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**MONOGRAPH**

**“Today’s impact of the inventions created during the enlightenment era”**

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## Gratitude

In the first instance I thank God for giving me my life, my family and the ability to learn, thanks to my family for always supporting me, taking care of me and training me to be who I am today, I thank my teachers at Javier School who, based on their teachings, I have progressed and acquired knowledge. I have been able to reach this point in my life thanks to you and thanks to you I will continue to give my best.

## Summary

This monograph has a lot of serious problems we're facing nowadays, and it's important to remark that the Enlightenment is one of the main important events in the world history. Throughout this monograph, we will understand the facts of what illustration was, the historical characters that brought many changes with their new ideas and how this event has affected today's society. Apart from promoting historical knowledge, we will learn about how our society evolves, and what is the social and intellectual difference between two different eras.

This historical panorama was driven by society, since at that time people were reaped by the strong belief in the church, and this caused a lack of knowledge regarding the universe, science and technology. In addition, that was when the enlightened ones appeared, people with revolutionary ideas, which did not express themselves because they were oppressed by the church. This large group of people shared their ideas and changed the system on which the world was centered, these ideas globalized the world to change the way people see it and idealize their knowledge as a basis for new discoveries and renewals.

The ideas that were given during the illustration affected everyone, changing the way people think and great advances were made in science and technology. It could be said that the Enlightenment is one of the starting points in history for the world to begin as it is today,

since today the world is molded by invention and ideas that emerged in that era of free and enlightened thought.

## Index

	<b>Pages</b>
Cover.....	i
Gratitude.....	ii
Summary.....	iii
Index.....	iv
Introduction.....	1
Chapter I: THE ENLIGHTENMENT.....	3
1. Definition.....	3
1.1 Background.....	5
1.2 Causes .....	7
Chapter II: THE THINKERS OF THE ENLIGHTENMENT .....	9
1. Most Notable Thinkers .....	9
1.1 John Locke .....	10
1.2 Voltaire .....	10
1.3 Rousseau .....	11
1.4 Montesquieu .....	12
Chapter III: IMPACT TODAY .....	14
1. What would have happened if the Enlightenment had not happened? .....	14
1.1 Politics and Government .....	15
1.2 Natural Laws .....	16
1.3 Developments in <a href="#">Science</a> and <a href="#">Technology</a> .....	17
Conclusions.....	19
Recommendations.....	20
Bibliographic References.....	21

## **Introduction**

This monographic work is about the Impact of the inventions created during the Enlightenment era at present, the same one that has as purpose to make known the history behind what are now the inventions of the day to day, but also to analyze their importance and transcendence throughout history and how this has affected the current world. The Enlightenment was an intellectual movement of the eighteenth century that has been the basis for the development of humanity, thanks to the new ideas that were given at the time.

The specific study of this subject is of enormous importance, since one must always know about history in order not to make mistakes in the past. The study of the Enlightenment helps us to understand how the changes, inventions and ways of thinking of that century came about. It should also be noted that this movement has encompassed countless changes in every branch, from politics to the arts, which vindicates that these sudden changes are taking place to enter a new era and that humanity is always adapting to these changes.

There have been many authors and illustrators who have treated the subject of the Enlightenment as an object of study, for example Immanuel Kant with his book "What is the Enlightenment", Max Horkheimer and Theodor Adorno also studied the subject and developed a book that shows us an exposition of argument and reasoning on what this movement involved is "Dialectic of the Enlightenment". The origin of this movement goes back to the centuries before this, when man began to see an enlightened reasoning that did not mix church beliefs and used the physical and scientific theories discovered.

The monograph will consist of three chapters: the first will deal with a description of the movement, the causes and historical background of the intellectual movement; the second, the most influential enlightened people in the world, a brief description of who these people were and an explanation of what they did at the time; and the third, the impact of the Enlightenment today.

## CHAPTER I

### The Enlightenment

#### 1. Definition

The Enlightenment, also known as the century of lights, is a cultural and intellectual movement that developed throughout the 18th century in Europe. It was a period of great relevance in history, since it was when man decided to use reason and raise new questions and ideas, man decided to review the past and question the old doctrines, theories and beliefs, he decided to start thinking for himself and free himself from social and religious doctrines and to move towards new ways of thinking with the intention of enlightening his knowledge and changing the bases and achieving cultural modernization.

