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An inquiry into the effect of the intellectual revolution of the sixteenth and seventeenth centuries on the coming of the French Revolution

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AN INQUIRY INTO THE EFFECT OF THE INTELLECTUAL REVOLUTION OF THE SIXTEENTH AND SEVENTEENTH CENTURIES ON THE COMING OF THE FRENCH REVOLUTION

by

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I. Perspectives

> But this is certain; by how much one man has more experience of things past than another; by so much also he is more Prudent, and his expectations the seldomer fail him. The Present only has a being in Nature; things Past have a being in the Memory only, but things to come have no being at all; the Future being but a fiction of the mind, applying the sequels of actions Past, to the actions that are Present, which with most certainty is done by him that has most Experience....[1]
>
> ...Thomas Hobbes

Since the late seventeenth century a lively debate has been in progress concerning the worth of history. Although professional historians no longer abuse their credit with the public, which has ceased seriously to question their veracity, the debate goes on. The historical Pyrrhonism of the seventeenth century was not based upon irresponsible skepticism; the fables, folk legends, and pure inventions preserved in the histories of the period had reduced history to a mere art form. The subsequent attempt to correct this situation, though it produced a reliable body of information, has tended to reduce history to a narrow objectivity that scarcely dares think for itself. Thus Voltaire remarked, with more moderation

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[1] Thomas Hobbes, Leviathan or the Matter Forme and Power of a Commonwealth Ecclesiasticall and Civil, ed. Michael Oakeshott (Oxford: Basil Blackwell, 1960), p. 16. Hereafter cited as Hobbes, Leviathan.

than he usually addressed to the subject, "The qualification in which historians are commonly defective is a true philosophical spirit...."[2] For Voltaire, "true" philosophy begins with Bacon and Locke; hence the "true philosophical spirit" of which he wrote is the scientific spirit.

Obviously, one of the primary concerns of history must be events. If the prevailing notion is accepted, i.e. the tacit assumption that knowledge and experience are the same thing, then the historian's task ends with the recording of events. This has been the most usual procedure. The same modus operandi has been applied to the history of ideas which have been dutifully recorded like so many events. Hence the acid assertion of Père Malebranche that "Historians tell us what other people thought, without troubling to think for themselves."[3] The faith in the self-sufficiency of experience, in the narrowest and most unphilosophical sense of the word, is at best doubtful. Initially, an event is a datum of sense perception. By this definition, as Locke was the first to observe in detail, so is an idea. The difference between an event and an idea arises from the

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[2]Francois-Marie Arouet de Voltaire, The Works of Voltaire, trans. William F. Fleming (42 vols.; New York: E. R. DuMont, 1901), Vol. XXXVII, p. 260. Hereafter cited as Voltaire, Works.

[3]Quoted in Paul Hazard, The European Mind, 1685-1715, trans. J. Lewis May (New Haven: Yale University Press, 1953), p. 35. Hereafter cited as Hazard, The European Mind.

operation of the understanding upon the data, the events presented to our senses by the flux of external reality. Locke did not say that knowledge is experience; what he did say was that all knowledge is derived from experience:

> Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas; how comes it to be furnished? Whence comes it by that vast store, which the busy and boundless fancy of man has painted on it with an almost endless variety? Whence has it all the materials of reason and knowledge? To this I answer in one word, from EXPERIENCE: in that all our knowledge is founded and from that it ultimately derives itself.[4]

Events are the raw material of human history. Given an accurate record of events, and under the terms of the present discussion the great ideas must be accounted historical events, the historian's work has reached only "the end of the beginning."

Man's position is not restricted to being acted upon by his environment; he is able to a limited, but increasing extent to effect changes in himself and his surroundings. Most men have interpreted their experience to mean that they possess a measure of free will. If true, then it follows that they enjoy, potentially at least, the ability to alter the course of their own history. Thus any consideration of

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[4]John Locke, An Essay Concerning Human Understanding, ed. Alexander Campbell Fraser (2 vols.; New York: Dover Publications, Inc., 1959), Vol. I, pp. 121-122. Hereafter cited as Locke, Essay.

that history must take into account the fact that men act upon those ideas which they believe to be true. Hence the problem posed by the history of ideas, as opposed to a purely philosophical exercise, is to discover the effect of ideas upon events. The fact that a great idea has been conceived and recorded tells us very little. That men disporting themselves upon the stage of human history claim to be acting on such an idea tells us even less. The disparity between the things men say and the things they do is a fact too easily observed in daily life for the point to be labored. To discover a man's true philosophy, his inmost allegiance, interpret what he says in light of what he does and then consider: what would have to be true for what he says to be true? It might very well have been this line of reasoning that prompted Voltaire's caustic comment:

> ...things prodigious and improbable ought sometimes, undoubtedly, to be related, but only as proofs of human credulity. They constitute part of the history of human opinion and absurdities; but the field is too immense.[5]

When the field is restricted to what have been loosely termed the "great" ideas, the field is still immense. If it be recognized, as it seems it must be: first, that the nature of things is totally interrelated; and second, that man is a part of nature; it then appears

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[5]Voltaire, Works, Vol. X, p. 63.

that some cadre must be arbitrarily imposed. For all practical purposes, the difference between total interrelatedness and chaos is not very great.

Clearly, the discourses one constructs about reality, and reality itself are not the same thing. Reason and logic, classification and calculus are all more-or-less successful attempts to make sense out of chaos. Generically, they are abstractions.[6] In the necessary process of creating meaningful abstractions, the science of mathematics has thus far proven the most fruitful. In the main, the success of the natural sciences has been the success with which they have abstracted the objects of their inquiry of every quality save one--quantity. For quantitative abstractions can be dealt with mathematically.

It is a common error of what are optimistically called the social sciences to draw a faulty inference from the fact that most of their data is immediately given in experience; hence the obvious distinction between reality and abstraction is not a rigidly maintained part of their mental discipline. If we thought about electrons the way we think about elections, the mystery of the atom would be a mystery still.

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[6]Alfred North Whitehead, Science and the Modern World (New York: The Macmillan Company, 1960), Chapter X. Hereafter cited as Whitehead, Science and the Modern World.

> The scientific spirit is not an affair of quotation, of externally acquired information, any more than manners are an affair of the etiquette-book. The scientific attitude of mind involves a sweeping away of all other desires in the interests of the desire to know--it involves suppression of hopes and fears, loves and hates, and the whole subjective emotional life...until we have learnt to think of it in ethically neutral terms, we have not arrived at the scientific attitude in philosophy.[7]

If the concepts of science have not been suitably adapted to the needs of history and the social disciplines, it may be because they involve, as Lord Russell points out, not so much a method as an "attitude of mind."

The salient quality of abstractions is their utility. There is scant reason to suppose that men would have continued to allow the study of history to be imposed upon them if it did not possess at least a marginal utility in the lives of the living. Thus Sir Julian Huxley observes:

> The first and most obviously unique characteristic of man is his capacity for conceptual thought.... This basic human property has had many consequences. The most important was the development of a cumulative tradition. The beginnings of tradition, by which experience is transmitted from one generation to the next, are to be seen in many higher animals. But in no case is the tradition cumulative....In man, however, tradition is an independent and potentially permanent activity, capable of indefinite improvement in quality and increase in quantity.[8]

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[7]Bertrand Russell, Mysticism and Logic (Garden City, New York: Doubleday & Company, Inc., 1957), pp. 42-43. Hereafter cited as Russell, Mysticism and Logic.

[8]Julian S. Huxley, "The Uniqueness of Man," Man Stands Alone (New York: Harper & Brothers Publishers, 1941), pp. 3-4. Hereafter cited as Huxley, Man Stands Alone.

History is the means man has hit upon to enlarge his experience and to compensate, to a degree, for the restrictions imposed by his mortality. His capacity for conceptual thought, as Dewey pointed out, allows him freedom of action without risk. His past contains the component elements of his present; and, although his understanding of the past changes, the past per se is completely static. It is totally abstract and, in sharp contrast to the present, devoid of flux. Hence the reality of history is in the present. If the reality of history is in the present, then its ultimate meaning, through present evaluation and subsequent action, is in the future. From this hypothesis, Jose Ortega y Gasset reasoned as follows:

> ...freedom presupposes plans of action among which to choose, and these plans can only be created by using the past--our own and others'--as a material that inspires us to new combinations....We are not inexorably circumscribed in...[the past]; rather, at every moment it launches us upon free creation of our future being....[However], great as is the radius of our freedom, there is a limit to it--we cannot escape maintaining continuity with the past.[9]

This hypothesis can easily be illustrated. Of the Glorious Revolution of 1688, Edmund Burke wrote: "The Revolution was made to preserve our ancient, indisputable laws and

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[9]Jose Ortega y Gasset, Man and People, trans. Willard R. Trask (New York: W. W. Norton & Company, Inc., 1957), p. 133. Hereafter cited as Ortega, Man and People.

liberties, and that ancient constitution of government which is our only security for law and liberty."[10] Burke wrote in 1790, when the meaning of the Revolution had been established by a century of crisis and constitutional growth. In 1688-89, the meaning of the Revolution had yet to be created.

One of the most important considerations within the province of human history might be characterized as the process of becoming. The opportunity to study a significant factor in history with reference to definite knowledge of subsequent developments is, potentially, a great advantage. Nothing, however, is an unmixed blessing; too often the advantage is lost by allowing the abstract possibilities of the initial factor, i.e. the full spectrum of possible choices discernible in the mental projection of a situation, to be distorted in favor of the line of development selected in actuality. When this occurs, the factor is, in effect, plucked from the relationships of its institutional and psychological context; placed in relation to what is known subsequently to have occurred, the factor is clothed in a context of relationships which cannot, rationally, be believed to have been the decisive considerations. If it is to be useful, an historical

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[10]Edmund Burke, Reflections on the Revolution in France (Vol. 24 of The Harvard Classics Series. 50 vols.; New York: P. F. Collier & Son Corporation, 1910), p. 170.

abstraction must be abstracted from the seat of historical reality, the present. Therefore, in the initial process of abstraction, the only admissable relationships of an historical factor are the relationships of its own living present. Of paramount importance is the most difficult task of assessing human motivation; hence the need to restrict a factor under consideration to its own present, a present which includes significant historical data prior to the time considered. In terms of the example cited, the primary concern should be to understand such factors as Sir Edward Coke, the Petition of Right, and the general course of the constitutional conflicts of the seventeenth century as they were regarded in 1688. Conversely, we should attempt, initially at least, to eliminate from our field of vision the history of Georgian Parliaments and the interpretations of Edmund Burke.

The object is to re-assemble the constituent elements of the reality upon which the decisions of conscious individuals with the responsibility for the future were based. Many of these elements will, inevitably, be of the personal nature which can only be approximated; an approximation which accords well with what is known must be attempted. For if no attempt is made at the individual level, it usually follows that the humanity in human history is dismissed under the heading of "human nature," for which

no academic discipline has yet produced a mutually acceptable working definition. The alternative is a "fatalism" which has yet to make a significant contribution to human knowledge. In this connection, Gustave Le Bon, a pioneer in crowd-psychology and a careful student of the French Revolution, remarks:

> The theory of revolutionary fatality is only useful to justify violence by presenting it as inevitable. Whether we are dealing with science or with history we must beware of the ignorance which takes shelter under the shibboleth of fatalism. Nature was formerly full of a host of fatalities which science is slowly contriving to avoid. The function of the superior man is...to avert such fatalities.[11]

The historical frame of reference constructed thus far involves nothing that is substantially new; it involves only a somewhat different way of thinking about the familiar concepts of history. There is no formula presently known to human knowledge from which we can expect a spectacular advance in the precision of handling historical data. It will not, in the foreseeable future, be possible to discard Aristotle's words of warning: "It is the mark of an educated man to look for precision in each class of things just so far as the nature of the subject permits."[12]

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[11]Gustave Le Bon, The Psychology of Revolution, trans. Bernard Miall (New York: G. P. Putnam's Sons, 1913), p. 130. Hereafter cited as Le Bon, The Psychology of Revolution.

