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1. An Introduction to the Enlightenment

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Abstract
The word "Enlightenment" is used to indicate the eighteenth century in the history of ideas of the Western World. It is a word that indicates a sum of ideas about the character of man, his beliefs and activities, and the universe. These ideas have three common assumptions which are at the root of what we mean by the Enlightenment. The thinkers and writers of this period assumed that reason and knowledge will reveal an order inherent in the universe; will disclose the truth about religion, economics, politics, morals - every aspect of life; and, that when man discovers the order and truth of the universe, evil will disappear and good will reign. These assumptions are clearly expressed in the use of the symbol of light to denote the character of the eighteenth century: the English called it the "Age of Enlightenment," the French, "le siecle des lumieres," the German, "die Aufklarung," the Italian, "il secolo dell' illuminisma." [*excerpt*]

Keywords
Contemporary Civilization, Enlightenment, Order, Truth

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Comments
This is a part of Section X: The Eighteenth Century Enlightenment. The Contemporary Civilization page lists all additional sections of *Ideas and Institutions of Western Man,* as well as the Table of Contents for both volumes.

More About Contemporary Civilization:

From 1947 through 1969, all first-year Gettysburg College students took a two-semester course called Contemporary Civilization. The course was developed at President Henry W.A. Hanson's request with the goal of "introducing the student to the backgrounds of contemporary social problems through the major concepts, ideals, hopes and motivations of western culture since the Middle Ages."

Gettysburg College professors from the history, philosophy, and religion departments developed a textbook for the course. The first edition, published in 1955, was called *An Introduction to Contemporary Civilization and Its Problems*. A second edition, retitled *Ideas and Institutions of Western Man*, was published in 1958 and 1960. It is this second edition that we include here. The copy we digitized is from the Gary T. Hawbaker '66 Collection and the marginalia are his.

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X. THE EIGHTEENTH CENTURY ENLIGHTENMENT

1. An Introduction to the Enlightenment

The word "Enlightenment" is used to indicate the eighteenth century in the history of ideas of the Western World. It is a word that indicates a sum of ideas about the character of man, his beliefs and activities, and the universe. These ideas have three common assumptions which are at the root of what we mean by the Enlightenment. The thinkers and writers of this period assumed that reason and knowledge will reveal an order inherent in the universe; will disclose the truth about religion, economics, politics, morals -- every aspect of life; and, that when man discovers the order and truth of the universe, evil will disappear and good will reign. These assumptions are clearly expressed in the use of the symbol of light to denote the character of the eighteenth century: the English called it the "Age of Enlightenment," the French, "le siècle des lumières," the German, "die Aufklärung," the Italian, "il secolo dell' illuminisma."

There were national variations in the Enlightenment that can only be suggested here. France is usually the country that first springs to mind when the Enlightenment is mentioned, probably because there it was most intense in its expression and most productive in its consequences. The French proclaimed the ideas of the Enlightenment skilfully, at times violently and dogmatically. There was good reason for this since the ideas were in direct opposition to the established ideas and practices of the government, the nobility, and the clergy. France is also remembered as the home of the philosophes, the thinkers and writers who dedicated themselves to spreading Enlightenment ideas by every means of communication from encyclopedias to poems. Voltaire is inseparably linked with the memory of the philosophes and the Enlightenment.

The English Enlightenment was, by comparison, conservative, and its writers expressed ideas with a calm assurance of their acceptance. The success of the Glorious Revolution of 1688-1689, England's place in the European balance of power, and her leadership in scientific developments (chiefly through the eminent position of Newton), combined to convince the English that they were leading the world. This frame of mind received its classic expression in Alexander Pope's Essay on Man (1733):

> All are but parts of one stupendous whole,
> Whose body Nature is, and God the soul,...
> All Nature is but Art, unknown to thee;
> All chance, direction which thou canst not see;
> All discord, harmony not understood; allevity is good not understood.
> All partial evil, universal good;
> And, spite of pride, in erring reason's spite,
> One truth is clear, whatever is, is right.