The Prussian author and philosopher of the Enlightenment era emphasizes:

Enlightenment is the liberation of man from his guilty incapacity. Inability means the inability to use one's intelligence without the guidance of another. This incapacity is to blame because its cause lies not in a lack of intelligence but in a lack of decision and courage to use it for oneself without the protection of another.[CITATION Kan84 \p 87 \l 12298 ]

The 18th century or "Age of Enlightenment" is really important because its ideas produced revolutions all over the world. This was a century in which there was a great advance in science and above all in philosophy, reaching its culminating point in the Industrial Revolution. This was the century when people began to question the reality in which they found themselves and began to analyze the different aspects of it, although they were

established by the state and the King, did not have the necessary foundations to be valid.

People began to doubt the establishment of religion, society, politics, philosophy, laws, etc.

The century of lights is a time when progress was made in man's way of thinking and ideas were perfected in science. In this revolutionary movement, the doctrines of the scientific, political, cultural, intellectual, ideological and social fields, among others, were renewed. This improvement helped to transform the outdated structures of the Old Regime that were reinvented into a form called the Liberal Regime, which is one of the consequences of enlightenment. Enlightenment is based on science and education, leaving the church and religion in a separate space to shape the path for man to reach moral reasoning and perfection.

The authors of the critical theory century of the lights declares:

The Enlightenment, in the broadest sense of thinking in continuous progress, has always pursued the goal of freeing men from fear and making them masters. But the entirely enlightened earth shines under the sign of a triumphant calamity. The Enlightenment program was the disenchantment of the world. It was intended to dissolve myths and overthrow the imagination through science. [CITATION Ado44 \p 59 \l 12298 ]

The Enlightenment was both an intellectual movement and a state of mind where people chose to use reasoning open to new possibilities. This term represents a phase in Europe's intellectual history, but also serves to define reform programs in which influential writers,



inspired by a common belief in the possibility of a better world, outline specific objectives for criticism and proposals for action. The special meaning of the Enlightenment lies in its combination of principles and pragmatism.

Reason is the capacity that allows man to think critically, [in other words](#), the capacity to question all those thoughts and theories that are presumed to be true and irrefutable. "But for this Enlightenment, all that is required is freedom, and certainly the least harmful of all those that bear that name, namely, the freedom to make public use of one's own reason always and everywhere. (Kant, 1784). This cultural movement therefore affects the life of European societies in all its aspects, from the development of science and philosophy to politics and religion.

## **1.1 Background**

The Enlightenment was an intellectual movement that encompassed the whole world, this movement caused changes in people's way of thinking. People began to use reason to approach the enlightenment, a state of mind in which they are able to create doubts, new approaches and ideas that challenge what is believed to be safe at the moment. The Enlightenment was not formed spontaneously, the intellectual foundations of this movement have long been in history.

One of the first antecedents to the age of enlightenment occurs in Ancient Greece, during this part of history emerged a group of knowledge lovers, creators of theories and ideas and knowledge distributors, they were the first philosophers. Philosophy is a direct path to

reason, enlightenment and development of knowledge, because the philosophy focuses on the search for truth, wisdom and the questions about the universe. In fact, there is a famous Greek saying: "Perhaps the search for truth is more important than finding the truth". It refers that in seeking the truth we will always find more knowledge than other questions fill, it refers that the path is full of doubts and answers.

The most important antecedent is the fall of Constantinople because the period following the Roman Empire began the culture, people started to develop technology, architecture, the study of science and arts such as painting, this period is known as the Renaissance that is congregated between 1300 and 1600. During the Renaissance, with the resurgence of Western civilization, a new anthropocentric culture was born that would abandon the theocentric approaches dominant in the middle Ages. "What the Renaissance ontologically discovers is a human relationship in which everything beyond God's hands is artifice"[CITATION Vel14 \p 76 \l 12298 ]. Its philosophical representation will be humanism, the first attempt to construct a conception of the world centered on man himself.