[12]Richard McKeon (ed.), Introduction to Aristotle (New York: The Modern Library, Random House, Inc., 1947), p. 310. Hereafter cited as McKeon, Introduction to Aristotle.

Nevertheless, in the sixth Aphorism of the Novum Organum the logic of Bacon's urging is difficult to resist and impossible to refute: "It would be madness and inconsistency to suppose that things which have never yet been performed can be performed without employing some hitherto untried means."[13]

One of the most useful and best known of the scientific concepts is that of the constant; a familiar example is the ratio of the circumference of a circle to its diameter, numerically 3.141592+, designated by the Greek letter pi. In a much broader sense of the term constant, it is exemplified in the use astronomy makes of the so-called fixed stars. In the concept of universe which Professor J. B. Wolf has termed the "Newtonian world-machine," these distant bodies were thought to be motionless. The advent of relativity theory in the years after 1905 gave rise to the question: how is motion to be measured in a universe where everything is moving?

> Everything in the heavens is moving relatively to everything else. The earth is going round the sun, the sun is moving...towards a point in the constel-

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[13]Francis Bacon, The New Organon and Related Writings, trans. James Spedding et.al., 1863 (New York: Liberal Arts Press, 1960), p. 40. Hereafter cited as Bacon, Novum Organum.

> lation Hercules, the 'fixed' stars are scurrying hither and thither like a lot of frightened hens.[14]

In practice, astronomers have found it convenient to continue thinking of these bodies as fixed, using them as a postulated point of reference in terms of which motion in the universe can be measured.

There are certain marked similarities between the problems of measuring motion in the universal flux and the problems confronting the student of human history. Everything in the joint social enterprise too is moving relatively to everything else. This is not, however, quite the same thing as saying that everything is relative. "A certain type of superior person is fond of asserting that 'everything is relative.' This is, of course, nonsense, because, if <u>everything</u> were relative, there would be nothing for it to be relative to."[15] Thus in the consideration of human history a point of reference is needed. Usually historians have chosen, either consciously or unconsciously, the present for the point of reference, and the greater portion of history has been written with this condition as the tacit assumption.

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[14]Bertrand Russell, <u>The ABC of Relativity</u> (New York: New American Library, 1959), p. 13. Hereafter cited as Russell, <u>ABC of Relativity</u>.

[15]Russell, <u>ABC of Relativity</u>, p. 16.

Obviously, the value of history for the present is its only raison d'être. There is, however, no apparent reason for making it the reference point of specific studies in any given area of human history. In practice, historians, by placing their work in direct relationship to their own present, --a consignment to their own contemporaries to do with as they will--take the de facto position that the value of history is intrinsic and its meaning self-evident. This, of course, has the dubious advantage of obviating the necessity for careful theoretical formulations, but it also renders history totally subjective. If historians do not choose to give serious attention to the problem of the meaning of history, they leave scant grounds to demur when politicians and others of less than single-minded devotion to the advancement of human knowledge proclaim a doubtful interpretation of what "history proves."

Numerous advantages might be derived from selecting an historical point of reference other than the present; this is particularly true with respect to the history of ideas where the intangible nature of the objective gives rise to special problems. It is generally agreed that the nature of history makes detachment as imperative as it is difficult. Objectivity, as opposed to self-deception, is never easy; but historical solipsism, cloaked in a scrupulous

subserviance to factual detail, is the line of least resistance. Respect for the ideal of objectivity does nothing for us unless we are truly reconciled to the fact that the ideal is definitively unattainable. "Any clever man," wrote Santayana,

> may sometimes see the truth in flashes; any scientific man may put some aspect of the truth into technical words; yet all this hardly deserves the name of philosophy so long as the heart remains unabashed, and we continue to live like animals lost in the stream of our impressions, not only in the public routine and necessary cares of life, but even in our silent thoughts and affections.[16]

Objectivity is not a static condition; rather it is a constant and determined activity of the mind. Of course, the possibility of ego-involvement in the subject matter of a particular study, to the prejudice of one's findings, is always attendant upon the study of history. Nevertheless, removing the point of reference from the inescapable hopes and fears of the present offers some prospect of advantage.[17]

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[16]George Santayana, "Ultimate Religion," Readings in Philosophy, ed. J. H. Randall, Jr. et.al. (New York: Barnes & Noble, Inc., 1957), p. 386.

[17]Alfred North Whitehead, Adventures of Ideas (New York: New American Library, 1958), p. 12. "This notion of historians, of history devoid of aesthetic prejudice, of history devoid of any reliance on metaphysical principles and cosmological generalizations, is a figment of the imagination. The belief in it can only occur to minds steeped in provinciality--the provinciality of an epoch, of a race, of a school of learning, of a trend of interest--minds unable to divine their own unspoken limitations."

In the study of history, as in the scientific inquiries of any other discipline, one cannot conscientiously adopt an hypothesis for no better reason than that it is satisfying. The cause of human knowledge cannot be advanced by supposing that men have the right to imagine the world to be what they would like it to be. Common sense insists that history, a symbolic representation of an aspect of external reality as it existed in the past, is de facto totally abstract. If so, placing an historical problem in direct relationship to the present creates, as it were, an open-ended situation where the emerging lines are hopelessly blurred as they enter the flux of reality. The material in and of itself is abstract and static; therefore, it seems reasonable to propose to deal with it in terms that are abstract and static. The selection of an arbitrary point of reference in the past will make it possible to construct, as it were, a closed circuit of abstraction.

No event of modern history has more effectively dramatized the conceptual foundation of the modern, European world than the French Revolution. Flowing into it are the four main channels of modern thought: the Renaissance, the Reformation, the new science, and the Enlightenment; flowing from it are the headlines of

modern newspapers and the headaches of modern governments.

> ...it must not be forgotten that the French Revolution sooner or later came to influence all Western civilization. French armies, even during this decade [i.e. 1789-1799], brought to parts of the Low Countries, Germany, and Italy many of the institutional changes made in France itself, and neither Burke nor Maistre was able to stop the spread of French ideas.[18]

Thus the Revolution is a suitable choice for a point of reference in terms of which to consider a few of the great ideas of modern history.

"Philosophical conceptions," Professor Wolf remarks, "are important because of what men do with them."[19] The first thing men do with them, for the most part unwittingly, is to subject them to the more-or-less subtle modification of their own experience. Indeed, although the great majority of men possess the physiological ability to mouth words, a philosophical proposition, to be understood, must find illustration in the conscious experience of the individual. The individual ability to establish this connection depends to a considerable extent on the person's experience with

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[18]Crane Brinton, A Decade of Revolution, 1789-1799 (Vol. XI of The Rise of Modern Europe Series, ed. William L. Langer. 20 vols.; New York: Harper & Brothers Publishers, 1934), p. 274.

[19]John B. Wolf, The Emergence of the Great Powers, 1685-1715 (Vol. VII of The Rise of Modern Europe Series, ed. William L. Langer. 20 vols.; New York: Harper & Brothers Publishers, 1951), pp. 268-269. Hereafter cited as Wolf, Emergence of the Great Powers.

words; for, "Language is a text which calls for illustrations....furnished by the lived and living reality out of which a man speaks....The real meaning of a word is not in the dictionary; it is in the instant."[20]

The practical problem the history of ideas poses is the problem of studying the distribution, modification, and transformation that mark the migration of an idea from publication to action. This process seems always to operate in the direction of simplification. During a rather lengthy period of time the idea passes through what might be termed a filtering process in which it loses the qualifications, reservations, and carefully suspended judgments that formed the context in which it was originally published. It may very well be, as many philosophers have held, that all the great truths are known and that philosophy only requires re-interpreting for each generation. If true, or even partly true, this results in a situation in which the context is apt to be more important than the idea itself. For the context is an attempt on the part of a great and original mind, a thinker, to delimit the cases in which human knowledge can, with some assurance, advance for the idea the assertion of truth. Thus fortified, the idea is

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[20]Jose Ortega y Gasset, Concord and Liberty, trans. Helene Weyl (New York: W. W. Norton & Company, Inc., 1946), p. 13.

able for a considerable period to frustrate the simplification process. Each slightly more generalized restatement, however, renders the idea accessible to a quantity of people which is inversely proportional to their mean intelligence.

> A whole literature arises which explains how inspiring is the general idea, and how slight need be its effect in disturbing a comfortable society. Some transition has been produced by the agency of the new idea. But on the whole the social system has been inoculated against the full infection of the new principle. It takes its place among the interesting notions which have a restricted application. But a general idea is always a danger to the existing order. The whole bundle of its conceivable special embodiments in various usages of society constitutes a program of reform. At any moment the smouldering unhappiness of mankind may seize on some such program and initiate a period of rapid change by the light of its doctrines.[21]

The French Revolution was just such a period of "rapid change." Its undeniable excesses place it for all time in a conspicuous position among the great tragedies of human history. It may have been Hegel who first pointed out that tragedy is the conflict, not between right and wrong, but between right and right. The tragedy is heightened by the disappointment of hopes roused by the early promise of a constructive era of relatively peaceful

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[21]Whitehead, Adventures of Ideas, p. 22.

reform. The course of the Revolution stands in sorry contrast to the magnificent ideals of the Declaration of the Rights of Man and the Citizen. This great document in the history of human liberty found an inauspicious first home in the short lived Constitution of 1791. Thereafter the revolutionary tree of liberty bore strange fruit; the rights of man were prostituted in justification of war abroad and terror at home. Liberté, egalité, fraternité became blatantly synonymous with conformité in the worst sense of the word. In swift succession the decade of the French Revolution produced the Reign of Terror, the opulent corruption of the Directory, and the reversion to despotism and a tyranny intensified by efficiency.

The violence which characterized much of the Revolution was such that the objectivity of those who write its' history is always in danger of being bent to a particular political point of view. These violent excesses were the work of men spurred on by a religious devotion to the bare untruths of dismembered ideas. Shorn of context and debased to the status of dogma, the great ideas of modern history provided the inspiration for tragedy. In the eyes of those who became the high priests in the cult of Revolution, these

concepts continued to radiate beauty, "...like sanctified and pius bawds, the better to beguile."[22] In the Republic of Virtue, the French fell victim to the mirage of human perfection. The realization of their noblest ideas seemed nearly within reach. There it remained, just close enough to tempt them further and further into the waste-land of massive socio-political experimentation.

Professor Peter Gay, a distinguished Voltaire scholar, neatly summarized the tragic flaw in Revolutionary "thinking" as follows:

> There are two ways of being unpolitical: to think that politics can do everything, and to think that politics can do nothing. The first leads to Utopianism and fanaticism, the second to Epicureanism and apathy; yet, despite their opposite effects, both are symptoms of the same disease, a failure of realistic vision.[23]

The Revolution was certainly a "failure of realistic vision." It embarked upon a massive socio-political experiment which depended for its success upon a more-or-less complete rupture of historical continuity. The attempt produced both extremes in the short space of a

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[22]William Shakespeare, "Hamlet," The Complete Works, ed. G. B. Harrison (New York: Harcourt, Brace and Company, 1952), Polonius to Ophelia, Act I, sc. iv, p. 892. Hereafter cited by reference to the particular play, as thus: Shakespeare, Hamlet.

[23]Peter Gay, Voltaire's Politics: The Poet as Realist (Princeton, New Jersey: The Princeton University Press, 1959), pp. 13-14. Hereafter cited as Gay, Voltaire's Politics.

single decade. From an intellectual and philosophical point of view, the Revolution and the period of reaction which followed the defeat of French arms constituted a spectacular defeat for the rational principles of the Enlightenment. In the post-Napoleonic era, the Revolution was thought to have proved man's rational potential insufficent for the better ordering of the joint social enterprise. The general sentiment found an able spokesman in Madame de Staël:

> I do not know exactly what we must believe, but I believe that we must believe! The eighteenth century did nothing but deny. The human spirit lives by its beliefs. Acquire faith through Christianity, or through German philosophy, or merely through enthusiasm, but believe in something.[24]

It would be difficult to imagine a more complete reaction. Speaking for the Enlightenment, Voltaire had proclaimed that "enthusiasm is an epidemical distemper."[25] The remark appears in the Lettres philosophiques, which, in an entertainingly mixed historical metaphor, has been called the "first bomb thrown at the Old Regime." Clearly the Revolution's faith in reason is indisputable; if we regard it as a valid experiment to test the efficacy of reason

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[24]Quoted in Frederick B. Artz, Reaction and Revolution, 1814-1832 (Vol. XIII of The Rise of Modern Europe Series, ed. William L. Langer. 20 vols.; New York: Harper & Brothers Publishers, 1934), pp. 49-50.

