 399 BC), the concept of truth has been discussed by philosophers. For some, truth is something absolute, while others believe it is relative. It is important to understand what is true in order to better understand the world in which we live. Truth is something that gives us security and helps us make conscious decisions. That is why modern philosophers have come to study the concept of truth and how it relates to other phenomena, such as freedom, rationality, and truthfulness.

Freedom is the ability to freely choose between different options, while rationality is the ability to think logically and coherently. Veracity is the act of seeking and discovering truth through reason. Philosophers believe that these three phenomena are interconnected and that they are necessary to arrive at the truth. For them, freedom allows us to choose between different options, rationality allows us to evaluate those options logically, and veracity allows us to find out which one is actually true. Philosophers also believe that there are two main elements in the study of truth: reality and subjectivity. Reality is that which exists independently of our beliefs or opinions; Subjectivity, on the other hand, is that which depends on our individual perception of the world.

It is important to understand these two elements in order to better understand the concept of truth. For example, if you believe that something is true but have no evidence to support your belief, then it cannot be considered an absolute truth. On the other hand, if you have evidence to support your belief, then it can be considered a relative truth.

Philosopher	Period	Concept of Truth
Descartes.	Renaissance.	Absolute and unquestionable truth, which is found through reason.
Hume	Enlightenment	All truth is a matter of probability, based on observable experiences.
Kant	Enlightenment	Truth is a function of human consciousness, that is, it is the result of our reasoning capacity
Nietzsche	Romanticism	Truth is relative and is constructed by the individual and not by reason.
Husserl	Expressivism	Truth is something that is created and maintained by a community of individuals.
Wittgenstein	Expressivism	Truth is constructed from the use of language, and it is not absolute.

Source: file:///D:/ci/artigos-trab/Debate-sobre-a-verdade/O Concept of Truth in the Philosophy Moderna.html

Truth and Morals

Nietzsche, (2008), presented a new way of thinking about the relationship between Philosophy and Knowledge, which he called Nihilism, in refusal of the metaphysical concept of truth. He took upon himself the "duty" of knowing the truth and carried out several studies throughout history, questioning philosophy because, among other concepts, truth had been chosen as the core of scientific research in philosophy.

He develops research on the value attributed to truth and also discusses Morality and how it relates to truth. Nietzsche (2008, p. 54) calls this morality "an expression of decadence" "the most malignant form of the will to lie" (idem, p. 55). For him, morality means an attack on nature, an attack on life – which is the highest good in philosophy, that is, of the "free spirits", "beyond good and evil" – it represents a reduction of nature to a moral necessity and a moral effect, as is the case of Christianity and its ideals of punishment and reward.

According to Nietzsche, (2008, p. 34), the truth of religious values is "considered as a premise, as revealed, identical to the doctrine of the clergy; condition of salvation and happiness, in this world as in the next", while "morality is the instinct for the denial of life. It is necessary to annihilate morality in order to free life." He understands Morality as a form of falsification of the truth and whose engine is in its value. Christian morality takes upon itself the role of attributing a "value" to truth, in what Nietzsche considers more absurd than the belief in an eternal truth: the need to impose that truth on others. According to the author, Christian morality aims to establish unalterable and unique truths, legitimizing metaphysical values. Thus, the truth would have a "good value" because it would be "worth it", being reduced to a question of advantages.

The philosopher's criticism is precisely this: that both truth and illusion are "worthwhile" if their effects (values) are pleasant and advantageous, to the point of stating that "it does not matter whether something is true, as long as it produces an effect", that is, as long as it achieves the necessary objectives of a certain group. Nietzsche breaks with the essence of truth, and says that there is an effort of a belief there, relativizing the appreciation of its value. Truth will exist, not as a static unity, but as the result of forces of domination and resistance. It takes as a criterion for selecting truth, it forgets that perspective originates in people, which in advance already excludes the possibility of an objective, neutral, impersonal "truth" (although there is a moral investment for this to happen).

Nietzsche's immorality consists in fighting religious morality, which tries to make a set of variable norms of human life a rule. Undoing the Manichaean dichotomy, the philosopher understands that there is good and evil, in evil, restoring to it its complexity and, thus, its dignity (man as master of himself). Truth, in Nietzsche's view, is of the order of creation, that is, it does not exist a priori, as something to be discovered, as a finished product. Nietzsche recognizes that truth is a necessary belief for the human species (need for deception), belief in stable and durable things, which are partial and fragmented.

Moralists need the gesture of virtue and also the gesture of truth; their error arises just when they have yielded to virtue, or when they lose their dominion over it, when they become moral, or truthful.

4.3 Relativism, Truth and Faith The Christian Faith

This reflection is based on some teachings of Pope Benedict XVI, who said that relativism has become the central problem facing the Christian faith. Nowadays, some social press has interpreted his words almost exclusively in the field of morality of the Catholic Church. This interpretation does not correspond to the thought of Benedict XVI, since it alludes to a problem that manifests itself in the philosophical and religious sphere, and which refers to the profound intentional attitude that contemporary conscience – believer or non-believer – easily assumes in relation to the truth.