During the renaissance there was a philosophical rise centered on the conception of nature as organic unity and the image of man as a microcosm reflecting the universal macrocosm. The main representative of this theory of study is Giordano Bruno. His doctrine is a reinterpretation of Neoplatonism inspired by Nicholas Copernicus that leads him to identify the One with the universe. Natural reality and the cosmic soul or God are one and the same. This philosophy brings nature into line with God and goes a step further than what will be considered fictitious during the illustration. The Enlightenment is in charge of finding the

truth based on scientific theories and mathematical and physical calculations always using reason.

## 1.2 Causes

After centuries of obscurantism in the Middle Ages, when religion and God were above human beings, the Renaissance brought new airs to European society. Even without breaking with the previous structures, part of the Aristotelian ideas is recovered and Reason begins to gain importance. The Wars of Religion that unfolded in France and part of Europe in the 16th and 17th centuries also conceive of certain social strata becoming tired of the superiority of all that is mystical.

The author who has enough knowledge about the Renaissance highlights:

The point that brings the Renaissance and modernity closer together is based on the critical attitudes they display in a twofold sense: in terms of traditional (medieval) forms of socio-cultural reproduction and in terms of the dominant trends of the time.

[CITATION Vel14 \p 79 \l 12298 ]

The most relevant cause of illustration is the French Revolution. The absence of faith in theocratic thought, the expense of education and religious wars, the constant threat of religion to science, the search for theistic explanations and reason over virtuous attitudes. During this period some thinkers continued with their rationalist theories at the expense of the church. As a result of the study of the science and philosophy of these characters is that the

Enlightenment arises, they are members of the nobility and of the powerful and growing bourgeoisie. The two groups are intellectually united, but they remain socially and politically separate.

The Enlightenment was caused by people who wanted to put aside the teachings of the church. The cause of the enlightenment was new ideas, but the reasoning was against what the church taught. These ideas covered science and technology. The church persecuted and imprisoned thinkers who devised new thoughts and theories that abolished creationism and its teachings. One of the scientists who opposed the theories of the church was Nicholas Copernicus who stressed that the Earth is not the center of the solar system, the sun is the central star and the earth is one of the planets that rotate in its orbit. This triggered an avalanche of ideas and inspired other thinkers to share their ideas and knowledge about what reason made them question or idealize.

## CHAPTER II

### The Thinkers of the Enlightenment

#### 1. Most notable illustrated

The Enlightenment was a term that was used to represent the predilection of thought and new literature in Europe and throughout America during the 18th century until before the French Revolution, this phase of history began the industrial revolution. Enlightened thinkers and writers were convinced that they came out of an era of shadows that blinded the thought, distorted it and that the mind began to use reason and science to discover the questions of the universe.

According to the historian and intellectual present during the Age of Enlightenment:

But only he who, precisely because he is enlightened, does not fear the shadows, while he has at hand a large and well-disciplined army for the public peace of the citizens, can say what a free State cannot dare to say: reason as much as you like and above all as you like, provided you obey.[CITATION Kan84 \p 97 \l 12298 ]

The precedents of the Enlightenment date back to the 17th century. Among these are the contributions of great rationalists such as René Descartes and Baruch Spinoza, political philosophers such as Thomas Hobbes and John Locke, and some of the leading French thinkers such as François-Marie Arouet and Montesquieu. "The thought of the Enlightenment constantly breaks the rigid limits of the system and, in the richest and most original spirits, always tries to avoid the rigor of systematic discipline"[CITATION Cas32 \p

13 \l 12298 ]. Another aspect of relevance was the good reception by intellectuals to new ideas and discoveries made by the use of science, technology and reason, and also the spirit of a scientist intrigued to discover the unknown, and willing to do so with new thoughts no longer overshadowed.

### **1.1 John Locke**

John Locke was born in England in 1632, he was a philosopher, essayist and thinker who began part of the movement known as the Enlightenment. Locke was one of the enlightened ones who created a current that led several thinkers like Voltaire and Montesquieu to share their ideas. This personage fought against absolutism, denying the divine origin of kings and explaining that in power there must be an understanding between the ruler and the people.