[25]Voltaire, Works, Vol. XXXIX, p. 203.

for the better ordering of society, our conclusion will fully justify the unencouraging views of Madame de Staël. It is almost paradoxical that a great age of faith in reason could have produced the French Revolution--unless, of course, "faith in reason" is a contradiction in terms.

The goal of this thesis is a practical attempt to implement a view which is generally (if cautiously) accepted, i.e. that ideas, philosophical conceptions, or at least what is done with them, play a significant part in determining the course of human history. Therefore, the exposition of theoretical conceptions--hypotheses--has been somewhat more elaborate than might otherwise have been the case. They are advanced, not in the belief that they are altogether right, but in the conviction that they will prove not altogether wrong. They assume that the late Professor Albert Einstein, in his foreword to Galileo's Dialogue, gave solemn expression to the truth:

> There is no empirical method without speculative concepts and systems; and there is no speculative thinking whose concepts do not reveal, on closer investigation, the empirical material from which they stem. ...to comprehend is essentially to draw conclusions from an already accepted logical system.[26]

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[26]Galileo Galilei, Dialogue Concerning the Two Chief World Systems--Ptolemaic & Copernican, trans. Stillman Drake, Foreword by Albert Einstein (Berkeley: University of California Press, 1953), pp. xvii & xix. Hereafter cited as Galileo, Dialogue.

II. Renaissance and Reformation

> I would rather be an authority on myself than on Cicero. In the experience I have of myself I find enough to make me wise, if I were a good scholar.[1]
>
> ...Michel de Montaigne

> ...this creature Man, who in his own selfish affairs is a coward to the backbone, will fight for an idea like a hero. He may be abject as a citizen; but he is dangerous as a fanatic. He can only be enslaved whilst he is spiritually weak enough to listen to reason. I tell you, gentlemen, if you can show a man a piece of what he now calls God's work to do, and what he will later on call by many new names, you can make him entirely reckless of the consequences to himself personally.[2]
>
> ...George Bernard Shaw

There are many ways of describing the limits of what is called the Renaissance. Each has its particular validity, depending upon whether one is considering architecture or painting, poetry or politics. Ideas influence and are influenced by all these forms of human endeavor. Thus it seems appropriate to allow for a study in the history of ideas the broadest possible chronological limits. History must have been much easier for the generation of historians

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[1]Donald M. Frame (trans.), The Complete Works of Montaigne: Essays, Travel Journal, Letters (Stanford, California: Stanford University Press, 1957), p. 822. Hereafter cited as Montaigne, Works.

[2]George Bernard Shaw, "Man and Superman," Seven Plays (New York: Dodd, Mead & Company, 1951), pp. 623-24. Hereafter cited by reference to the particular play, as thus: Shaw, The Devil's Disciple.

that could with genuine self-assurance tell its readers that the Roman Empire fell in A. D. 476. It was one thing for Gibbon to say so, and quite another for the schoolboy who memorized this bit of information in semi-isolation; the latter was apt to get a mental image of a hideous crash in the year 476 as the Roman Empire fell!

It is, of course, no longer usual to attempt to be so precise about assigning a date to such a great event. Instead, the historian understands by the term "event" a complex process comprising events in the narrower sense of the word. By arbitrarily selecting two events, in the latter sense, the larger process of the Renaissance is marked off. A convenient choice to mark the beginning of the Renaissance is the crowning of the poet, Petrarch, with the laurel at Rome in 1341; the end of the process is appropriately symbolized by the death of Francis Bacon in 1626.[3] This choice affords a dual symbolism; first, in the geographical spread of the Renaissance from its origin in Italy to northern Europe; and second, in the intellectual expansion from the purely literary and antiquarian interests of its beginnings to the broad philosophical horizons of the succeeding age. It will be seen at once that this delimitation of the Renaissance includes

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[3]Hiram Haydn, The Counter-Renaissance (New York: Grove Press, Inc., 1960), p. xi. Hereafter cited as Haydn, Counter-Renaissance.

major portions of the Reformation, the first beginnings of the new science, and the first quarter of what Alfred North Whitehead has called the century of genius. What acceptable generalizations can be made about this two-hundred and eighty-five year period?

The Renaissance brought the European mind into close contact with the classical, secular habits of mind in the historical context of the classical world.[4] By the middle of the fourteenth century, this contact had begun to effect subtle changes in the European climate of opinion or public philosophy. As the public philosophy seems to be the obvious channel through which the influence of ideas is exerted upon the course of events, something less ambiguous than its face value seems in order. It was serviceably defined (though nowhere used) by Gustave Le Bon, who wrote:

> The outward life of men in every age is moulded upon an inward life consisting of a framework of traditions, sentiments, and moral influences which direct their conduct and maintain certain fundamental notions which they accept without discussion.[5]

In the public philosophy of the thirteenth century, anything less than the literal truth of Christian revela-

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[4]Myron P. Gilmore, The World of Humanism, 1453-1517 (Vol. II of The Rise of Modern Europe Series, ed. William L. Langer. 20 vols.; New York: Harper & Brothers Publishers, 1952), passim. Hereafter cited as Gilmore, World of Humanism.

[5]Le Bon, The Psychology of Revolution, p. 147.

tion was inconceivable. The expanding knowledge of the Greco-Roman world, however, provided a setting for classical thought which far out-shone the Christian synthesis of Aquinas and the Scholastics. With the realization that human reason might thrive in the pure, intoxicating air beyond dogma, came the first hint of a public philosophy that would one day prize reason per se. The justification of faith by reason was Europe's great intellectual heritage from the Middle Ages; "...the Christian philosopher 'does not seek to understand in order to believe, but to believe in order to understand....'"[6] The first discovery of the Renaissance was that that faith need not be Christian revelation. From this discovery it is but a step to many things. One of them is the logical subtlty tacitly assumed by Carl Becker, and around which his Heavenly City of the Eighteenth Century Philosophers revolves. It is not uncommon to speak of diametric opposites; what is easily forgotten is that diametric opposites confront one another across the same circle, much as fans of opposing football teams confront one another across the stadium. One may cross to the other side, and yet remain in the same stadium. In terms of the French Revolution, this is the superficially great change wrought by the processes of the Renaissance.

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[6]Haydn, Counter-Renaissance, p. 31.

The effect of the Renaissance, i.e. of classical revival, reformation, and science was to transmit the intellectual heritage of the Middle Ages with a diametrically opposed emphasis. The public philosophy at the dawn of the Renaissance accepted the justification of faith by reason. At the dawn of the Enlightenment the public philosophy accepted the justification of reason by faith.[7]

Two scarcely less fundamental concepts from the medieval heritage require mention, though they are met with increasing frequency as one advances toward the eighteenth century. The concepts referred to are contract and natural law; both are so hopelessly interwoven with each other and the history of the west that treating them separately raises the spectre of William of Occam: "It is vain," said Occam, "to do with more what can be done with less."[8] Basically, significant theoretical controversies concerning human action arise when freedom, the concept of free will, has become a part of the public philosophy. For men must believe themselves free to act

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[7]Carl L. Becker, The Heavenly City of the Eighteenth-Century Philosophers (New Haven: Yale University Press, 1959), p. 8 and passim. Hereafter cited as Becker, Heavenly City.

[8]Quoted in Bertrand Russell, The Wisdom of the West (Garden City, New York: Doubleday & Company, Inc., 1959), p. 162. Hereafter cited as Russell, Wisdom of the West.

before they can become concerned with the condition of their lives. A man who <u>believes</u> that his life in every particular is the inscrutable and inexorable decree of Heaven--if such a man there be--cannot feel <u>needlessly</u> afflicted. Only when man believes himself free does he begin to sense the distinction upon which all morality is founded, a distinction between what is and what ought to be. To the extent of man's freedom, or to the extent of its elastic limits, he is responsible for what he is. Thus what have been called significant theoretical controversies arise. Reduced to simplest terms, they all turn on how one answers the question, What is the nature of man? Both the simple man, who says vaguely, "there ought to be a law," and the philosophic man who offers a whole Republic full of suggestions as to what that law ought to be have made up their minds, albeit unconsciously, on an answer.

The corollary of the medieval "believe in order to understand" was the pre-occupation with "justifying God's ways to man." In the main, medieval churchmen were rather successful. With a few noteworthy exceptions, a working majority could usually be found for the notion that what ought to be is. Over the centuries, however, the teachings of the God of Israel and the Glorius Company of His Son had been enlivened by the not nearly so glorius but not

incompatible notions of Epictetus and Marcus Aurelius. Upon their decision that men are, by nature, equal and hence endowed with certain rights (it remained for Jefferson to make them inalienable) rests the theoretical structure of natural law.[9] For the Middle Ages, this came to mean something like, "All souls are equally precious." Upon this notion of rights and upon the medieval ideal of feudal obligation rested the modern theory of contract. It is inevitable that this brief introduction to notions of subsequent importance should leave much to be desired; inevitable because, as Lord Acton observed:

> ...Modern History is a subject to which neither beginning nor end can be assigned. ...the dense web of the fortunes of man is woven without a void; because, in society as in nature, the structure is continuous, and we can trace things back uninterruptedly, until we dimly descry the Declaration of Independence in the forests of Germany.[10]

The preceeding paragraphs assume a condition which was itself a novelty of the Renaissance, a dynamic public philosophy. "Individualism," wrote Santayana, "is in one sense the only possible ideal; for whatever social order

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[9]Bertrand Russell, A History of Western Philosophy (New York: Simon and Schuster, 1945), p. 270. Hereafter cited as Russell, History of Western Philosophy.

[10]John Emerich Edward Dalberg Acton, Renaissance to Revolution (New York: Schocken Books, 1961), p. 3. Hereafter cited as Acton, Renaissance to Revolution.

may be most valuable can be valuable only for its effect on conscious individuals."[11] It appears that the ground and condition of a dynamic public philosophy is a society prone to vigorous and constructive self-criticism. The essential component of such a society is the self-conscious individual whose advent was the Renaissance.

In his classic on the subject, Jacob Burckhardt wrote:

> In the Middle Ages both sides of human consciousness--that which was turned within as that which was turned without--lay dreaming or half awake beneath a common veil. The veil was woven of faith, illusion, and childish prepossession, through which the world and history were seen clad in strange hues. Man was conscious of himself only as a member of a race, people, party, family, or corporation--only through some general category.[12]

As a consequence of the Renaissance, he concludes, "...man became a spiritual individual, and recognized himself as such."[13]

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[11]George Santayana, The Life of Reason, or The Phases of Human Progress (Vol. II, Reason in Society. 5 vols.; New York: Charles Scribner's Sons, 1922), p. 52. Hereafter cited as Santayana, Reason in Society.

[12]Jacob Burckhardt, The Civilization of the Renaissance in Italy, trans. S. G. C. Middlemore (New York: The Modern Library, Random House, Inc., 1954), p. 100. Hereafter cited as Burckhardt, Civilization of the Renaissance.

[13]Burckhardt, Civilization of the Renaissance, p. 100, [Burckhardt's italics].