Awareness of the truth distinguishes relativism from error. Error is compatible with the attitude of personal conscience toward truth. Whoever affirms that the Church was not founded by Jesus Christ, affirms it because he thinks (erroneously) that this is the truth and that the opposite thesis is false and that it is possible to reach the truth. Those who do attain it maintain that the contrary statement is misleading. For relativistic philosophy, divine realities and those that refer to the meaning of human, personal and social life are substantially inaccessible and that there is no single way to approach them, since each era, each culture and each religion uses different concepts, images, symbols, metaphors, visions, etc. to express them. They are cultural forms that can be opposed to each other, but in relation to the objects to which they refer they all have the same value.

In terms of summary, none of the concepts has absolute truth value, since they are all related to the historical moment and the cultural context; hence their diversity and their opposition. But within this relativity they would be valid, through diverse and complementary ways to approach the same reality, which remains hidden.

Man runs the risk of absolutizing a partial and inadequate knowledge, unaware of his limitation (theoretical motivation of relativism), when he falls into this temptation, adopting a behavior that is violent, disrespectful and incompatible with human dignity (ethical motivation of relativism). The logical thing would be for him to accept the relativity of his ideas, which corresponds to poor knowledge, but also to the ethical imperative of tolerance, dialogue and mutual respect, as well as coexistence in democracy, forgetting who has power, promotes his ideological and economic interests, political power, etc. without scruples of public opinion and the resources of power.

Christianity presents itself as the true religion. The Christian faith moves on the plane of truth, and this plane is its minimum living space. The Christian religion is not a myth, nor a set of rituals for social and political life, nor an inspiring principle of private good feelings, nor an ethical agency of international cooperation. The Christian faith communicates to men the truth about God and the truth about men and the meaning of their lives. The Christian faith is incompatible with the logic of "as if" and is not reduced to telling men that they must behave "as if" God had created us "as if" all men were brothers, but God created Heaven and Earth and that we are all equally children of God. He tells us that Christ is the full and definitive revelation of God, "the radiance of his glory and the image of his being", the only mediator between God and men, so he cannot admit that Christ is only the face with which God presents himself to Europeans.

Serene dialogue with those who have no faith or those who hold other doctrines is not opposed to Christianity. What is incompatible with the Christian faith is the idea that Christianity, the other monotheistic or non-monotheistic religions, the monistic oriental mystics, atheism, etc., are equally true, because they are different culturally and historically limited ways of referring to the same reality, which deep down, neither one nor the other knows. That is, the Christian faith is dissolved if the perspective of truth is avoided on the theoretical level; whether those who affirm or deny the same thing can be equally right or can be considered as representatives of complementary visions of the same reality.

Religious Relativism

The strength of Christianity consists in implying a close synthesis between faith, rationality and life, insofar as religious faith shows the personal conscience that true reason is love and that love is true reason. This synthesis breaks down if the reason that should enter into it is relativistic. For this reason, relativism has become the main problem that evangelization has to face today.

Relativism is problematic because it involves a widespread disorder of the deep intentionality of conscience in relation to truth, which has manifestations in all aspects of life. Firstly, there is a relativistic interpretation of religion, which is known as the "theology of religious pluralism". This theory states that the pluralism of religions is not only a de facto reality, but a de jure reality. God would positively want non-Christian religions as diverse ways by which men would unite themselves to Him and receive salvation independently of Christ. Christ has a position of particular importance, but it is only one of the possible paths, neither exclusive nor inclusive of the others. All religions should learn from each other something of the truth about God, and in all of them there would be a true divine revelation.

These complex theories were dealt with by Pope John Paul II's encyclical *Redemptoris Missio* (1990), as well as the declaration *Dominus Iesus*. Such theological theories dissolve Christology and bring about the revelation brought about by Jesus Christ that would be limited, incomplete, and imperfect. And that would leave free space for other independent and autonomous revelations. For the defenders of these theories, the ethical imperative of dialogue with the representatives of the Asian religions is decisive, which it would not be possible not to accept as a starting point that these religions have an autonomous salvific value, not derived from and not directed to Christ. In this case, theoretical (dogmatic) relativism obeys a practical motivation (the imperative of dialogue). We are faced with another version of Kant's theme (1724-1804), of the primacy of practical reason over theoretical reason. In terms of the issue of salvation for those who do not have the Christian faith, it is that those who live uprightly according to conscience are saved by Christ and in Christ, even though they did not know him on earth. Christ is the Redeemer and the Universal Saviour of mankind. He is the salvation of all, those who are saved.

Ethical-Social Relativism

Today's relativism has many manifestations in the ethical-social sphere, but it also presents itself as if it were justified by ethical-social reasons. This explains the ease with which it spreads and the scant effectiveness of certain attempts to combat it. In today's society we find a pluralism of life projects and conceptions of the human good. This fact proposes the following alternative:

5. It renounces the classic pretension of making value judgments about the various forms of life that experience offers us
- Or
6. One must renounce defending the ideal of tolerance, for which every conception of life is worth as much as any other, or at least has the same right to exist.

According to Nino, C. S., (1989), "If the existence of reasons for ways of life were not used to justify the use of coercion, tolerance would be compatible with the deepest commitments". The force of this type of reasoning consists in the fact that men often violently sacrifice their freedom on the altar of truth. This can be seen in the way in which the relativist mentality attacks its opponents (e.g., homosexuality belongs

to the essence of marriage, it is not told that this thesis is false, but it is accused of religious fundamentalism, intolerance or anti-modern spirit). Still less will it be said that the contraria thesis is true, that is, it does not attempt to demonstrate that heterosexuality has nothing to do with marriage. No one is forced to marry or abort, but anyone who thinks they should do so must be able to do so consciously.