England was an important source for the Enlightenment. In Pope's words,

> Nature and Nature's laws lay hid in night;
> God said, Let Newton be! and all was Light.

Reforms -- political reforms in particular -- often occurred in England first, and then were espoused or imitated in other countries.

The German Enlightenment was fundamentally an academic movement that scarcely extended to practical affairs. There were reforms in these areas that did introduce more rational and systematic procedures, but these reforms were aimed at introducing a centralized and planned governmental and economic structure which would integrate the aristocracy with the machinery of government and establish the absolute sovereignty of the prince over them. There was no sizable middle class to challenge the nobility or the prince. In the realm of ideas, Leibniz (1646-1716) represented the Enlightenment fusion of science and philosophy. He also worked from the basic idea that the universe is an harmonious entity, governed by mathematical and logical principles. Leibniz emphasized this by his doctrine of preestablished harmony, which stated that God had produced a correspondence between the soul and the body. He insisted that God had produced the most perfect world possible, a world with perfect order evidenced by its being the "simplest in hypothesis and the richest in phenomena." Evil performs functions that are necessary and valuable. This doctrine, which was a close parallel to Pope's, was promoted by other German philosophers and served as a justification of established practices. However, some German thinkers of this age were interested in the moral implications of Enlightenment thought, and helped to swing Germany toward active programs of reform.

The American Enlightenment occurred in the second half of the eighteenth century and had its life primarily in some of the colonial leaders, men whose energies were devoted primarily to practical affairs. Thomas Jefferson, Benjamin Franklin, and Thomas Paine illustrate the character of the American Enlightenment. They held the dominant beliefs of the century: a reliance on the power of the human mind and an assurance that truth could be gained by the proper method, a belief in the goal of human happiness, a faith in the perfectibility of man, a reliance on ethics and education to produce the good society, a democratic political theory, a laissez-faire theory of economics, and cosmopolitanism. These beliefs were applied by the Americans and one of their results was the Revolution.

Trinity - Newton = father,

The Enlightenment saw the science described in a previous chapter interest educated men and actually become the model for investigation into other aspects of life. It reinforced the secular outlook and the emphasis upon man and nature that the Renaissance had introduced. It also regarded man and his various activities as parts of one natural, ordered scheme of things. In these ways the Enlightenment represents a culmination of previous developments and presents a world that differs markedly from the medieval and that resembles more what we call the modern world.

Certain economic and social changes, as well as the important intellectual developments of the preceding centuries, helped produce the changed world that was the Enlightenment. Natural resources yielded more and more materials and the growth of trade and production had increased the amount of goods. Both of these in turn created a demand for trained technicians, improved technological processes, and scientific discoveries. The increased wealth created an urban leisure class and a larger educated class, both of which found easier access to culture and learning. All of these factors helped to produce the characteristic point of view of the educated person of the eighteenth century.

Intellectual changes loom as the most pregnant source of the Enlightenment. It can be considered as the culmination of the ideas and developments that were introduced by the Renaissance, the science of the sixteenth and seventeenth centuries, and to a lesser extent by the Protestant Reformation.

The Renaissance had introduced a new atmosphere characterized by an interest in this world and its goods as opposed to an interest in the city of God and man's eternal salvation. As men devoted themselves to the pursuit of this type of life, they became concerned with the conditions that were necessary for the production of the goods of this world. Among these conditions were a productive economy, an orderly political structure, and a philosophy of life that would allow men to enjoy this world. Such concerns inevitably forced them to concentrate their time and effort on immediate and practical problems. Both of these results intermingled with the developments in science to produce the perspective of the men of the Enlightenment.

There were other features of the Renaissance that helped to produce the Enlightenment. The Renaissance emphasized the individual as opposed to the group. The individual had a worth and dignity that did not need buttressing by institutions. The ideal man of the Renaissance as the completely developed person acquainted with all facets of life emphasized individuality. In time this meant that the individual was free to criticize existing institutions, customs, religion, and philosophy. He was free to search for the answers to perennial problems, and his answers would not be disregarded even though he spoke for no group or institution. The humanists reinforced this critical and searching attitude. Their scholarship, even though

primarily devoted to the classics, had given great impetus to a revival of intellectual activity and to a critical spirit in regard to all knowledge. Their comparison of texts and of Greek, Roman, and Christian ideas promoted both a critical spirit and a willingness to entertain new ideas that paved the way for the Enlightenment man of reason.