This essay's use of the term "man," in much the same sense as Burckhardt has used it, provides the occasion for raising other perennial questions. Accustomed as we are to a public philosophy which requires us to think, not in terms of creative minorities, but of whole populations, it would be easier to forget that whole populations of self-conscious individuals have probably never existed. It must be remembered, albeit reluctantly, that Aristotle recognized a kind of natural slavery and that the majority (an important concept for us) in Plato's Republic were men of brass. As Professor Whitehead put it, "There are two ways of reading history, forwards and backwards. In the history of thought, we require both methods. A climate of opinion... requires for its understanding the consideration of its antecedents and its issues."[14] If the Renaissance were to be considered in isolation, this difference between the creative minority and the whole population might be overlooked. The object, however, is the French Revolution which touched every section of the population and brought to a kind of first fruition what we call "the national life." The Renaissance awakened Europe to the possibilities of its massive tradition; it offered the possibility of a life secure from the feudal anarchy, which, in the

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[14]Whitehead, Science and the Modern World, p. 5.

fifteenth century, was all that remained to living memory. Henceforth the pre-occupation of European political thought was with the search for a socio-political organization which could bring a truce to anarchy. In a recent book, Professor Carlton J. H. Hayes observes:

> ...after making liberal allowance for...evidences of nationalism in the Middle Ages, the fact remains...that nationalism throughout that period was spasmodic rather than continuous and that it was inferior in strength and influence to other human loyalties. If anybody in Europe is asked now who or what he is, his response is almost certain to be: "I'm English," or "I'm Irish," or "I'm German" ...or some other national. If a medieval European had been asked the same Question, he probably would have answered: "I'm a Christian."[15]

Judging from the present quest for a truce to international anarchy, it would seem that the national state failed to provide a final solution. It did, however, provide, as the foregoing passage implies, a new religion centered around a kind of tribal loyalty. The Renaissance was the gestation period of the new religion; the exact date of its birth remains open to debate, but the French Revolution served notice on Europe that the youth was now too strong to be fettered like its English sibling of 1688.

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[15]Carlton J. H. Hayes, Nationalism: A Religion (New York: The Macmillan Company, 1960), pp. 28-29. Hereafter cited as Hayes, Nationalism: A Religion.

There is virtually no end to the possible generalizations on the Renaissance. It has been for some time the subject of differing (not to say bickering) interpretations, probably all more-or-less correct. With history, as with human knowledge generally, the object is one and the same external reality which, it is hoped, will yield to a description accurate enough to be useful.

With the opening decades of the sixteenth century, the Renaissance had ceased to be an Italian phenomenon; nor was it any longer restricted to the handful of scholars, princes, and prince-scholars whose labors brought it into being. A European phenomenon, it had taken residence, among other places, in France, where many, including the French prince, Francis I, were infected with its exuberance and carelessly critical spirit.[16]

Before proceeding with the attempt to see Renaissance France as it saw itself, it would be well to reflect upon

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[16]Baldesar Castiglione, The Book of the Courtier, trans. Charles S. Singleton (Garden City, New York: Doubleday & Company, Inc., 1959), p. 67. Hereafter cited as Castiglione, The Courtier. In most respects the ideal Renaissance prince, the Count of Angoulême became King Francis I in 1515. Thus Castiglione says of him: "...the French recognized only the nobility of arms and reckon all the rest as nought; ...But if kind fate will have it that Monseigneur d'Angoulême succeed to the crown, as is hoped, then I think that just as the glory of arms flourishes and shines in France, so must that of letters flourish there also with the greatest splendor."

an observation from a more modern Frenchman's classic on collective behavior: "The masses repudiate to-day the gods which their admonishers repudiated yesterday and helped to destroy. There is no power, Divine or human, that can oblige a stream to flow back to its source."[17]

The object in the remaining pages of this section will be to catch a glimpse of the Renaissance world through the critical eyes of contemporary thinkers.[18] If the climate of opinion of the sixteenth century contained many survivals of the waning Middle Ages, it also contained a critical impulse which is one of the unique characteristics of modern European history. Machiavelli, Erasmus, Rabelais, Bodin, Montaigne, all had at least one thing in common; each was moved to weigh his world against his conception of the ideal and each found it wanting. Before looking more closely at their indictment it might be well to make a brief resume of the not-so-old regime of the sixteenth century and the trials confronting it.

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[17]Gustave Le Bon, The Crowd: A Study of the Popular Mind (New York: The Viking Press, 1960), p. 17. Hereafter cited as Le Bon, The Crowd.

[18]It might be well to point out in passing that the word thinker is not used in the modern, vocational sense connoting someone apart and perhaps a little out of touch with reality. The Renaissance frowned on specialization, favoring the man of parts. With the exception of Erasmus, ther men to be considered in this section were men of affairs.

The constitution of the French monarchy, in common with all functioning constitutions, was blended of expedience and experience. Over a period of several hundred years, French kings had fought their way out of the Ile de France and feudal impotence, from suzerainty to sovereignty. Initially this involved a sustained effort to augment the wealth and power of the Crown by extending the royal domain. This piecemeal creation of the central authority produced some interesting consequences:

> The French monarchy of 1500 was an invasive and aspiring rather than a governing power. .... Customarily the King had more power at Amiens or Bourges than he had at Nismes or Rouen. This fact, coupled with the strength of merely provincial patriotisms, tended to make opposition to the Crown local rather than national, and so in the long run ineffective.[19]

As the need arose, French kings created a steadily increasing number of special embodiments through which to exercise their expanding powers. the Six pp. 272 Thought tailed description of the condition and extent of the Royal administration at the accession of Francis I is unbelievably complex; it conveys the sense of hopelessness which must have played

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[19] J. W. Allen, A History of Political Thought in the Sixteenth Century (New York: Barnes & Noble, 1960), pp. 272 and 286. Hereafter cited as Allen, Political Thought in the Sixteenth Century.

a part in discouraging the general overhaul of the central government.[20]

If the execution was complex, the design was relatively simple. By the beginning of the sixteenth century the French royal house was well on the road to establishing a personal absolutism. Throughout the sixteenth century theories of a progressively more absolute monarchy made their appearance. In practice, however, the monarchy was and remained to the end severely limited by conditions rising out of the feudal society over which it held uneasy sway.

> Every institution that enjoyed the smallest particle of authority in France administered justice. And, on the other hand, all the courts, on the pretext of having police jurisdiction, passed administrative regulations which they enforced on pain of penalty. The universal confusion between the law and the administration resulted in a vast unwieldy machine which acted automatically throughout the country, the King being powerless to control it. .... /Francis I/...would laugh and say it was perfectly true that he knew the right thing to do, but that he had no idea of how to apply his conceptions... and had unfortunately never discovered the person who could carry them out for him.[21]

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[20]For a richly detailed account see John S. C. Bridge, A History of France From the Death of Louis XI (Vol. V, France in 1515. Oxford: At the Clarendon Press, 1936), Chapters XXIX, XXX, and passim. Hereafter cited as Bridge, France in 1515.

[21]Louis Batiffol, The Century of the Renaissance (New York: G. P. Putnam's Sons, 1929), pp. 387 and 85. Hereafter cited as Batiffol, Century of the Renaissance.

Excluding Henry IV, Francis I was easily the ablest of France's sixteenth-century monarchs.

The term "feudal society" was used in the preceeding paragraph; it is not incorrect, but it is perhaps misleading. The organization of society was feudal. The fact that the society itself was not was the source of strength which helped to create and sustain the monarchy. All Gaul continued to adhere to a fairly rigid tripartite division, the feudal estates. When, as occasionally happened, the nation was allowed formally to represent itself to its monarch, the resulting Estates General brought all the ingenuity of a reluctantly decaying social structure to bear on the task of obstructing government.[22] Thus at the

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[22]Jean Bodin, Six Books of the Commonwealth, trans. M. J. Tooley (Oxford: Basil Blackwell, circa 1958), pp. 102-03. Hereafter cited as Bodin, Commonwealth. It is incorrect to suppose that because the Estates General met and voted by estate, the privileged first estate (clergy) and second estate (nobility) out-voted the third estate two to one. On the pages cited above, Bodin (writing in the third person) states: Bodin, deputy for the third estate at Blois,....protested that from earliest times each of the three estates had jealously guarded its right not to be liable to coercion against its will by the other two. This principle had been accepted without question at the Estates of Orleans.../which met from December, 1560 to January, 1561/." Conflicting interests, channeled into what were beginning to be very class-conscious estates, added a quality of deliberateness to an already unwieldy instrument. Though it is a mistake to compare the Estates General to the High Court of Parliament, it is perhaps not amiss to adduce the foregoing in explanation of the fact that the Estates never became the instrument of royal purpose for the Valois that Parliament became for the Tudors.

Estates General of Blois (1576-77) Bodin, "protested against the other two estates, with many forceful arguments, that the appointment of a body of thirty-six judges to examine the bills of recommendation presented by the estates was prejudicial to the interests of the kingdom."[23] With the sorry example of Poland--in the period before there was no Poland--before us, it may well be concluded fortunate that "...the Estates General was and remained a crown institution, dependent in all of its essential functions [or malfunctions] upon the crown."[24]

It may be well to stress a symbolic fact already noted; at the Estates of Blois, Jean Bodin sat for the third estate. "Bodin's claim to special honour rests primarily on the fact that he, almost alone among sixteenth-century thinkers, made an honest effort to construct a comprehensive theory of political society."[25] The alliance between the Crown and the third estate was one of the vital factors in creating the modern French

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[23]Bodin, Commonwealth, p. 102, [italics inserted].

[24]George A. Rothrock, Jr., "The French Crown and the Estates General of 1614," French Historical Studies (Vol. I, No. 3, Spring, 1960), p. 295. Hereafter cited as Rothrock, The French Crown.

[25]Allen, Political Thought in the Sixteenth Century, p. 443.

monarchy from a feudal over-lordship.[26] The wealth, without which the Renaissance might have succumbed as did the Carolingian renaissance to infant mortality, was largely created by the third estate. The seat of the rising commercial class was the accountant's stool, not the saddle; while the monarchy stood for order in a turbulent world, the third estate stood for the monarchy. As the eighteenth century jolted towards its fateful conclusion, the monarchy often seemed, at best, a broken reed; in the sixteenth century, however, it was for the very class that ultimately destroyed it, the only source of security in an extremely uncertain world.

Of the numerous political liabilities of the French monarchy in this century, one of the most important and--within its own frontiers--certainly the most disagreeable was the Reformation. The much discussed alliance with elements of the rising commercial class notwithstanding, the Reformation was the last great surge of medieval piety, goaded to violence by the triumph of the Renaissance.

> ...an insidious revulsion of the natural man against a religion he does not openly discard is what, in modern Christendom, we call the Renaissance. No

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[26]Bridge, France in 1515, pp. 5-6.

> less than the Revolution (which is the later open rebellion against the same traditions) the Renaissance is radically inimical to Christianity. To say that Christianity survives, even if weakened or disestablished, is to say that the Renaissance and the Revolution are still incomplete. Far from being past events they are living programmes. The ideal of the Renaissance is to restore pagan standards in polite learning, in philosophy, in sentiment, and in morals....Instead of forsaking this wicked world, the men of the Renaissance accept, love, and cultivate the world, with all its pomp and vanities; they believe in the blamelessness of natural life and in its perfectibility; or they cling at least to a noble ambition to perfect it and a glorious ability to enjoy it. Instead of renouncing the flesh, they feed, refine, and adorn it; their arts glorify its beauty and its passions. And far from renouncing the devil--if we understand by the devil the proud assertion on the part of the finite of its autonomy, autonomy of the intellect in science, autonomy of the heart and will in morals--the men of the Renaissance are possessed by the devil altogether. They worship nothing and acknowledge authority in nothing save in their own spirit. No opposition could be more radical and complete than that between the Renaissance and the anti-worldly religion of the gospel.[27]

If the foregoing interpretation of the Renaissance is allowed, much of the French Reformation is thereby explained. As a purely religious movement--assuming there is such a thing--the Reformation was relatively harmless; it became a force to be reckoned with only by allying itself to the powerful feudal elements which survived in

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[27]George Santayana, Winds of Doctrine and Platonism and the Spiritual Life (New York: Harper & Brothers Publishers, 1957), pp. 37-38. Hereafter cited as Santayana, Winds of Doctrine.