4.4 Human Life

Human Virtues

According to Aristotle and Plato, (427 BC – 347 BC), virtue is a constant rational habit that makes human beings comply with their own nature and achieve happiness. According to Aristotle, (384 BC – 322 BC), virtue consists in the fair measure between vice by excess and by omission. Man is not born virtuous, but becomes virtuous through practice (action) and education. Plato and other philosophers summarized all human virtues in four types:

- **Prudence** – prudent people avoid danger and are cautious. The prudent person is best known for being moderate, sensible, and for thinking/reflecting before speaking and acting.
- **Justice – is a theme addressed by several thinkers throughout history:**
 - ✓ **Socrates, (470 BC – 399 BC)**, knowledge of law is sufficient to act.
 - ✓ **Plato, (427 BC – 347 BC)**, justice is the harmony of society.
 - ✓ **Aristotle, (384 BC – 322 BC)**, justice is proportional equality, which means giving everyone what is due, according to needs, contributions to society and their own merits.
 - ✓ **St. Thomas Aquinas, (1224 – 1274)**, justice is a natural law, granted by God.
 - ✓ **Baruch Spinoza, 1632 – 1677)**, to be just is the one who has a constant desire to give to each one what is his, and unjust, the one who strives to make his own what belongs to the other(s).
 - ✓ **Gottfried Leibniz, (1646 – 1716)**, the one who puts himself in the place of the other, may be in the true point of view to judge what is fair or not.

Justice is the virtue of giving each one what is due to him, regardless of his conditions, which implies the full recognition and respect for Human Rights. It places each person in the place he deserves, without discrimination and respecting his individual freedom. It is the basis of many other virtues, which is why it is considered the universal virtue par excellence that must be instilled in the human person, from childhood and throughout life. The whole society must be based on justice, since unjust acts violate the rights of those who take away freedom.

Justice comes from the Latin word "justitia" and has different meanings according to the culture, the values of each community and the scope of the term. In the judicial sphere, this concept is used to refer to the rules and norms that determine the action of people and institutions and that are usually formulated and put in writing by the members of the legislative power.

In society there are different types of justice, which regulate the interactions between people:

- ✓ **Distributive Justice** – seeks to distribute goods and resources within society to ensure social well-being and a dignified life for all citizens.
- ✓ **Procedural Justice** – imposes compliance with the rules by all people in society, without distinction or privileges of any kind.
- ✓ **Retributive Justice** – intends that all people are treated in the same way as they treat others, so that anyone who infringes another, will have a sanction or punishment.
- ✓ **Restorative Justice** – aims to repair the damage caused by a third party to a certain person, with a view to recovering their social and economic well-being.
- **Temperance** – means having moderation, balance and parsimony in your attitudes. From the Latin "*temperatia*", it means to keep "balance".

Plato, (427 BC – 347 BC), defines these virtues as capacities of the human soul. It has some functions and its ability to fulfill them are the virtues. Human virtues represent positive characteristics and qualities of individual human behavior, and are responsible for shaping and dictating the character, values, and personality of each person.

The supernatural virtues in the religious sphere, according to most religious doctrines, the human (or moral) virtues must be combined with the so-called supernatural virtues, since they reach the Soul through sanctifying grace, that is, they are received directly from God. The supernatural virtues are distinguished into:

- **Theological virtues** – consist of having gifts: faith, charity and hope. The origin and the end are God.
- **Moral Virtues** – are numerous and can be defined as acts of kindness that are in accordance with the theological virtues, that is, the moral virtues are means that lead to the ultimate end of man, which is the supernatural – God.

In opposition to virtue is vice, in the broadest sense, as something that destroys the human qualities of the person from within, causing him to move away from the path of virtue. Human virtues are standard moral qualities of human beings, related to the construction of each person's personality. Virtue is the principle of good deeds and social and economic well-being, and it leads people to act correctly, for their own benefit and for the benefit of those affected by their actions/decisions. A good deed is virtuous in itself and is related to the mastery of selfish impulses, emotions and desires in favor of respect for life in society (common life). According to philosophers and psychologists, here are some examples of people's basic human virtues:

- | | | |
|--------------------------|------------------------|------------------------|
| • Benevolence | • Contentment | • Humility |
| • Kindness | • Courage | • Mercy |
| • Justice | • Prudence | • Pity |
| • Patience | • Honor | • Integrity |
| • Sincerity | • Detachment | • Creativity |
| • Responsibility | • Carefree | • Generosity |
| • Punctuality | • Cleanliness | • Amiability |
| • Attendance | • Determination | • Maturity |
| • Commitment | • Perseverance | • Wisdom |
| • Optimism | • Discipline | • Solidarity |
| • Wisdom | • Sympathy | • Restraint |
| • Intelligence | • Empathy | • Altruism |
| • Modesty | • Stability | • Companionship |
| • Reliability | • Peace | • Dedication |
| • Self-confidence | • Honesty | • Brotherhood |
| • Spontaneity | • Flexibility | |

Acquired or natural virtues are habits that are created through the process of socialization, whether in the family, at school, or other institutions of which they are part of since birth. Human virtues are not innate, but are built and complement the personality of human persons throughout life. No one is born honest, but they can learn to have honest behaviors from education, examples, lessons and morally positive references in the environment where they are inserted. Virtue is built throughout life, since they are uniform, uninterrupted moral capacities. An isolated act does not in itself constitute virtue.