The Reformation contributed primarily by its partial destruction of the formal unity of medieval Christianity. The Protestant movement split into groups each claiming an authoritative version of Christian truth. A man inclined to doubt or to logical modes of thought was confronted with the spectacle of conflicting beliefs which might indicate that there was no one true version of Christianity, or that there was no truth at all in religion. Protestantism thus prepared the way for the religious skepticism of the Enlightenment, the search for new religions, and the substitution of science and other interests for religion. The Reformation also fostered an increased interest in the things of this world. Calvinism and, to a lesser extent, Lutheranism put their stamp of approval upon the man who worked hard and succeeded in this world. In this sense Protestantism gave its blessing to the increasing concern with economic, political, and intellectual ideas and institutions. It also seems evident that some of the reforming zeal of the Protestant groups found a congenial spirit in the enthusiastic reformers typical of the Enlightenment period.

But it was the science of the sixteenth and seventeenth centuries that directly shaped the mind and loyalties of the men of the Enlightenment. They were faced with two impressive achievements. That science had built up collections of observations, hypotheses, and laws that far outstripped anything achieved in the past, and it also had devised methods of inquiry that had proven their worth in establishing these collections. In other words, thoughtful men had a body of new knowledge, and new methods of answering questions.

This new knowledge seemed to offer a picture of the universe including man that had certain striking characteristics. The world seemed to have taken on the character of a mechanism, a beautifully fashioned machine -- often compared to a watch -- which worked smoothly and regularly. The ways in which this universe operated were known. There was little mystery and what was left would rapidly vanish as men devoted more time to science. The natural sciences were in the process of finding the laws by which this universe operated. The future state of the mechanism and its parts could be predicted. A knowledge of the laws governing its action allowed men to predict what would happen: where a planet would be at a given time, what the course of a projectile would be, and the condition of the blood stream under varying conditions. These characteristics implied another which seized the imagination of eighteenth century men, that this was a universe which could be controlled. Men could now handle the universe and its parts.

Isaac Newton, the author of the Principia Mathematica, and John Locke, the author of An Essay concerning Human Understanding, are the two symbols of the new scientific approach and its application to all aspects of the universe and man. Newton had demonstrated the ability of science to formulate the laws governing the movements of the universe, laws which were stated in quantitative equations, and had impressed men with the mathematical ideal of science. Locke attempted to show that by using what he considered to be the scientific method man and society could also be analyzed, and the laws governing him and his actions could be formulated. The same picture emerges here: man and his institutions were conceived as mechanisms controlled by rather simple and orderly processes. Locke forecasts the attempt to construct a social physics.

The philosophy of the seventeenth century also contributed to the conception of a mechanical universe and the enthusiasm for the methods of science. Thomas Hobbes (1588-1679), René Descartes (1596-1650), and Benedict Spinoza (1632-1677), working with the new scientific knowledge, interpreted the universe as a mechanism whose most important characteristics were matter and motion controlled by invariable laws. Hobbes and Spinoza placed man squarely within the mechanism and saw man as another machine subject to these laws. God is conceived as the very principle of order itself of the mechanism. Hobbes, Descartes, and Spinoza also attempted to use the methods of the new science. Each was convinced that philosophy must start with accurate observations, that clear and definite axioms must be formulated from those observations, and that a deductive system must be the finished structure. Hobbes' Leviathan (1651) and Spinoza's Ethics Demonstrated in the Geometrical Manner (1674) illustrate this.