French life. The difficulty with a strong monarchy--or, for that matter, a strong executive comparable to that created by the United States Constitution--is assuring the succession of strong men capable of effectively exercising its powers. In the capable hands of Louis XII (1498-1515), Francis I (1515-1547), and Henry II (1547-1559), the monarchy successfully kept the upper hand by channeling feudal energies into foreign wars. The description of Machiavelli, written during his embassy to the court of Louis XII, is a fair summary of the whole period:

> To-day...the Crown is stronger, richer, and more powerful than ever before, for the following reasons. First, it has become rich because, when a king has had no son, his private fiefs and property have passed to the Crown; many fiefs have been acquired thus; and to-day all the best properties belong to the Crown, and not to private barons. Secondly, it has become strong, because to-day there are no longer any of those powerful and arrogant barons, such as the Dukes of Guyenne and Bourbon, who could resist or attack the King, when they pleased. Besides, neighbouring Princes were at liberty to attack the kingdom when they felt inclined, since there was always some Duke--Brittany, or Guyenne, or Burgundy, or Flanders--to throw open the door and welcome them in....But to-day...[they] are utterly loyal to the Crown, and cannot be used by the King's enemies to create a diversion, so that he is strengthened and they are enfeebled. Further, at the present time the richest and most powerful lords are of the Royal Blood, and being themselves in the line of succession to the Crown, they support it in the hope that they or their issue may some day inherit it and in the belief

> that rebellion or hostitility would militate against their own interests.[28]

It would be instructive to be able to ask Machiavelli: How if a time comes when this should cease to be true? Could he have forseen the course of events after 1559, he might well have said, as Bodin did in fact say, "When God intended to punish the sins of the people, he threatened them with women and children as rulers...."[29]

The policy--if one may give that name to the often unconscious knack by which able men make the best of a bad lot--of providing France's feudal aristocracy with entertainment in Italy and elsewhere was perhaps the only possible way of dealing with them. It meant, however, that once the internal balance of forces described by Machiavelli was altered in favor of the nobility the state might be exposed to forces able to shake it to its very foundations. The eternally adolescent deities of Olympus could not have devised a more grimly ironic prologue to the play. One might suppose the colorful pagent of the tournament to be among the more innocuous survivals of feudalism; it proved otherwise for Henry II. Thus in 1559 the Most

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[28]Quoted in Bridge, France in 1515, p. 14.

[29]Bodin, Commonwealth, p. 196.

Christian King of France managed to get himself killed in a tournament![30] He could hardly have chosen a less fortunate moment.

France in 1559 was poised on the brink of civil war. Some confusion in this matter arises from the fact that both sides insisted upon according the dubious honor of titular leadership to Jesus Christ. If this is levity, it is at least appropriate to the spirit of the occasion. Thus before considering the plague of civil war in the fructifying warmth of a regency, it is indispensable to consider the religious question.

It may be well to point out at once that many of the most widely accepted generalizations about the Reformation, generalizations which are quite proper for Germany or England, do not hold for France until qualified virtually beyond recognition. There is an obvious reason for this; the difficulty with obvious reasons, however, is that they are simple and hence appealing but not necessarily correct. The means have yet to be discovered whereby the historian could profitably emulate his colleague, the physicist, who says that such-and-such would happen, "all things being

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[30]For a detailed account of the death of Henry II which is complete without being sadistic see James Westfall Thompson, The Wars of Religion in France, 1559-1576 (Chicago, Illinois: The University of Chicago Press, 1915), pp. 1-4. Hereafter cited as Thompson, Wars of Religion.

equal," which he knows quite well they never are. Hence it would be well if it were axiomatic for history that the simple reason is that which is insufficiently understood. The simple reason for a careful re-examination of the familiar notions about the Reformation, where France is concerned, is that the Reformation in France failed. Furthermore, there is a simple reason for this failure. The not-so-simple fact is, however, that the failure of the Reformation in France was not merely a matter of cujus regio ejus religio. To arrive at this conclusion it is necessary to part with a fond illusion and recognize that no government governs for very long without the consent--or to be strictly correct, the acquiescence--of the governed.

> In France...Protestantism had great strength in the sixteenth century. Calvin himself was a Frenchman and, despite common American notions about the French national character, Frenchmen make as good puritans as any others. But the French crown, the focus of French patriotism, had nothing of importance to gain from a split with Rome; it already possessed great independence. Most Frenchmen never identified Frenchness with Protestantism, as most north Germans identified Protestantism with Germanness. Indeed, toward the end of the civil wars in sixteenth century France, most middle-of-the-road Frenchmen identified Protestantism with treason to France.[31]

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[31]Crane Brinton, The Shaping of the Modern Mind (New York: New American Library, 1957), p. 61. Hereafter cited as Brinton, Shaping of the Modern Mind.

The term "Gallican Church" is used to denote the unique position of the French church, somewhere between the complete independence of the Church of England and the complete dependence of the Church in Germany. The liberties of the Gallican Church, secured by the Pragmatic Sanction of Bourges (1438), tended to cut across the authority of Crown and Papacy. The Pragmatic Sanction embodied most of the anti-Papal decrees of the Council of Basel. Moreover, it staunched the flow of wealth from the Kingdom by the abolition of annates, the first year's revenue from ecclesiastical livings, which formerly had gone to Rome. The position of the French Church under the terms of the Pragmatic Sanction has been described as "almost schismatical."[32] This is perhaps a bit strong, but clearly the French Church, by the beginning of the sixteenth century, had for some time enjoyed a considerable measure of autonomy. Papal opposition had proven fruitless but persistent in the face of a statute which openly asserted the supremacy of a council. Clearly some compromise capable of harmonizing the interests of Crown and Curia was needed. In 1516 the Crown was confirmed in its powers over the French Church (appointment,

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[32]Preserved Smith, The Age of the Reformation (New York: Henry Holt and Company, 1923), p. 42. Hereafter cited as Smith, Age of the Reformation.

jurisdiction, and taxation) in return for the repeal of the Pragmatic Sanction (effected in 1518) and the possibility of the renewal of annates.[33] This compromise, the Concordat of Bologna, was accomplished over a storm of protest.[34] Thus, "The University of Paris continued to resist for a short time, but eventually it too was silenced, and the Concordat of 1516 became one of the principal decrees which regulated the French church."[35] In the Concordat of Bologna, the Crown had the best of both worlds. Nevertheless, the Gallican liberties remained an issue in national life until late in the reign of Louis XIV. Thus at the Estates General of 1614 the first article of the cahier prepared (but not presented) by the third estate contained the following provision:

> That the King be begged to resolve in the assembly of His estates as fundamental law of the kingdom,

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[33]Gaston Zeller, Les institutions de la France au XVI^e siècle (Paris: Presses Universitaires de France, 1948), pp. 345-52. Hereafter cited as Zeller, Les institutions de la France.

[34]Zeller, Les institutions de la France, p. 157. "Le roi sait que l'acte se heurtera à une très forte opposition. Aussi vient-il en personne au Parlement pour lui en communiquer le texte. Et il essaie de l'intimider en lui disant d'assez dures vérités. Le Parlement n'en résiste pas moins pendant trois mois. Il n'enregistre finalement qu'avec de multilpes réserves."

[35]J. Russell Major, Representative Institutions in Renaissance France, 1421-1559 (Madison: The University of Wisconsin Press, 1960), pp. 130-31. Hereafter cited as Major, Institutions in Renaissance France.

> which will be inviolable and binding upon all, that since he is recognized as sovereign in his estate, holding the crown of none but God, there is no power on earth, whatever it might be, spiritual or temporal, which has any claims on his kingdom to deprive it of the sacred persons of our kings, nor to dispense or absolve their subjects of the fidelity which they owe for whatever cause or pretext; that all subjects, of whatever quality or condition they might be, will hold this law as sacred and inviolable, as conforming to the word of God without equivocal distinction or any sort of limitation, to be sworn and signed by all the deputies of the estates, and hereafter by all beneficiaries and officers of the kingdom before entering into their benefices or being received in their offices.[36]

The Reformation in France never succeeded in identifying itself with the national life. It appealed rather to the affected and disaffected elements which ran counter to the main stream of national development; it appealed to the nobility which affected to exercise powers it had lost or was losing and to the petite bourgeoisie disaffected by the powerful and vocal elements of the third estate. Thus,

> ...it was not the spread of Calvinism among the lower classes that provided the most serious threat to the crown or even to the Church.... The real danger came from the increasing number of noble converts who quickly made themselves the protectors, then the patrons, and finally the masters of the local churches. Control of the new religion was gradually slipping from Calvin and Coligny into the more dangerous hands of Condé and other members of the nobility who saw in the Reformation an opportunity to gain some popular support for their cause: the revival of the powers and privileges of the nobility.[37]

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[36] Quoted in Rothrock, The French Crown, p. 308.

[37] J. Russell Major, The Estates General of 1560 (Princeton, New Jersey: Princeton University Press, 1951), p. 23. Hereafter cited as Major, Estates General of 1560.

To assign to the role of the nobility in the Reformation a purely political motivation no doubt does injustice to some few. Nevertheless, the case against them is strong enough to support the conjecture that the exceptions were very few. With the petite bourgeoisie, however, the matter is far from clear. Their's was unquestionably a psychological involvement of the type generally referred to as spiritual. For this class the dawning awareness of freedom scarcely seemed an emancipation. The Renaissance spelled the end of such security as they had known. Thus they became politically conservative and spiritually reactionary. The appeal of the Reformation for them is well illustrated in a passage from Luther;

> /The great entrepreneurs/...have all the commodities under their control and practise without concealment all the tricks that have been mentioned; they raise and lower prices as they please and oppress and ruin all the small merchants, as the pike the little fish in the water, just as though they were lords over God's creatures and free from all the laws of faith and love.[38]

The psychological involvement of the Huguenots requires some further elaboration. In pursuing this aspect of the problem the intention is not to discredit the conscious sincerity of the entire party; contemporaries fully

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[38] Works of Martin Luther (10 vols.; Philadelphia: Muhlenberg Press, 1943), Vol. IV, p. 34. Hereafter cited as Luther, Works.

appreciated the distinction between "Huguenots of religion" and the "Huguenots of state."[39] The intention is rather to avoid, if possible, an unnecessary paradox.

The small merchants and artisans were the core of the Huguenots of religion. When the civil wars subsided, they remained until driven out by Louis XIV's revocation of the Edict of Nantes. At the risk of ambiguity, Erich Fromm designates this group as the "middle class;" the following passage is illuminating:

> The members of the middle class were essentially conservative; they wanted to stabilize society and not uproot it; each of them hoped to become more prosperous and to participate in the general development. Hostility, therefore, was not to be expressed overtly, nor could it even be felt consciously; it had to be repressed. Repression of hostility, however, only removes it from conscious awareness, it does not abolish it. ...the pent-up hostility...increases to a point where it pervades the whole personality...but in rationalized and disguised forms. Luther and Calvin portray this all pervading hostility. ...these two men, personally, belonged to the ranks of the greatest haters among the leading figures of history.... ...their doctrines were colored by this hostility and could only appeal to a group itself driven by an intense, repressed hostility. The most striking expression of this hostility is found in their concept of God, especially in Calvin's doctrine. ...we often do not fully realize what it means to conceive of God as being as arbitrary and merciless as Calvin's God, who destined part of mankind to eternal damnation without any justification

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[39] Thompson, Wars of Religion, p. 16. For the etymology of the word "Huguenot," for which there are a variety of plausible derivations and no agreement, see footnote 1, pp. 10-11 of this work.

> or reason except that this act was an expression of God's power. .... This picture of a despotic God, who wants unrestricted power over men and their submission and humiliation, was the projection of the middle class's own hostility and envy.[40]

It should be stressed that this hostility was a prior condition which found expression in the reformed doctrines. In the main, it was the medieval piety of the religious Huguenots which was "inimical" to the Renaissance. Long before the Reformation practice of singing the psalms had become current, they felt the anguish of the plea, "Give sentence with me, O God, and defend my cause against the ungodly people; O deliver me from the deceitful and wicked man."[41] This class welcomed the arduous trek back to the sterner Christianity which had survived the barbarian invasions and the fall of Rome. Their's was the faith of martyrs which, as events were about to prove, was fortunate.