Quality of Human Life

Quality of human life indicates the level of basic and complementary conditions of the human being. These conditions involve physical, mental, psychological, emotional well-being, social relationships and economic well-being. The qualities of a human person are good aspects that the person possesses in his personality and attitudes. In the opposite direction are the defects. People's qualities are the appreciated aspects of their personality, as they follow the values and principles well regarded by society and help to cultivate a good relationship with others. By way of example, some qualities most appreciated by society

- Confidence
- Creativity
- Tolerance
- Lovingness
- Sincerity
- Focus
- Extraversion
- Discipline
- Flexibility
- Honesty
- Honor
- Gratitude
- Humility
- Bravery
- Punctuality
- Sympathy
- Companionship
- Efficiency
- Effectiveness
- Communicability
- Empathy
- Entrepreneurship
- Organization
- Respect
- Peace
- Dedication
- Courage
- Attention
- Authenticity
- Benevolence
- Availability
- Creativity
- Audacity
- Productivity
- Independence
- Optimism

V. DISCUSSION, CONCLUSION and CLUES for NEW INVESTIGATIONS

5.1 Discussion

Globalization of Information

Information is the link that unites us, since being able to transmit it in large quantities quickly from continent to continent, from institution/organization and from person to person, we transform a largely separate and diverse world into a single global megalopolis. The messenger on foot gave way to the information highways on a global scale. Whatever it is, it can be a valuable commodity, to be compiled, stored, duplicated, sold, stolen and sometimes a source of murder. Many people around the world spend their workday gathering, studying, processing and disseminating information. Industries have developed to produce technologies (hardware, software, and networks) to store, process, and distribute information.

Information about the globalized world today demands permanent attention and can be considered as the most valuable asset, so in knowledge-based economies, information is assuming an increasing part of the cost of doing business successfully and at the same time, it is a source of peace and local and/or world conflicts. Although we can store it using various physical supports, the information itself is not physical, but abstract and not purely mental. Knowledge is stored in people's memory, but information is out there in the world. Whatever it is, it exists somewhere between the physical world, around people, and the mental, human thoughts.

In industrial society, oil (*crude*) was an important source of energy used to power engines and power factories. But before the chemical energy from petroleum could be unleashed, *crude oil* had to be refined, that is, into usable forms such as gasoline and heating fuel. Similarly, information is the source of the energy that drives the "engines" of the digital society, but in order to use it we need to convert it into a usable form: **knowledge**. But when we refine information to transform it into knowledge, quality weighs more than quantity. When we convert information into knowledge, we add value to it and make it more expensive.

During the last few years, it has been seen that the industrial sector, which is largely responsible for the wealth that countries have accumulated since the nineteenth century, is losing weight in the Gross Domestic Product (GDP) compared to the service sector, resulting from the transformation of the industrial society into the informational society, for three reasons, Moore, (1997):

- 1st. Countries, institutions and organizations increasingly depend on the intelligent use of information and are becoming information-intensive countries/institutions/organizations;
- 2nd. People in their daily acts consume large amounts of information, whether in terms of leisure, in terms of business, or in terms of peace or conflicts;
- 3rd. The information industry disguised within the diversity of the service sector is emerging, as a sufficient entity, to be a sector (perhaps the best) of the major sectors of the economy (primary, secondary and tertiary sector). Industry can be made up of four sectors: information content, information distribution (access centres and distribution channels, such as telecommunications operators and the Internet) and information processing (computer technologies) and the consumer sector (use of information for decision-making).

The transformation of institutions and organizations into informationally intensive is perhaps the clearest trigger for the change to the informational society. The analysis of the most successful organizations in the world seems to indicate that it originated in the best management of information and knowledge about the world (global and immediate), that is, those that were able to better detect the needs of the market and that best adapted in terms of configuration, methods, processes and cultural forms that allowed the combination of external information with that generated internally. to generate distinctive competitive advantages, Porter, (1998).

Globalisation must be seen beyond the opening or not of borders, countries, markets and the institutions and organisations themselves. Information, regardless of its geographical origin or time in time, is at our fingertips, through the keyboard of the mobile phone, the computer or the television screen.

Combating disinformation (untrue information)

According to Koblenz, (2019), the proliferation of weapons of mass destruction brings serious concerns for global peace and security. They have been used for wars (Ukraine, Gaza, Lebanon, Iran, etc.), causing much concern in world society. Chemical weapons are chemical substances with toxic properties used to cause intentional harm or death through their toxic properties. The Organization for the Prohibition of Chemical Weapons (OPCW) is the international body, in charge of eradicating chemical weapons.

To do this, political "actors" use coordinated disinformation (untrue or post-true information). Disinformation is information designed to be deliberately misleading, Jack, (2017). The level and effectiveness of disinformation in recent times is such that it can be considered a threat to global peace, Stewart, (2021). The method of spreading disinformation ranges from initiatives led by nations, groups, and individuals, acting covertly and openly to misinform. The police, secret or not, engage in some form of disguise, using techniques and technology, and disguise themselves, as citizens, expressing their legitimate opinions, but with ulterior motives. Disinformation is carried out by the media, supported by governments, as was the case with Russia, Wilson & Starbird, (2020).