A simplified version of the method of seventeenth century science is the omnipresent factor in the eighteenth century climate of opinion. In its simplest form the method was synomymous with "Reason," which for the Enlightenment was a glorified form of common sense. It was realized that this use of reason meant observation, the formulation of hypotheses, the mathematical expression of relationships, the deductive consistency of relationships, and the testing of all results by experiment. But what impressed these thinkers most was the deductive aspect of the method. They recognized the necessity for observation, but were convinced, or else hoped, that from a minimum of observation they would be able to determine the basic axioms of their subject matter, and then deduce the rest of the laws that would give the general outline of the subject. The details would be filled in by further investigation. Their models were Euclidean geometry and Newtonian physics.

There were at least four reasons for the adoption of this method. First, it was inevitable that the success of the physical sciences would convince men that the method used in those sciences would be valuable if used elsewhere. History had repeatedly revealed that the success of a particular method of

investigation in one field has meant the use of that method in other areas. Second, the men of the eighteenth century were too impatient to know and reform their world to engage in laborious observation and checking of results by experiment. Third, refined methods of statistical analysis were not available to them and there were no compilations of statistics to work with. Fourth, they had no interest in history as a detailed base for investigation since they regarded most past history as a record of folly and stupidity. There was little sense of a continuity in history or the complexity of its story. They were only interested in using it; history was a record from which certain pieces of evidence could be selected to prove a conclusion.

A previous chapter showed that Galileo and Newton emphasized the importance of an experimental verification of their mechanical laws. As the eighteenth century progressed, men working in the natural sciences increasingly stressed the role of experiment in both investigation and verification. Scientists also began to conduct more and wider inquiries into such fields outside physics as geology and biology. They were beginning the task of describing and classifying vast collections of facts. Concern with experiment and observation began to create a new ideal of science that differed from the accepted ideal of a mathematical rationalism.

However, Locke and other investigators of man and his activities did not reflect this new ideal of science, nor did they stress the role of observation and experiment. They still held to the medieval Thomistic and Aristotelian ideal of knowledge as a deductive, universal logical system, even though they changed the form of that knowledge from the syllogisms of Aristotle's logic to the geometrical propositions of Euclid. The deductive system developed in mathematical physics and completed by Newton had promoted this goal of science. Men hoped to eliminate the step of experimental verification. They believed that the firmest foundation of truth was the clear and intuitive apprehension of certain axioms or propositions. For example, it is obvious that a straight line is the shortest distance between two points, that the whole is equal to the sum of its parts, and that we can deduce further propositions from these axioms. These men of the Enlightenment hoped to discover similar axioms and then perform the deductions in economics, politics, ethics, and religion. For example, the economists of this century, such as Adam Smith, illustrate this procedure by starting with the axioms of private property and individual liberty, and then deducing a system of economics. The political scientists of this century, such as Rousseau, also illustrate the process by starting with the axioms of man's capacity for reason and his creation as a free and equal being, and then deducing a system of political organization.

Besides science, there are four other factors which are central to the thought of the Enlightenment: nature, ethics, the psychology of man, and progress. We have pointed out that the basis of the eighteenth century concept of nature is to be

found in the physics and astronomy of the sixteenth and seventeenth centuries. Men had the model or vision of a vast, eternally fixed, geometrical, and mechanical order of nature. Nature, which included man, was a symbol for the whole harmonious and rational order of things. There was no chaos in this vision, there were no unpredictable or inexplicable events. The processes of this nature were cyclical in character and repeated themselves without change. Nature had no goal except to continue its perfect functioning. There was no comprehension here of a developing or transforming nature, or of the nineteenth century concept of evolution.

Since nature was order, and the laws of nature formed a rational and orderly system of knowledge, men identified nature with the rational. Reason determined the way nature operated and that operation was the simplest and most efficient. The eighteenth century thinker was beguiled into supposing that whatever an intelligent man thought to be rational must also be natural and the only true way of doing things. When the man of the Enlightenment looked at his institutions and laws through the concept of a nature which was orderly and rational, he was shocked by the chaos and irrationality of his economy, political system, religion, and ethics. He became the enthusiastic searcher for order and rationality and the eager reformer of the world around him. The natural and the rational were also the universal. There was one physics and one astronomy, and so there must be one psychology, one economic theory, one political theory, one religion, and one ethics. This was the concept of "one world" with a vengeance. He examined other societies and cultures to find the laws and practices that seemed to be common to all of them, labeling these as the natural and true.