If the Reformation in France was ultimately a failure, it was initially a success; indeed, it was so successful that it drove its competition from the field. The movement which cornered the market on reformation was

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[40]Erich Fromm, Escape from Freedom (New York: Holt, Rinehart and Winston, 1960), pp. 95-96. Hereafter cited as Fromm, Escape from Freedom.

[41]The Book of Common Prayer (New York: Oxford University Press, 1944), Psalm 43, p. 394.

only indirectly a domestic commodity. It would be strange indeed, in an age when men of enduring stature had thrown down the gauntlet of reform before the throne of St. Peter, if the tradition of Gallican liberties produced no movement for reform from within. As early as 1511, Erasmus, having paused in the ritual of ridicule to speak plainly, offered a timely warning to the Vicar of Christ:

> ...that terrible thunderbolt of excommunication,... these most holy fathers in Christ and His vicars hurl with more fierceness against none than against such as, by the instigation of the devil, attempt to lessen or rob them of Peter's patrimony. When, though those words in the Gospel, "We have left all, and followed Thee," were his, yet they call his patrimony lands, cities, tribute, imposts, riches; for which, being enflamed with the love of Christ, they contend with fire and sword, and not without loss of much Christian blood, and believe they have then most apostolically defended the Church, the spouse of Christ, when the enemy, as they call them, are valiantly routed. As if the Church had any deadlier enemies than wicked prelates, who not only suffer Christ to run out of request for want of preaching him, but hinder his spreading by their multitudes of laws merely contrived for their own profit, corrupt him by their forced expositions, and murder him by the evil example of their pestilent life.[42]

Erasmus was the outstanding advocate of reform from within the Church. His hope was for a united Christendom reformed along the lines of his personal achievement, the synthesis of Renaissance and Christianity. He understood--as did

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[42]Desiderius Erasmus, The Praise of Folly, trans. John Wilson, 1668 (Ann Arbor: University of Michigan Press, 1960), pp. 118-19. Hereafter cited as Erasmus, Praise of Folly.

George Santayana in modern times--that the soul of Christianity is the gospel of love from which it perennially revivifys itself. To an age which produced many refinements in bigotry and cruelty, he said simply, "Whenever you encounter truth, look upon it as Christianity."[43] In France, the hope of such a reform centered around the person of Jacques Lefevre d'Etaples, to whose exertions Erasmus expressed himself "especially devoted."[44] The currents of Reformation from Germany and Geneva cut across and largely discredited this labor of love. The outbreak of the Peasants War in Germany was all that was needed to persuade Francis I of the danger, and Lefevre found Strassburg the alternative to execution.[45] For his age, Francis I possessed an urbane tolerance. Moreover, France was not without able, moderate men capable of executing a moderate policy. A country whose population was overwhelmingly peasant, however, was not apt to find the events in Germany reassuring. Thus the course of moderation was discredited.

If unconscious hostility was the fertile seed-bed for the reformed doctrines, once the Reformation was launched

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[43]Quoted in Stefan Zweig, Erasmus of Rotterdam, trans. Eden and Cedar Paul (New York: The Viking Press, 1960), p. 91. Hereafter cited as Zweig, Erasmus of Rotterdam.

[44]Letter to Wolfgang Capito, February 26, 1517. Quoted at length in Gilmore, World of Humanism, pp. 260-61.

[45]Smith, Age of the Reformation, p. 192.

the hostility could come out, assured of ample justification. Francis I, like Queen Elizabeth or Marcus Aurelius, possessed a ruler's instinct which warned him to yield sparingly to his subjects' persecutory passions. In a rhymed aphorism, he expressed a sentiment common to all sixteenth century European rulers (excepting possibly the Sultan of Turkey, and he does not count, Francis having broken the ice by making room for him in the Concert)[46]: "Un roi, une loi, une foi;"[47] one king, one law, one faith. Like Hamlet, Francis spoke daggers (or rather fires) but used none, except on Polonius. After 1547, however, the Reformation accelerated rapidly. Within two years of Henry II's accession, (i.e. 1549) he created within the Parlement of Paris a special bureau of Huguenot affairs, the Chambre ardente or burning chamber.[48] A catalogue of the persecutory decrees in this period would serve no purpose here. Since, however, the object is to consider the public philosophy, the Edict of Chateaubriant (1551) is of some interest. The period of religious-civil wars in France came closer than almost any other period in modern history to realizing all the horrors Hobbes envisioned in a state of anarchy.

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[46]Batiffol, Century of the Renaissance, p. 78.

[47]Thompson, Wars of Religion, p. 11.

[48]Thompson, Wars of Religion, pp. 10-11.

It is almost a misnomer to speak of public morality, but one can imagine the effect upon it of the provision of the Edict of Chateaubriant which promised informers against heretics a third of their goods![49]

Henry II had not been a year in his tomb before the situation in general--and in particular the ascendency of the house of Guise, la tyrannie guisienne--had produced a conspiracy of formidable proportions. The conspiracy of Amboise marked the beginning; for many, protestants and catholics alike, it proved to be the beginning of the end. The details of this struggle, even in outline, lie beyond the scope of this essay. Nevertheless, a concrete example of the horror of these wars will furnish an eloquent background against which to resume the examination of the changing public philosophy. The government of the Guises retained the upper hand and successfully dispersed the conspiracy of Amboise; the following summary is taken from contemporary accounts:

> In the end the government sent 1,200 of those implicated in the conspiracy of Amboise or under suspicion to execution. A morbid desire to witness the shedding of blood seized upon society, and it became a customary thing for the ladies and gentlemen of the court to witness the torture of those condemned after the manner of the auto da fé in Spain.[50]

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[49]Batiffol, Century of the Renaissance, p. 163.

[50]Quoted in Thompson, Wars of Religion, p. 39. "The court attended the spectacle of these executions 'comme s'il eût été question de voir jouer quelque momerie.'"

The wars of religion lie like a chasm across the history of France, dividing the Frenchmen of the Renaissance from the subjects of Henry IV. The change wrought by these disasters is well illustrated by the gulf which separates Francois Rabelais (1494?-1553) and Michel, Baron de Montaigne (1533-1592). Comparing the two men reminds one of Milton's famous poems; in Rabelais one sees L'Allegro, the laughing man, and in Montaigne, Il Penseroso, the thoughtful man.

Rabelais portrays the Renaissance at its raucous best (or worst depending upon how easily one is shocked). In Grangousier, Gargantua, and Pantagruel, the three generations of genial giants, one sees the emergence of Renaissance man, and with him a progressive public philosophy. Grandfather, father, son, each in his turn greatly surpassed his sire. Grangousier (or Greatgullet) was personally little more than a rollicking "tosspot."[51] He possessed, however, two qualities which are outstanding characteristics of the Renaissance. First, he was keen in seeking indications of natural gifts which he valued--as a personification of the early Renaissance it would

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[51]Francois Rabelais, The Five Books of Gargantua and Pantagruel, trans. Jacques Le Clercq (New York: The Modern Library, Random House, Inc., 1936), Book One, Chapter iii, pp. 12-14. Hereafter cited as thus: Rabelais, Gargantua and Pantagruel, I, iii, pp. 12-14.

not be too strong to say reverenced--and towards which he acknowledged a duty to facilitate their cultivation. Thus he says, "For my part, the brief conversation I have just had with Gargantua...suffices to convince me that his mind is illumined by the divine spark. How else...could he have proved so acute, so subtle, ...and withal so serene? Give the boy proper schooling...and he will attain a supreme degree of wisdom!"[52] True, the grounds upon which he professes to see this "divine spark" are, as some may remember, at best ludicrous and at worst vulgar in the extreme. This does not negate the expression of the ideal; it only means that Rabelais saw the humor in the perennially proud parent who will ever and anon seize upon the slightest pretext for thinking that his off-spring is unique and absolutely without peer. Grangousier's second outstanding quality Rabelais presents in a double aspect. The Renaissance has seldom if ever been equaled in its clear instinctive recognition of the importance of self-respect, without which there is no geniune respect for anything else. In addition, few periods in history have produced such numerous examples of extreme rulers--extremely bad ones whom we remember ("the evil that men do lives after them") and extremely good ones whom we forget ("the good is oft

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[52]Rabelais, Gargantua and Pantagruel, I, xiv, p. 45.

interred with their bones"). To put it simply, whatever one may think of Grangousier's personal habits, he was good at his job. His job is that of a ruler, and as such, he possesses the qualities which harsh experience had taught the Renaissance to look for in a prince. Thus, when a neighboring prince invades his country on a trivial pretext and refuses to forego the hazards of war for the most generous satisfaction, Grangousier says:

> ...now I realize I must put armor over my aged, weary, feeble shoulders, I must seize lance and mace with trembling hand to succor and protect my unhappy people. Reason dictates this course, since it is by the fruit of their labor and the sweat of their brow that I and my children and household are kept alive![53]

Here, then, is a prince who is the father of his people; he earns his money, and his realistic appraisal of his relationship to his people is an appealingly humane anticipation of the time when Frederick the Great would call himself "the first servant of the state."

One of the best known and most widely reprinted passages from Rabelais is the famous letter from Gargantua to Pantagruel who is studying in Paris.[54] It seems unfortunate that this letter is so often presented out of context. The tone of the letter is serious, even reverent,

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[53]Rabelais, Gargantua and Pantagruel, I, xxiii, p. 90.

[54]Rabelais, Gargantua and Pantagruel, II, viii, p. 190.

and divorced from Rabelais's habitual satire it is easily misunderstood. Presented as a documentary expression of the Renaissance ideals of versatility and well rounded knowledge, the modern reader finds it, not so much impressive as incredible. Even in the life of a very long lived giant, there are not that many hours in the day. Therein, of course, lies the satire. One of the most interesting features of the Renaissance is its realism, a glaring light in which to expose the foibles of one's self and the world in which one lives. It is not in the least out of character for Rabelais to satirize his world's most prized ideal. Thus Burckhardt remarks, "The corrective, not only of this modern desire for fame, but of all highly developed individuality, is found in ridicule. .... But wit could not be an independent element in life till its appropriate victim, the developed individual with personal pretensions, had appeared."[55]

There is no accident in the presentation of Gargantua and Pantagruel as giants. Nor is it accidental that author and reader frequently find it easy and convenient to forget their enormous size. The presentation is the actual experience of the Renaissance inverted. The Renaissance man was apt to find it easy to forget his puney

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[55]Burckhardt, Civilization of the Renaissance, pp. 115-16.

stature--his human limitations--in his efforts to "bestride the narrow world like a colossus!"

In Montaigne the vigor and joie de vivre has subsided into resignation. All the characteristics of the Renaissance are present, but dimmed; the anarchy, the wanton cruelty of the civil wars hangs over his work like a pall. Thus he remarks: "No one suffers long except by his own fault. He who has not the courage to suffer either death or life, who will neither resist nor flee, what can we do with him?"[56]

The work of Montaigne is far more difficult to treat than that of Rabelais; largely in the form of essays on diverse subjects, it lacks the allegorical framework which has sustained Rabelais's popularity. Like Dean Swift, Rabelais is entertaining long after he has ceased to be understood. Montaigne, however, possesses the merit of his vices. Many a truth passes cloaked in jest; Rabelais "...knew it was the prerogative of fools to speak what they like, and that too without offense."[57] Montaigne throws off the mask and makes no effort to disguise the lance of truth as an attenuated fool's cap. As thus:

> Is there any opinion so bizarre--I leave aside the gross impostures of religions, with which so many great nations and so many able men have been seen

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[56]Montaigne, Works, p. 47.

[57]Erasmus, Praise of Folly, p. 130.