According to Starbird Arif and Wilson, (2019), people unwittingly are the ones who spread disinformation the most. The wide reach, ease of use, and design of social networks make them the preferred "tool" for disinformation, whose content is sensationalized, generates high levels of attention, and distorts facts and lies. According to Nembr & Gangware, (2019), the characteristic and/or design algorithm of social networks makes them particularly vulnerable to misinformation that is usually conveyed in a sensationalist way. Sensationalist content generates high levels of attention and ranges from conspiracy theories, distortion of facts, to simple lies- According to Hoffman, (2009), the different "tools" are used by "political actors" to discredit the evidence, deceive the public and divert the attention of citizens, with the aim of sowing division and influencing politics, attacking the emotions of citizens.

Right to Privacy

Privacy is the subjective feeling of human beings, about their personal space that is dimensional – territorial, physical, mental or psychological and should be considered a mechanism developed, throughout life in the context of social interaction and coexistence, with other human beings. Thus, if we consider that all cultures have their particularities and differences, namely, in the communication processes obtained by education and socialization, privacy, in the way it is understood, by each person and collectively, also varies according to time and cultures.

In the individualistic view of the State, privacy is taken as a reserved zone of the individual without any ethical or solidary requirement in its exercise, therefore privacy with a selfish and antisocial accent; Privacy, on the other hand, occupies a top place in human rights, coexisting with several others of the same nature, such as the rights to the inviolability of the home, to the secrecy of correspondence, to the image, unfolding into several restrictions and prohibitions, and is therefore a fundamentally defensive right.

Privacy can be understood as the ability or ability that any human being has to manage their physical and mental space of well-being, in a balance between what they want to expose of themselves (their identity) and the invasion of what they do not want. The feeling of privacy is somehow linked to the feelings of comfort and trust that you have in relation to others, and it is in these two measures that the management of privacy is done, on the basis of choosing the permanence or absence of these people, as Friedrich Nietzsche tells us "My solitude has nothing to do with presence, or absence, of people. [...] In fact; I hate those who rob me of my solitude, without in return offering me real company." Yalom, (2015).

Certainly, privacy goes hand in hand with values, such as the privacy of private life, in any domain, be it the intimate and personal sphere (family, affective, sexual life, health status, religious and political beliefs). Nowadays, the privacy of citizens and organizations, therefore, given that they hold "private" information of those same citizens, is a very present concern of democratic states, particularly public authorities, to be able to manage this information, with specific purposes, namely, for the construction of public policies, and at the same time, safeguard the protection of people's privacy.

In fact, because in the last sixty years new communication and information technologies (ICT) mechanisms and technologies have been developed, namely, wireless technologies (computers, mobile phones, etc.) with access to the Internet, new forms of interaction without constraints of space and time, various forms of exposing people and sharing information have been provided to men, organizations and States. However, in the face of this greater exposure, the territory of privacy has become more vulnerable.

In other words, this amplification of communication, exponentiated by the Internet, has promoted new forms of freedom, with emphasis on people's freedom of expression, but in the same way, it has placed many risks in the exercise of the right to privacy, which in its traditional form is broad and vague, when it is addressed to ICTs, and to this territory that belongs to no one (social and business networks), it opens up a new range of questions about these two fundamental rights, namely what is privacy on the Internet? What is its nature and limits? How can privacy be protected in this exhibition space, how can the damage produced by new forms of criminality (*cybercrime*) be minimized, how can information be protected? How is the right to security of citizens' privacy guaranteed, with the full exercise of their freedom of expression? And how should users act in this digital world, in which their private sphere is more diverse?

The right to privacy can be divided into several subgroups, under the terms of article 17 of the ICCPR, that is, the right to privacy, identity, integrity, intimacy, autonomy, communication and sexuality:

- **Privacy** - The right to privacy, as defined in Article 12 of the UDHR, protects the field of individual existence with respect to the sphere of privacy of others. It can also be understood as the element that does not fall into any of the categories mentioned below.
- **Identity** - Identity includes personal "characteristics", such as name, appearance, clothing, hair, gender, genetic code, as well as one's religious confession or belief.
- **Integrity** - Personal integrity is protected by Article 17 of the ICCPR. It means that, for example, medical treatment without the consent or even against the patient's will should be considered an infringement of the right to privacy.
- **Intimacy** - Intimacy is, in the first place, ensured by the protection of the home and correspondence, as well as through data protection. A person is protected against the publication of his or her personal data without prior consent.
- **Autonomy** – Contemplates the area of personal fulfillment of human beings. It is the right to one's own body, which also confers the right to act against one's own body, including the right to commit suicide.
- **Communication** - It covers interaction with other people and confers, in addition to the special protection of the family, a right to develop relationships with other people.
- **Sexuality** - Sexual autonomy is a special and particularly important part of the right to privacy.
Any regulation of sexual behaviour constitutes an interference with the right to privacy. Interference is only permitted if absolutely necessary for the protection of those affected (e.g. children). (Source: Manfred Nowak. 2005. CCPR Commentary, art. 17 CCPR.)
- **Especially vulnerable groups**
 - ✓ **Persons with disabilities** - Persons with disabilities who need special care and help are often likely to be interfered with, for example, if they are in closed premises.
 - ✓ **People affected by illness and the elderly** - People affected by illness or the elderly living in hospitals, clinics or nursing homes, face a particular risk of affecting their right to privacy.
 - ✓ **Children** - With regard to new media, children are likely to infringe their rights to privacy if they reveal personal information on social networks or on the internet in particular.