As one of the most important precursors of the Enlightenment, it can be said that his contributions to science, human thought and the development of logic prompted people to adapt their thinking. John Locke told us through his essays that the human mind is like a blank page that records everything we see, feel and experience throughout our lives. This way of thinking came to create enlightened thinking because it is based on reason, which is an idea that is attributed to what we know to be true, based on real and proven experiments and evidence based on science.

### **1.2 Voltaire**

François Marie Arouet was born in 1694 in France and adopted the pseudonym "Voltaire", a French writer, historian and philosopher who belonged to the group of rationalists of the Enlightenment. Voltaire is known for being a defender of freedom of expression and for having criticized the absolutism of kings, the privileges of the Church and of nobility, for which he was imprisoned several times. Voltaire left France and settled in England when he was attracted to the ideas of John Locke. This thinker believed that all people should have religious freedom, he also believed that reason and human conscience were the keys to a civilization in which science had covered the doubts that had stalled the church.

As the author and historian confirms about the philosophical intellectual movement:

Voltaire declares that as soon as man dares to penetrate the inner essence of things and tries to know them in what they are in themselves, he immediately realizes the limits of his capacity and feels himself in the situation of the blind man who tries to make judgments about the nature of colors.[CITATION Cas32 \p 27 \l 12298 ]

Voltaire's contributions were of great importance, he contributed by criticizing the way of thinking and liberated art in different ways, also in the branches of philosophy, politics and religion. Voltaire wrote several essays that served to disseminate the thinking of society. This thinker is recognized for having criticized various religions for not allowing free thought, yet he is a believer. Of Voltaire's contributions, the one that he has most stressed today is that he has defended freedom of thought and religious tolerance, since nowadays a person can follow any decision he wishes, as long as he or she is within the limits of the law.

### 1.3 Rousseau

Jean-Jacques Rousseau was a French philosopher born in Switzerland in 1712. Rousseau was a writer, ideologist and philosopher, whose work had a great impact in the period following the Enlightenment, the French Revolution. Rousseau is also regarded as a revolutionary thinker, of radical ideas, who laboriously believed that man is a free being by nature, as well as naturally good, so he must be educated to keep these two qualities in mind.

Rousseau was the counterpart of Voltaire and Montesquieu, since he was the spokesman of the popular classes but not of the bourgeoisie. This philosopher brought with him ideas that emphasized that there is always inequality and oppression in the people and he looked for ways to remedy this problem. Rousseau was an advocate of equality among people; he said that political power belonged to the people. Rousseau wrote the Social Contract, in which he explained that all citizens have equal rights and obligations to the state. "In his writings on the inequality of men, he shows very fully the inevitable conflict of culture with the nature of the human race, as a physical species in which each individual should fully reach his destiny"[CITATION Kan84 \p 180 \l 12298 ]. On the other hand Rousseau was a writer, they are considered a precursor of romanticism, the affinity for both the arts and for the themes of society. This thinker influenced many philosophers to follow his way of thinking about equality and the people.

### 1.4 Montesquieu

Charles Louis de Secondat known as Montesquieu is considered the father of bourgeois liberalism. He was a jurist, philosopher and writer belonging to the intellectual movement



known as the Enlightenment. This philosopher is recognized for his thesis on the need to create a State with at least three powers: Legislative, Executive and Judicial. This thesis is one of the reasons why the current political system is as it is.

Montesquieu is credited with the work called *The Spirit of Laws*, in which he set out his theory on the division of political powers and how each of these would function. This division of powers is currently used in the vast majority of government in the world. As far as we know Montesquieu is a man willing to make the necessary changes for the people, in fact he was also in favor of building a much more tolerant society, where man could find Freedom and Happiness.

Montesquieu, considered along with John Locke to be one of the founders of modern liberalism, criticized the political and religious, arguing that the church should be separated from the government. With this separation, both the church and the government were able to focus on their goals. Thus also Montesquieu's ideas on political powers were adopted by the governments.