> to be besotted, for since this matter is beyond the scope of our human reason, it is more excusable for anyone who is not extraordinarily enlightened by divine favor to be lost in it; but of other opinions is there any so strange--that habit has not planted and established it by law in the regions where she saw fit to do so? And that ancient exclamation is very just: The natural philosopher, who should be the observer and the quester of nature, brazenly seeks the proof of truth from minds imbued with habit [Cicero].[58]

Here is a bold skepticism which has more in common with the late seventeenth century than the late sixteenth. Many, if not most of the ideas which at the outset of the eighteenth century were beginning to draw new breath from the achievements of science are to be found in Montaigne. The thought of the seventeenth century was over-shadowed by the lingering passions of the Reformation. The bigotry of the Reformation had driven the humanism of the Renaissance from the seat of authority. The wars of religion were no doubt very entertaining for such distinguished personages as the Duc de Guise or the Prince de Condé. Montaigne is not unconcerned to record their effect on more humble people:

> Some peasants have just informed me hastily that a moment ago they left in a wood that belongs to me a man stabbed in a hundred places, who is still breathing, and who begged them for pity's sake to bring him some water and help him to get up. They say that they did not dare go near him, and ran away, for fear that the officers of the law would

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[58]Montaigne, Works, p. 79, [translator's italics; the quotation from Cicero was used by Montaigne in Latin].

> catch them there and hold them accountable for the accident--as is done with those who are found near a murdered man--to their total ruin, since they had neither ability nor money to defend their innocence. What could I say to them? It is certain that this act of humanity would have got them into trouble.[59]

From harsh experience Montaigne illustrates the difference between freedom and anarchy, liberty and license: "I am so sick for freedom that if anyone should forbid me access to some corner of the Indies, I should live distinctly less comfortably. .... All my little prudence in these civil wars in which we are now involved is employed to keep them from interrupting my freedom of coming and going."[60]

Subsequent centuries have proven that the reaction which was the Reformation came too late to lull the public philosophy back into its former somnambulance. The vitality of the European mind was not to be chained. The balanced judgment of Montaigne is not to be corrected:

> ...if the inventors [Protestants] have done more harm, the imitators [Catholics of the League] are more vicious in that they wholeheartedly follow examples whose horror and evil they have felt and punished. And if there is some degree of honor in evil-doing, they must concede to the others the glory of invention and the courage of making the first effort.[61]

In a longer perspective, Santayana wrote:

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[59]Montaigne, Works, p. 819.

[60]Montaigne, Works, pp. 820-21.

[61]Montaigne, Works, p. 87.

> If the humanistic tendencies of the Renaissance could have worked on unimpeded, might not a revolution from above, a gradual rationalisation have transformed the church? Its dogma might have been insensibly understood to be nothing but myth, its miracles nothing but legend, its sacrements mere symbols, its Bible pure literature, its liturgy just poetry, its hierarchy an administrative convenience, its ethics an historical accident, and its whole function simply to lend a warm mystical aureole to human culture and ignorance. The Reformation prevented this euthanasia of Christianity. It re-expressed the unenlightened absolutism of the old religion; it insisted that dogma was scientifically true, that salvation was urgent and fearfully doubtful, that the world, and the worldly paganised church, were as Sodom and Gomorrah, and that sin, though natural to man, was to God an abomination. In fighting this movement, which soon became heretical, the Catholic church had to fight it with its own weapons, and thereby reawakened in its own bosom the same sinister convictions.[62]

Despite the reaction of the Reformation, or, indeed, perhaps partly because of it, the compassion of Erasmus, the irrepressible lust for life of Rabelais, the courageous and uncompromising skepticism of Montaigne were abroad in the world when the seventeenth century dawned. They played a vital role in shaping the idea and the ideal of the Revolution, which their authors would have deplored as much as they deplored the Reformation. Nevertheless, their worldly posture, their compassion, lust, and skepticism, marked the definitive rupture of the other-worldly intellectualisms of the Middle Ages. All three attitudes implied

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[62] Santayana, Winds of Doctrine, p. 39.

a freedom and effectiveness of action, assumptions indispensable to the new ideal of a fundamental reshaping of society.

III. The New Science[1]

> That nature exists, it would be absurd to try to prove; for it is obvious that there are many things of this kind, and to prove what is obvious by what is not is the mark of a man who is unable to distinguish what is self-evident from what is not.[2]
>
> ...Aristotle

> Let us suppose that among the decrees of the divine Architect was the thought of creating in the universe those globes which we behold continually revolving, and of establishing a center of their rotations in which the sun was located immovably.[3]
>
> ...Galileo Galilei

In the discussion of perspectives stress was placed upon the vital role of mathematics in creating meaningful abstractions. It now becomes necessary to return to that

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[1]The order most natural to a mind trained in the study of history would seem to be a chronological order. Perhaps it is for this reason that many accounts of the scientific revolution of the sixteenth and seventeenth centuries subject the reader to a "tennis match" between science per se and philosophy. For the sake of clear exposition, it has been deemed advisable to recognize the distinction in the organization of this essay. The distinction is not always clear, particularly in the seventeenth century; the eighteenth century, however, brings to the center of the stage in France men who are clearly not scientists. The philosophes, profoundly influenced by the achievements of the scientific revolution, erected upon this foundation a broad structure of inferences concerning the nature and potential of man and the joint social enterprise. Thus this section will consider the currents of thought in four men whose work was predominantly scientific: Copernicus, Kepler, Galileo, and Newton. The following section, "The New Philosophy," will deal with Bacon, Descartes, and Locke.

[2]McKeon, Introduction to Aristotle, p. 117.

[3]Galileo, Dialogue, p. 29.

theme. In relation to the whole, the growth of mathematics is likely to prove the most important single fact of modern history. It is certainly the most important single fact in the scientific revolution which began to make its presence felt in the sixteenth century. Professor Whitehead might have been speaking the retort of modern science to the passage from Aristotle quoted above: "It requires a very unusual mind to undertake the analysis of the obvious."[4]

No concept is more basic and indispensable to science than the concept of change or flux. When man's unconscious concept of his world is static, he is himself so much a part of nature that the constant flux in which he lives can only accentuate the constancy of nature. Apparently it is necessary for him to develop a rather definite self-concept from which to direct his stream of awareness. The advent of the Renaissance man and the high degree to which he developed these characteristics brought about a radical shift of emphasis. The medieval man--always recognizing the vital limitations of such generalizations--might be said to have been lost in the stream of his impressions, responding as necessity dictated to the unending stream of data presented by his senses. This the Renaissance man is unable to do;

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[4]Whitehead, Science and the Modern World, p. 6.

he is self-conscious, and to be self-conscious is to be unable to take one's self or one's world for granted. He is fascinated (not to say obsessed) with the idea of trying to understand what is happening to him. His responses may take the form of raucous satire or brutally realistic political analysis; it makes no difference. What is certain is that he will respond; for his best efforts at humor cannot altogether conceal the fact that he is deadly serious. Consciously or unconsciously, he lives by the dictum of Marcus Aurelius:

> If thou findest in human life anything better...than thy own mind's self-satisfaction in the things it enables thee to do according to right reason,... turn to it with all thy soul, and enjoy that which thou hast found to be the best. But if nothing appears to be better than the deity which is planted in thee,...give place to nothing else....[5]

The scientific revolution was the fruit of this inner need to understand. The empiricism and the indispensable experimentation to which it gave rise were vital but secondary characteristics. The new science of the sixteenth and seventeenth centuries was primarily a "...theoretical science, which is an attempt to understand [as opposed to manipulating] the world."[6]

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[5]George Long (trans.), The Meditations of the Emperor Marcus Aurelius Antoninus (New York: A. L. Burt Company, Publishers, [circa 1900]), p. 155. Hereafter cited as Marcus Aurelius, Meditations.

[6]Russell, History of Western Philosophy, p. 492.

The new science may be construed without distortion as the conflict between two great western intellectual traditions: the Pythagorean tradition with its almost mystical faith in the efficacy of mathematics for the exploration of the natural world; and the Aristotelian tradition of observation, classification, and logical deduction. In the late middle ages the Aristotelian tradition had become the "established" canon of the natural sciences.

Sometime around the beginning of the thirteenth century, for reasons that are far from clear, the faithful of Christendom began to feel the need of justification for their faith. A crack in the sense of "self-sufficient completion" began to be noticed. In the search for reinforcements capable of closing the breach, an important discovery was made, Aristotle. Under the circumstances, the choice was a good one. Aristotle was first and foremost a logician; indeed, he was the founder of deductive logic. Moreover, there is perhaps no author, ancient or modern, who is equally reassuring. He creates the distinct impression that here is a man with the key to every perplexity. As matters stood, Aristotle was a useful addition. Certainly in the hands of the schoolmen the syllogism does just what Bacon said it did; it "...commands assent...to the proposition...."[7]

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[7]Bacon, Novum Organum, p. 41.

Since the object was the "justification of faith by reason," something capable of commanding assent was precisely what was wanted.

By the sixteenth century, however, Europe was suffering from a clear-cut case of too much of a good thing. The apotheosis of Aristotle was beginning to produce a vigorous and hostile reaction. Montaigne expressed this reaction with more moderation than most:

> ...it is evident from experience that so many interpretations disperse the truth and shatter it. Aristotle wrote to be understood; if he did not succeed, still less will another man, less able.... ...there is no book to be found...whose difficulties are cleared up by interpretation. The hundredth commentator hands it on to his successor thornier and rougher than the first one had found it.[8]

Nevertheless, in the sixteenth century and for some time thereafter, Aristotle was the head and source of scientific "orthodoxy."

Evidently Aristotle was a man of considerable common sense. If the evidence of common sense is the only criterion, the inescapable conclusion is that the world is flat and motionless. Aristotle taught that "...those who would contradict the evidence of any sense deserved to be punished by the loss of that sense."[9] In a very real sense, however, modern science contradicts all five

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[8]Montaigne, Works, p. 817.

[9]Quoted in Galileo, Dialogue, p. 32.

senses being in itself a veritable sixth sense. Thus Sir Arthur Eddington remarks on the sub-sensate nature of modern science as follows: "In the world of physics we watch a shadowgraph performance of the drama of familiar life. The shadow of my elbow rests on the shadow table as the shadow ink flows over the shadow paper. It is all symbolic, and as a symbol the physicist leaves it."[10]

Whatever one's opinion of Aristotle, he was decidedly not a dunderhead, which is more than may be said for some of the Peripatetics (or followers of Aristotle).[11] Lest this seem too harsh, the story related by Galileo is worth repeating. It seems a famous doctor in Venice was investigating the origin of the nerves, the subject of a great controversy in which the Peripatetics contended that their source was the heart.

> The anatomist showed that the great trunk of nerves, leaving the brain and passing through the nape, extended on down the spine and then branched out through the whole body, and that only a single strand as fine as a thread arrived at the heart. Turning to a gentleman whom he knew to be a Peripatetic philosopher,... he asked this man whether he was at last satisfied

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[10]Sir Arthur Eddington, The Nature of the Physical World (Ann Arbor: The University of Michigan Press, 1958), p. xvi. Hereafter cited as Eddington, Nature of the Physical World.

[11]Apparently Aristotle taught while walking, so that originally the term "Peripatetic" meant literally followers of Aristotle.

> and convinced that the nerves originated in the brain and not in the heart. The philosopher, after considering for awhile, answered: "You have made me see this matter so plainly and palpably that if Aristotle's text were not contrary to it, stating clearly that the nerves originate in the heart, I should be forced to admit it to be true."[12]

This is probably not greatly exaggerated. Certainly the conduct of the Peripatetics provoked the condemnation of the greatest minds of the time. Galileo's story is typical of the "pitched battles" of the scientific revolution. With inconspicuous irony, Professor Hall inverts one of Aristotle's axioms to depict the significance of these battles. The axiom states: "The reasoning which applies to the whole applies also to the part." "Logically," says Professor Hall, "to doubt Aristotle on one issue was to doubt him on all...."[13]

The intellectual tradition espoused by the principals of the scientific revolution has been termed Pythagorean. In the classical background of this tradition Plato is associated with Pythagoras (or rather the Pythagorean heritage) in teaching the virtue of mathematical studies.[14]

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[12]Galileo, Dialogue, p. 108.