Privacy in Digital Environments

In digital environments, private data is provided to a system that records and stores the data. The data provider will have little or no control over this data (information), how, and for how long, the recorded and stored data will be used, leading to asymmetries in information flows. In many cases, the data provider is forced to agree to provide the data, otherwise he will not have access to the services offered. In this context, the violation of privacy stems in most cases from the asymmetric flow of information between the company that records and stores the data and the data provider (human being), Jiang; Hong; Landay, (2002).

This issue is aggravated as there is an increase in data flows, system speed and low cost of maintaining the data over time. Many companies define and employ their own regulatory policies with regard to the use and privacy of their users/customers' data, and make these policies public to detail how data is recorded and stored and what will be used before it is required by law.

However, data is often recorded and stored before users have access to privacy policies or have the means to monitor whether companies comply with what they promise in their data control and confidentiality policies. The very dynamics of the Internet and the constant updates of computer programs expose the system to risks, which compromise privacy, Pollach, (2007, p. 188).

The streams of data recorded and stored on the Internet bring many benefits to consumers and citizens, but also increase the risk of abuse through discrimination, manipulation and/or cybercrime. Digital privacy laws should provide users with control and co-ownership of their data, as well as facilitate its deletion, when claimed. Although progress has been made in regulating the right to be forgotten in digital networks, in practice, the lack of supervision allows companies to carry out manipulations with their users' data that were not previously agreed, such as selling to third parties.

Freedom of Expression in Digital Environments

Communication is a fundamental process for human interaction. To this day, there is no certainty about how primitive men began to communicate with each other, whether by shouts, grunts, gestures, or a combination of these elements. It is also through it that the human being acquires awareness of himself and others, internalizes, produces, reproduces and transmits to others, through language, behaviors, values, norms, and their meanings, in the society and culture in which he is inserted.

The communication process is processed through language, namely through oral and written expression. It has been diversifying, over time and space, inventing new channels, from cave paintings, the sound of drums, smoke signals, paper, telegraph, telephone, radio, television, and today with the internet, it allows men to communicate with each other, in a faster and easier way.

Communication is the basis of interaction of human relationships, and it is also the foundation of man's right to free thought and free expression. Freedom of thought and freedom of expression are two associated rights, since the two complement each other. However, both have freedom, with a somewhat different nature. Freedom is a concept that contains in itself, an option or will of one's own and a constraint, the conflict with the freedom, of another person. One person's freedom ends, when another's freedom begins.

Thought may be defined as the act of thinking, of becoming aware, of reflecting, or meditating; the faculty of conceiving, combining, and comparing ideas; the particular act of the mind, the result of which is reflection; mode of thinking; opinion, point of view; the act of meditating and fantasizing. Thought, given its rational and exclusive nature of man, is a manifestation of human subjectivity, a phenomenon reserved to the individual's own mind. Thus, it can be considered or represented as a non-action, in the sense that it does not directly affect others, except, when manifested or expressed, by a communication action (speaking, writing, acting, etc.).

Expression is a concrete action, a communication, an objective manifestation of thought, since the nature of interaction is always in relation to the other, that is, expression is the external and objective manifestation of our thought, about another. Freedom of expression is not absolute, because it can be limited in its action, when in its full exercise it runs the risk of colliding with other individual freedoms, namely, the right to honor, moral integrity, image, good name and reputation.

Freedom of expression "is the right of everyone to freely express personal opinions, ideas and thoughts, without fear of retaliation or censorship by the government or other members of society. It is a fundamental concept in modern democracies, in which censorship does not exist, Cabral, (2010). Freedom of thought and expression are the two main vectors of representative democracies, which are in harmony with the other rights: the right to information and the right to contest, insofar as, in order for citizens to participate in the choice of a government, they must be able to access information or ideas, expressed publicly - public opinion, contest them, if that is their wish and make their judgment, about them, in such a way as to be able to make a choice, namely a choice, in the context of elections.

Freedom of expression is a legally protected right in democratic societies, in fact it is what legitimizes them, and is provided for in Article 19 of the Universal Declaration of Human Rights of 1948. Everyone has the right to freedom of opinion and expression, which implies the right not to be bothered by his or her opinions and the right to seek, receive and impart, regardless of frontiers, information and ideas, by any means of expression (Universal Declaration of Human Rights). Everyone has the right to freely express and disseminate his or her thoughts by word, image or any other means, as well as the right to inform, to be informed and to be informed, without hindrance or discrimination.

Digital Society and the evolution of Technologies

Information and Communication Technologies (ICTs) have constituted, in the scenario of modernity, an important instrument for the transformation of industrial society, in the digital society of information and knowledge. It is a network society, emerging a new social morphology, and gains economic, social, political and cultural primacy. According to Orth, (2002, p. 22), we live in a culture and a society that is constantly changing, either because the economic, social, political and cultural contexts are increasingly massified, internationalized and globalized, or because the relations of life, study, work and capital are changing rapidly and constantly.