Nature also took on the meaning of the primitive and original. It was believed that man in primitive societies, before the priests, monarchs, customs, and institutions of later centuries had corrupted him, acted virtuously and rationally, and possessed a natural religion, economy, and polity. This identification of the natural with the primitive is closely related to the Enlightenment concept of the state of nature, which was an abstraction rather than an actual historical epoch. The state of nature offered a picture of man in his pristine condition with his natural characteristics open to view and operating without hindrance. Nature was also equated with the useful, usually the socially useful. A natural action or institution was a useful one. It was useful in the sense of serving an individual's or society's welfare and happiness.

The Enlightenment believed that nature contained an ethical law which was to be discovered and followed just as the physical laws were to be discovered and applied. The principles of right and wrong, good and bad, were part of the construction of the universe, and were inextricably connected with science and reason. These conclusions allowed the eighteenth century thinker to divorce ethics from theology and the supernatural. Ethical laws were imbedded in nature and man, and could be

discovered by the same methods of investigation used for any other subject matter. Similarly, it was believed that a deductive system of ethics could be developed.

The content of the ethics proposed by the Enlightenment was not radically different from the moral traditions of Western Civilization. In applying the standards of rationality and naturalness they did, however, discard from the Christian ethic the medieval ascetic elements and emphasized whatever seemed natural and useful for the good life as they conceived it. The fundamental principles of their ethics were an enlightened self-interest or self-love; benevolence or sympathy; the equal worth and dignity of every human being; the Golden Rule; the equality of men before law and the rule of law; and individual freedom of thought, conscience, and expression. There was a general allegiance to these principles and a devoted effort to achieve them.

The psychology of man that developed in this century followed the geometrical and deductive pattern. Observation of man was to yield his basic characteristics and his nature could be deduced from those characteristics. The type of society demanded by such a being could be constructed by eliminating those features not in harmony with human nature, and by adding those features which would promote man's natural capacities.

Thomas Hobbes had already given the pattern of this type of psychology. He had looked upon man as an integral part of a mechanistic nature. He insisted that man's physical and mental life could be analyzed in these terms, and argued that a human physics could be developed. Hobbes found the root of ideas in sensations, which were conceived as simple atomic elements. Then these sensations were combined into more complex images by the processes of imagination, memory, and association. Speech and writing assign names to these images, and reason works with the images to produce thought. Locke and other writers on the subject accepted this basic pattern of the formation of ideas and thought.

The important point for the Enlightenment was that man's thought had its root in sensation and that sensation was derived from the world around him. Therefore all knowledge and all that men are comes from the environment. Man is a replica of his environment and faithfully reflects its character. If men are different, if they are evil, if they are good, the cause is in the environment. Men are equal and rational to start with; the rest is produced by the environment. One more basic human characteristic was posited: men always act from one single motive, what they assume to be their own interest. Since men were inherently rational it was assumed that in a good environment men would actually follow their own best interest. When the thinker of the eighteenth century added up these characteristics, he was sure that nothing stood in the way of human perfectibility except a lack of education and the wrong environment. The wrong environment existed clearly enough in the Europe of

the time, and it was fundamentally conceived to be the result of not knowing the laws of psychology, economics, politics, ethics, and religion. This was the function of the social sciences: to investigate their subject matters, find the truth, and then see that the truth was carried out in the reform of institutions.

The ingredients for the idea of progress, one of the unique contributions of the eighteenth century, are all here: (nature conceived as orderly, rational, and knowable; a science that promises to unlock all necessary knowledge; a psychology that pictures man as rational and essentailly good, with no taint of original sin, and that blames evil on the environment; an ethics that is grounded in the universe, and that can be naturally realized in practice; a record of past history that is painted in black; the example of a progressive England; and a conviction that the eighteenth century is on the side of the angels.) The Enlightenment believed that men would be able to create an ideal society in which all would achieve their proper welfare and happiness. Science and reason allowed men to know an orderly, rational nature, to control it, and to pattern their conduct upon it. Education would enlighten all men and motivate them to reform their entire environment. The spread of education and the reform of the environment would eliminate evil from the universe. This optimistic belief in progress had its roots in the central ideas of nature and reason. It was in many ways the culmination of the thought of the Enlightenment.