## CHAPTER III

### Impact Today

#### 1. What would have happened if the Enlightenment had not happened?

The Enlightenment brought with it great ideas that changed the way people think and see the world. Every idea, invention, theory or advance became what today are the basis for many issues of study and society, but if we think what would have happened if these changes had never happened, as would the world now be without technology, without the rights, freedoms or political systems that were developed in this movement.

Many of these changes affected society in the world and from these ideas that we have taken we have developed them to what they are today, technology, new laws and new freedoms of society, and new ideas will continue to improve and always emerge to replace the previous ones, each century has its evolution and we always advance to know more about the world in which we live. "History is repressed in oneself and in others for fear that one may remember the disaster of one's own existence, which consists in large part in the repression of history" [CITATION Ado44 \p 258 \l 12298 ]. Starting with this theme, I will observe what the lack of progress of an entire century would change in human society and in history.

If the Enlightenment had never happened, the world would be very different from today. To begin with, there would not be so many rights and freedoms, people would be in an environment full of racism and injustice, and they would be locked up before the rules of government, because without freedom of expression people would not be able to oppose

dictators or unjust governments. On the other hand it would also bring great advances without the revolutions and civil wars that occurred as a result of this movement, it is said that technology would have advanced many more levels, this would be possible because the dark era would not happen in which ideas, inventions and theories were not developed or innovated.

### **1.1 Politics and Government**

The Enlightenment encouraged politics to adapt to the new ideas and freedoms that followed this century. The government was involved, they needed to create new laws that defended freedoms; in the political field, the powers of the state were created that brought with them to the president, these models of government were transmitted around the world and were adopted by many countries.

The illustrious of the century of enlightenment who brought with him ideas for improving systems of government was Charles Montesquieu, who developed the idea that government should be divided into three different powers: Executive, Legislative and Judicial, and I seek a constitutional monarchy. "When in the same person or in the same body of magistracy, legislative power and executive power are assembled, there can be no freedom; for it can be feared that the same monarch or senate may make tyrannical laws, to execute them tyrannically" [ CITATION Mon48 \l 12298 ]. Montesquieu wrote a book called Spirit of Laws in which he explains in detail the three branches of government and why they should be separated and attaches his reasoning to how the society of that time would function with those branches.

The divisions of state powers developed by the philosopher, Charles Montesquieu, were made because this author observed a problem in which a person has the powers concentrated in his hands and created a balance. The Executive is responsible for making the important decisions of the Government, enforcing its laws and organizing and sustaining the country. The judiciary is in charge of resolving legal conflicts, using the law as a rule to be followed. The legislative branch is responsible for creating laws and administering the state budget. Each of the powers is responsible for a specific task that needs to be accomplished in order to keep the country in balance.

## **1.2 Natural Laws**

During the Age of Enlightenment, a way of thinking emerged that gave people the freedom to express themselves and their right to do so without penalty. This liberal thinking generated what we know today as human rights, which are unbreakable standards accepted by almost all countries, which prioritize the rights and freedoms that every person should possess.

The authors and researchers of the century of lights communicate to us:

And yet, by virtue of the problem of the sublime, a new exaltation and liberation still takes place; in this feeling is expressed the intimate freedom of man in the face of the objects of nature and the power of destiny, and the individual is freed from the bonds to which he is subject as a member of the community, of the civil and social order.

[CITATION Cas32 \p 361 \l 12298 ]

The Enlightenment gave us the human rights that are inherent rights that apply to every human being on the planet regardless of race, skin color, nationality or culture. In this lies the beauty of this gift that gave us this time, that no matter how a person is, he will always have something that shows him that he is just like any other human being. In the Voltaire Enlightenment he was the greatest supporter of freedom of expression and human rights, he spread this message through essays and that is why the world today can live in peace with every human being treated well and having his privileges.

### **1.3 Developments in Science and Technology**

Throughout history, many inventions have been created, scientific advances have been discovered, and these have always evolved to the present day. "One era cannot be allied and conjured up to leave the next in a state where it will not be possible for it to expand its knowledge (especially the most pressing ones), to rectify its errors and generally to continue moving towards enlightenment" [CITATION Kan84 \p 93 \l 12298 ]. If we talk about science and technology and the Enlightenment there is much to talk about, as it was at this time that inventors, thinkers and scientists began to illuminate their thinking along with their ideas and developed incredible inventions and theories.