According to Santos, (2013), it is possible to prescribe that from the technical uniqueness (single technical model), based on the capitalist system and the way in which the globalization process is configured, there is a significant transformation of consumption, into an ideology of life, making citizens consumers, massifying and standardizing culture, and the form that often contributes to the concentration of wealth, in the hands of a few. According to Ney Jr, (2002), "the current information revolution is based on the rapid technological advances of the computer, communications and software, which in turn have led to extraordinary reductions in the cost of processing and transmitting information", as well as, "ideally, the Information Revolution will repeat the successes of the Industrial Revolution. Only this time, part of the brain's work, not the muscles, will be transferred to the machines." For Cardoso, (2007, p. 102), information seems to have replaced energy, as a central element of economic life, first for the most developed countries and then for all areas of the planet and subject to market rules.

It can be seen in this panorama that the Internet was the apex of the digital society of Information and Knowledge, since it allowed the free circulation of information throughout the globe. According to Castells, (2003, p. 100), "the first stages of *Internet* use, in the 1980s, were announced, as the arrival of a new era of free communication and personal fulfillment in virtual communities, formed around communication, mediated by the computer". According to Lojkine (1995), "the transfer to machines of a new type of abstract brain functions is at the heart of the Information Revolution", arising the need to restructure capitalism that drives the adoption, diversification of *the media* and the development of information and communication technologies and their articulation in a network.

ICTs provide the great legitimacy of political power, which assumes in itself all spheres of culture. In this Universe, ICTs also provide the great rationalization of man's lack of freedom, and demonstrate the "technical" impossibility of being autonomous, of determining people's lives. This lack of freedom does not arise, neither irrationally, nor as politics, but rather as work. Technological rationality protects, the legality of domination, instead of eliminating it and the instrumentalist horizon of reason, opens up to a *totalitarian society with a rational basis*.

According to Gonçalves, (2003, p. 138), *cyberspace* is the main vector of the Internet, and its outstanding characteristics are invisibility, intangibility and intercommunicability. The processing of information by the computer gave rise to legislative and judicial movements, for the protection of rights, on information and regulation, access and use. The internet is characterized by being a mediator-free communicational space, structured according to an "all-all relationship". Thus, the relationships between people and the interaction with *the world wide web take place, which stores the most diverse types of content, whether they are made available by the users themselves about their preferences and their private life or by the servers themselves. It turns out that due to the interaction generated on the network, its storage and the distribution of content, it becomes a practically impossible task to remove information, once it is put online.*

According to Nissenbaum, (2010, p. 21), the great difficulty faced in this context is to separate the public and private spheres of each person, from what should be available or not, and within everyone's reach, in a virtual environment. Therefore, "information technology is considered a great threat to privacy, because it allows ubiquitous surveillance, gigantic databases and a rapid distribution of information around the world".

For Habermas, (1997, p. 92), the public sphere can be "described as an adequate network for the communication of contents, decision-making and opinions; in it, the communicational flows are filtered and synthesized, to the point of condensing into public opinions bundled together at specific times". It is in this sense that the aspirations of the next drafts of the text take place, aiming to provide a debate between the right to privacy and intimate life, of what can or cannot be, linked to the existence of each person, characterizing what is of private interest or what can generate, a *right to be forgotten*.

5.2 Conclusion

The Universalization of Truth

Universalization is a fundamental concept in philosophy that seeks to understand the nature of ideas and concepts that are applicable to all people, in all places and at all times. It is an approach that seeks to find principles and truths that are universally valid, regardless of any specific context. Universalization plays a crucial role in philosophy, as it allows the search for knowledge and understanding that transcends individual, cultural, and religious limitations. It helps us to find principles and values that are applicable to all people, regardless of their beliefs, backgrounds or circumstances, because it seeks to establish common ground for dialogue and mutual understanding of human beings.

The Universalization of Ethics

In ethics, universalization plays a key role in determining what is morally right. Through universalization, it is possible to evaluate whether a human action is ethical when considering whether it is acceptable for everyone to perform it in similar circumstances. For example, if lying were universalized, mutual trust would be damaged and society would suffer the consequences. Universalization helps to establish ethical principles that are applicable to all.

Universalization and Knowledge

In the search for knowledge, universalization allows us to distinguish between universal truths and contingent truths (post-truth or truths of convenience). Universal truths are those that are valid in all circumstances and in all places, while contingent truths are dependent on specific contexts. Philosophy with universalization seeks to identify principles and concepts that are true, regardless of any particular context or groups, allowing to achieve a broader and more comprehensive knowledge.

Universalization and Cultural Relativism

Cultural relativism argues that there are no universal truths and that all beliefs and values are equally valid within a given cultural context. However, universalization allows us to question this limited view, by affirming principles and values applicable to all cultures. This allows for a critical evaluation of cultural practices and the search for common ground that transcends cultural differences.

Universalization and Political Philosophy

The universalization of political philosophy is a central concept in the search for principles and values that are applicable to all world societies, since it seeks to establish principles of justice and equality that are valid regardless of any specific political context.

Universalization and the Philosophy of Language

The universalization of language is an important concept to understand the nature of words and their meanings. Language universalization seeks to identify concepts and ideas that are applicable to all languages and cultures, which helps to understand, how language can be used to communicate universal ideas and concepts, allowing us to establish a common basis for communication and mutual understanding.