If progress can be said to represent the faith of the Enlightenment, perhaps its Bible was the Encyclopédie, or Rational Dictionary of the Arts, Sciences, and Crafts. In a century which witnessed the appearance of numerous encyclopedias and dictionaries, this contribution of the philosophes purported to be a summary of all knowledge, brought together according to the rational method of the time, and issued in the hope that men would use it to achieve a better world. The seventeen volumes of text (there were additional volumes of illustrations and supplement) were written by many of the philosophes and edited by Denis Diderot (1713-1784) and Jean-le-Round d'Alembert (1717-1783) over a period of almost thirty years (1751-1780). The first volumes were critical of the vested interests of French society. The fact that they were attacked and at length suppressed by those interests helps us understand why the latter volumes were increasingly pointed in their criticism. In spite of suppression, enough copies of the Encyclopédie found their way into circulation to provide a useful (if often biased) storehouse of information and an effective manual for reform.

similar to Aquinas. All knowledge relevent to the age
effort to present a world view. All are slanted.

A CHRONOLOGY OF THE EIGHTEENTH CENTURY ENLIGHTENMENT

1686 Bayle: *Philosophical Commentary on the text: Compel them to come in*
1687 Newton: *Principia Philosophiae Naturalis Mathematica*
1688 Fontenelle: *Digression on the Ancients and the Moderns*
1688 The Glorious Revolution in England begins
1690 Locke: *An Essay Concerning Human Understanding*
1710 Leibniz: *Théodicé*
1710 Berkeley: *The Principles of Human Knowledge*
1711 Shaftesbury: *Characteristics of Men, Manners, Opinions, and Times*
1713 Anthony Collins: *Discourse of Free Thinking*
1714 Mandeville: *The Fable of the Bees*
1722 William Wollaston: *The Religion of Nature Delineated*
1726 Joseph Butler: *Fifteen Sermons upon Human Nature*
1733 Voltaire: *Letters on the English*
1733 Pope: *Essay on Man*
1746 Condillac: *Essay on the Origin of Human Knowledge*
1748 Montesquieu: *The Spirit of Laws*
1748 La Mettrie: *Man a Machine*
1749 Hartley: *Observations on Man*
1749 Diderot: *Letter on the blind*
1750 Rousseau: *Discourse on the Arts and Sciences*
1751 The *Encyclopédie* begins appearing
1751 Hume: *Inquiry concerning the Principles of Morals*
1751 Voltaire: *The Age of Louis XIV*
1758 Helvetius: *On the Mind*
1758 Quesnay: *Tableau Economique*
1759 Adam Smith: *Theory of Moral Sentiments*
1762 Rousseau: *The Social Contract*
1763 Voltaire: *Essay on Toleration*
1764 Voltaire: *Philosophical Dictionary*
1765 Leibniz: *New Essays on Human Understanding* (posthumously published)
1766 Turgot: *Reflections on the Formation and Distribution of Wealth*
1770 Holbach: *System of Nature*
1772 Holbach: *Good Sense*
1775 The American Revolution begins
1776 Gibbon: *The History of the Decline and Fall of the Roman Empire*
1776 Smith: *The Wealth of Nations*
1776 *The Declaration of Independence*
1777 Frederick the Great: *An Essay on Forms of Government*
1780 Lessing: *Education of the Human Race*
1781 Kant: *Critique of Pure Reason*
1784 Herder: *Ideas of the Philosophy of the History of Humanity*
1789 The French Revolution begins
1789 *Declaration of the Rights of Man and of the Citizen*
1793 Condorcet: *The Progress of the Human Mind*
1794 Palmer: *Principles of the Deistical Society of the State of New York*