As a result of scientific and technological advances, a number of things happened, first of all medicine evolved during this period and thanks to these advances mortality was greatly reduced and the population throughout Europe doubled after a few years. And based on the scientific discoveries of that time, humanity was always innovating these techniques, thus

improving the quality of life of people; technology was also created that facilitated transportation, industry and other inventions that helped develop more technology.

Some of those that had the greatest impact were the railway, the steam engine, the spinning machine and the cotton ginner, these inventions of the illustration are also considered to be from the first industrial revolution since they occurred in Europe in the same century. Illustrators created many inventions and scientific breakthroughs at the time always thinking that they would make a change in the world and in humanity, and so it was thanks to them that the world now knows the technology and we are able to keep moving forward using the enlightened thinking and the foundations of science that they left us.

## Conclusion

At the end of this monographic work, we can conclude that:

- Illustration was a scientific and intellectual movement in the twentieth century, also known as the Age of Enlightenment, this movement is characterized by the emergence of thinkers known as enlightened, who proposed ideas and created inventions that would change the world.
- - The illustration is the pillar of the history of our society, at this time were created most of the inventions and ideologies that our practical society, for example, during the time of the illustration were born the 3 main powers of government, Executive, Legislative and Judicial, which are the system that is now used by the vast majority of countries around the world.
- - During the Age of the Enlightenment, people emerged who affected society with their ideas, these people were the illustrators. People like Voltaire, Montesquieu, Roseau, and even Eugenio Espejo participated in this movement, creating with them systems of governments, promoting liberties and encouraging society to carry out the revolutions that would give it its freedom.
- - The epoch of the Enlightenment preceded the present society, thanks to that epoch an immensity of changes were generated, which provoked different events in the history of humanity, revolutions were given, scientific advances and new freedoms were accepted for the people.

## **Recommendation**

At the end of this monographic work is recommended:

- Encourage the study of world history. As we have read in this monograph, it is important to know where the systems, ideas and ideologies that exist today come from.
- To be informed about the events of the present. This is one of the things that makes people think, meditate and resolve about ways to improve and help today's society.
- Follow your ideals and goals no matter what obstacles arise. In history, we can appreciate how thinkers and philosophers went against society with their modern ideas leading them to make drastic changes in the world and in the way people think.
- Think outside the ordinary. This way of thinking is what creates revolutionary thinkers and inventors, you have to think on what can be improved and how a person can fix or oppose problems that occur in society.
- Reinforcing knowledge. It is always good to be informed about everything that happens or has happened around you, this way you can know how the world is being transformed and how society and its ideologies are evolving.

## **Bibliographic References**



Adorno, & Horkheimer. (1944). *Dialéctica de la Ilustración*.

Cassirer, E. (1932). *Filosofía de la Ilustración*.

Kant, I. (1784). *¿Qué es la Ilustración?*

Mihistoriauniversal.com. (14 de agosto de 2011). *Edad Contemporánea: Ilustración*.

Recuperado el 21 de junio de 2018, de Mihistoriauniversal.com:

<https://bit.ly/2wZDCPa>

Miradahistorica.com. (18 de septiembre de 2011). *Antecedentes de la Ilustración*.

Recuperado el 21 de junio de 2018, de Miradahistorica.com: <https://bit.ly/2yT7iwS>

Montalvo, J. (3 de febrero de 2014). *Las 4 Causas Principales de la Ilustración*. Recuperado

el 21 de junio de 2018, de Lifer.com: <https://bit.ly/2PcRQpD>

Montesquieu, C. (1748). *Espíritu de las Leyes*.

Sobrehistoria.com. (16 de septiembre de 2016). *La Ilustración: Siglo de las luces*.

Recuperado el 21 de junio de 2018, de Sobrehistoria.com: <https://bit.ly/2JYuTkF>

Velasquez, J. (2014). Renacimiento y Modernidad. *HORIZONTES FILOSÓFICOS REVISTA*

*DE FILOSOFÍA*, 73-87. Retrieved from <https://bit.ly/2NQ6NsQ>