Universalization and the Philosophy of Science

Universalization plays an important role in the search for scientific laws and theories that apply to all natural phenomena, that is, it seeks to establish principles and concepts that are valid regardless of any specific context, which allows the development of scientific theories that are applicable to all areas of science, thus allowing to obtain a more comprehensive and global knowledge, about the natural world.

The Universalization and Philosophy of Religion

In the philosophy of religion, universalization plays an important role in the search for religious principles and values that are universally applicable to all people, regardless of their specific beliefs. In seeking universalization, the philosophy of religion seeks to establish ethical and spiritual principles that are universally valid, allowing us to find common ground between different religious traditions and promoting tolerance and mutual respect.

The Universalization and Philosophy of the Human Mind

Universalization in the philosophy of the human mind plays an important role in the search for principles and concepts that are applicable to all mental experiences. In seeking universalization, the philosophy of the human mind seeks to establish principles that are valid regardless of any individual or cultural context, which helps us to understand the nature of the human mind and to find a common ground for understanding mental experiences.

Universalization and the Philosophy of Logic

Universalization in the philosophy of logic plays an important role in the search for principles and concepts that are applicable to all logical systems. In seeking universalization, the philosophy of logic seeks to establish principles that are valid independently of any specific logical system, which helps us to understand the nature of logical reasoning and to find a common ground for logical inquiry and understanding.

The Unity of Consciousness in Philosophy

Philosophy is an area of knowledge that seeks to understand the foundations of human existence and the world around us. Among the various topics addressed by philosophy, one of the most complex and intriguing is that of human consciousness. This is a phenomenon that allows us to have perception, thought and self-knowledge.

Universal Human Conduct (attitudes)

It is possible to identify four **universal attitudes** that result from the fragmented, projectless and meaningless social relationship:

- 1- **The attitude of isolationism** (or eremitism), which in the current era, considered **real time, where space and time are identified**, becomes difficult and becomes a "subjective isolation".
- 2- **The attitude of conformism** (accommodation and assimilation), which becomes alienation. Perhaps it is the most common, living according to the "waves" and the "blowing of the wind".
- 3- **The attitude of oppositionist** (contrary reaction, opposition to everything new). An attitude that identifies with conservatism, with orthodoxies, which wants a return to the past, to the impossible.
- 4- **The attitude of cooperation** (participation, involvement) is the way in which society in general and in particular the "scientific society" can find a balance in democratic and humanized scientific research. We must wake up in time, so that we are not dominated by scientific-technological advances, and to participate in the construction of the civilization of the next millennium. For this, it is necessary that ethics contribute to purposes in which the right to freedom and citizenship are guaranteed; where ecological balance is guaranteed and, above all, where no human being is excluded, at least, from a dignified, free and creative

life. So that the civilizational process is enriched, in the construction of human relations, for the social and economic well-being of the digital society.

Universal Human Behavior

It is possible to identify a set of universal human behaviors that can be summarized in the following:

- **Liability** – in relation to all acts/actions performed.
- **Honesty** – being honest, serious and responsible, throughout life.
- **Reliability and rigor** - carry out any activity, acting meticulously, carefully and with attention to detail in a correct, integral and impartial manner.
- **Objectivity** - in the interpretation of facts, acts and actions.
- **Integrity** - in the identification and manifestation of actual and/or potential conflicts of interest, and in compliance with all ethical and legal requirements.
- **Independence** – to act with total freedom and independence, in any circumstance, that is, not to act coerced or out of complacency.
- **Justice** – always practicing human justice in any decision-making
- **Professional secrecy** - confidentiality are duties and, at the same time, rights of citizens, which are nothing more than a realization of Human Rights.
- **Transparency** – always transmitting / telling the truth, without tampering with it, or hiding anything, in situations of conflict of interest.

Universal truth and unity of consciousness are complex and fascinating concepts in the philosophy of mind, since it is through unity of consciousness that humans are able to have a unified perception of the world and themselves. Several theories and perspectives have been proposed to explain the nature of the unity of consciousness and this question continues to be the subject of study and debate in philosophy and cognitive science.

Limitations of the research study

Studies on Truth in the Digital Society have numerous limitations, as it is too broad a topic to be addressed by a single study alone, so it should be addressed in future research. In the first place, they are often limited to partial studies, that is, on a type of definition of Principles and Values in Philosophy, on a certain area of knowledge and not on a global and universal vision of the problems of the definition and implementation, of the Universal Truth, in the daily lives of people, anywhere in the world. using or not using any technology.

Clues for Future Investigations

Reflection on the Universal Principles and Values of Truth, in the Digital Society (from Theory to Practice), can contribute to enlighten World Leaders/Leaders and individuals about the consequences and the need to define common rules and norms, on the one hand to humans and on the other to those responsible for technology, in the change of paradigms, in economic, political and social terms and to focus their attitudes and behaviors, in ethical decision-making, in the different areas of action, influencing all organizational levels / companies (public and private), involving politicians, technical commissions and other members of governance, and with this, provide responsible, transparent, assertive and solidary decision-making, at all levels of the structure of World Powers (legislative, judicial and executive).

The following questions are already posed:

1. What exactly is unity of consciousness in philosophy?
2. What is it that allows humans to act and interact seriously, honestly, transparently, responsibly and effectively?

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