[13]A. R. Hall, The Scientific Revolution, 1500-1800 (Boston: The Beacon Press, 1956), p. 35. Hereafter cited as Hall, The Scientific Revolution.

[14]Sir James Jeans, The Growth of Physical Science (Greenwich, Connecticut: Fawcett Publications, Inc., 1958), p. 50. Hereafter cited as Jeans, Growth of Physical Science.

About Pythagoras, too little is known. Born on the island of Samos, he moved to the Italian city of Croton about 532 B.C. where he founded a school rather like a modern religious order.[15] The blend of mathematics and mysticism taught in this school has continued to fascinate thinkers down to the present. Lord Russell is quite serious in calling Pythagoras a combination of Einstein and Mary Baker Eddy.[16] He summarizes the Pythagorean influence thus:

> It is the Pythagorean preoccupation with mathematics that gave rise to...the theory of ideas, or...the theory of universals. When a mathematican proves a proposition about triangles, it is not about any figure drawn somewhere that he is talking; rather, it is something he sees in the mind's eye. Thus arises the distinction between the intelligible and the sensible. Moreover, the proposition established is true without reservation and for all time. It is only a step from this to the view that the intelligible alone is the real, perfect and eternal, whereas the sensible is apparent, defective and transient. These are direct consequences of Pythagoreanism that have dominated philosophical thought...ever since.[17]

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[15]Henry Bamford Parkes, Gods and Men: The Origins of Western Culture (New York: Alfred A. Knopf, 1959), p. 243. Hereafter cited as Parkes, Gods and Men.

[16]Russell, History of Western Philosophy, p. 31. Part One, Chapter III of this volume (pp. 29-37) contains what is probably the best and most complete synthesis of what is known about Pythagoras.

[17]Russell, Wisdom of the West, p. 23.

The influence of the Pythagorean tradition, particularly as it is germain to this essay, is extremely ambiguous. There is reason to think it was a double-edged sword with respect to the scientific revolution; i.e. it seems to have been known to sixteenth-century Europe under a double (or more likely a multiple) aspect. Its inspiration is apparent in Copernicus and Newton, and quite explicit in Kepler and Galileo. This Pythagorean inspiration, however, carries distinct overtones of apprehension for the generally accepted notions about Pythagoras. Thus Copernicus says, "...let no one suppose that I have gratuitously asserted, with the Pythagoreans, the motion of the earth; strong proof will be found in my exposition...."[18] It seems clear that some notions about Pythagoras were lodged in the public mind of the sixteenth century, and not such as would work to the advantage of the new scientific theories. This view is strengthened by a moment's reflection about the audiences for whom Shakespeare wrote; in Twelfth Night we find the following:

> Clown. What is the opinion of Pythagoras concerning wild fowl?
> Malvolio. That the soul of our grandam might haply inhabit a bird.
> Clown. What thinkest thou of his opinion?

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[18]Edward Rosen (trans.), Three Copernican Treatises: The Commentariolus of Copernicus, The Letter Against Werner, The Narratio prima of Rheticus (New York: Dover Publications, Inc., 1959), p. 59. Hereafter quoted as Rosen, Copernican Treatises.

> Malvolio. I think nobly of the soul, and no way approve his opinion.
> Clown. Fare thee well. Remain thou still in darkness. Thou shalt hold the opinion of Pythagoras ere I will allow of thy wits,....[19]

The opposition of learned opinion (learned at least in Aristotle) to the new theories, for reasons presently to be discussed, was persistent and prolonged. As late as 1690, Locke caustically remarked, "God has not been so sparing to men to make them barely two-legged creatures, and left it to Aristotle to make them rational."[20] When Locke died in 1704, European opinion was poised on the brink of what became tantamount to a capitulation. Thereafter, in the course of the narrative, there will be cause to wonder if that capitulation were not too complete.

Between 1543 and 1687 human knowledge began to discover the vastness of the universe. Like the Pillars of Hercules, Copernicus and Newton stood at the straits through which the imagination of the eighteenth century soared to the infinite. The courage of the Enlightened is admirable, but their prudence remains an open question.

Nicholaus Copernicus (1473-1543) made the first great contribution to the revived interest in the under-

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[19]Shakespeare, Twelfth Night, Act IV, sc. ii, p. 873.

[20]Locke, Essay, Vol. II, p. 391.

standing of the physical world. Educated in Italy during a period of ten years at the universities of Bologna, Padua, and Ferrara, his studies in law and medicine seem not to have impeded his progress in astronomy. His stay at Bologna brought him into contact with the revival of Pythagorean ideals in natural philosophy. "There is little doubt that it was during his residence in Italy that Copernicus received the initial impulse towards that reform of astronomy which he achieved in his later, more secluded years."[21]

At the time of his departure for Italy (1496), Copernicus had already received thorough instruction in astronomy and mathematics at the University of Cracow. At Bologna, he was the particular student of Domenico Maria Novara, the leader of the Pythagorean revival. In the Narratio prima,[22] Rheticus[23] relates the following:

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[21]A. Wolf, A History of Science, Technology, and Philosophy In the 16th. & 17th. Centuries (2 vols.; New York: Harper & Brothers Publishers, 1959), Vol. I, p. 11. Hereafter cited as Wolf, History of Science.

[22]Rosen, Copernican Treatises, pp. 9-11. The Narratio prima was a summary of the hypotheses of Copernicus prepared with his consent in the form of a letter by his pupil, Rheticus, and printed at Danzig in 1540.

[23]Rosen, Copernican Treatises, pp. 4-6. George Joachim Rheticus (1514-1576) was a young mathematician who sought out Copernicus in the spring of 1539 with the object of becoming his pupil and mastering the new astronomy. He lived and worked with Copernicus the last years of his life helping to prepare De Revolutionibus for publication.

> My teacher made observations with the utmost care at Bologna, where he was not so much the pupil as the assistant and witness of observations of the learned Dominicus Maria; at Rome where, about the year 1500, being twenty-seven years of age more or less, he lectured on mathematics before a large audience of students and a throng of great men and experts in this branch of knowledge;....[24]

Copernicus occupied a quasi-clerical position to which his uncle and guardian, a bishop, appointed him. Thus his position in the Church afforded him the sort of financial security which made the Church a gateway to all professions. He returned to Poland (or East Prussia) in 1506 where he remained until his death in 1543. His medical and legal skills continued to be employed in the sort of active and useful life historians designate as uneventful.[25] He must have begun his great work On the Revolutions of the Heavenly Spheres[26] within a very short time after his return to Poland; in the dedication to Pope Paul III, he speaks of

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[24]Rosen, Copernican Treatises, p. 111.

[25]Wolf, History of Science, Vol. I, pp. 11-26. It is recorded that his medical skills were always at the disposal of the poor and often in demand by the rich. He completed his doctorate in canon law at ferrara in 1503 and frequently employed his legal skill in the business of the cathedral chapter of Frauenburg where he was a canon. In 1522 he presented to the local Diet a program for the reform of the currency. With respect to this last, he seems to have had more than mathematics in common with Newton.

[26]De Revolutionibus Orbium Coelestium is by long custom designated, in accordance with Copernicus' wishes, simply De Revolutionibus and hereafter in this text is so designated.

his work as "hidden among my things for...almost four times nine years."[27] It was only in the last years of his life, when the personal urgings of Rheticus were added to those of his friends, that he was prevailed upon to begin preparation of his manuscript for publication. On May 24, 1543, the day of his death, the first copy to come from the printers was presented to him.

The heliocentric theory has been called Copernicus' "one great innovation"[28] in astronomy. Copernicus seems clearly to have felt that the Reformation had glutted the market for innovation. Although he was never associated with astrology as Kepler was, he seems to have foretold the reaction to his theories. The expression he gave to his fears was prophetic indeed:

> ...for a long time I was in great difficulty as to whether I should bring to light my commentaries written to demonstrate the Earth's movement, or whether it would not be better to follow the example of the Pythagoreans...who used to hand down the mysteries of their philosophy not in writing but by word of mouth...in order that things of very great beauty which have been investigated by the loving care of great men should not be scorned by

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[27] Nicolaus Copernicus, On the Revolutions of the Heavenly Spheres (Vol. 16 of Great Books of the Western World Series, ed. Robert Maynard Hutchins. 54 vols.; Chicago: Encyclopaedia Britannica, Inc., 1952), p. 507. Hereafter cited as Copernicus, De Revolutionibus.

[28] Hall, The Scientific Revolution, p. 63. While Copernicus reduced the number of epicycles, etc. his system differed from the Ptolemaic in being heliocentric rather than geocentric.

> those who find it a bother to expend any great energy on letters...or who are provoked by the exhortations and examples of others to the liberal study of philosophy but on account of their natural stupidity hold the position among philosophers that drones hold among bees.[29]

Copernicus' "one great innovation" in an otherwise medieval astronomy achieved a great deal more than the many ingenious and hideously complex little innovations of his predecessors. Nevertheless, the matter cannot be dismissed so lightly. Copernicus did not originate the heliocentric theory; he explicitly admits his debt to the classical world. His great achievement was the creation of a mathematical context which, for those few who could understand it, gave a strong semblance of plausibility to a theory which played havoc with common sense and scripture. In De Revolutionibus, the heliocentric theory was fortified beyond dismissal. The fortifications were far from perfect, but they sufficed to win discriminating adherents and to survive the siege. They were created with the patience whose source is the calm expectation of being right. Thus it seems the burden of genius is balanced with the knowledge of its own worth. Fortunately, one must hasten to add, for the opposition to the heliocentric theory was the one orthodoxy capable of cutting across the battle lines of

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[29]Copernicus, De Revolutionibus, p. 506.

the Reformation. Apparently the honor of the first shot belongs to Luther, who is believed to have said of Copernicus, "The fool will upset the whole science of astronomy, but as the Holy Scripture shows, it was the sun and not the Earth which Joshua ordered to stand still."[30] As if, in anticipation, to render a parting salute to his foes, Copernicus wrote:

> ...if perchance there are certain "idle talkers" who take it upon themselves to pronounce judgment, although wholly ignorant of mathematics, and if by shamelessly distorting the sense of some passage in Holy Writ to suit their purpose, they dare to reprehend and to attack my work; they worry me so little that I shall even scorn their judgment as foolhardy.[31]

One of the adherents of the new theories was Michael Mästlin, a professor of Mathematics and Astronomy in the University of Tübingen. History remembers him as a professor who earned the undying gratitude of his most famous pupil; in teaching the Copernican astronomy he saved Johannes Kepler (1571-1630) from theology.

Material circumstances, so favorable to the life and labors of Copernicus, could hardly have been less so for Kepler. The sickly child of noble but impoverished parents, it was intended that he should enter the protestant clergy.

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[30]Quoted in Morris Kline, Mathematics and the Physical World (New York: Thomas Y. Crowell Company, 1959), p. 120. Hereafter cited as Kline, Mathematics and the Physical World.

[31]Copernicus, De Revolutionibus, p. 509.

Before he finished his studies at Tübingen (1591), however, his heterodox views were enough known to bar him from the ministry. Einstein says of him, "He belonged...to those few who cannot do otherwise than openly acknowledge their convictions on every subject."[32] Kepler's heterodox opinions doomed him to the no man's land of the Reformation. At Graz, where he accepted a professorship of mathematics, astronomy, and astrology, he attempted to introduce the calendar reform of Pope Gregory XIII, which "The Protestants rejected...because they preferred to be at variance with the sun rather than in accordance with the Pope."[33] When the Counter-Reformation over-ran Graz, Kepler accepted the invitation of Tycho Brahe to Prague, where the latter was Imperial Mathematician to the court of Rudolph II. Brahe's major contribution to astronomy was his massive and systematic observations, the work of a lifetime. In the year following Kepler's arrival (1600), Brahe died, and Kepler fell heir to the title of Imperial Mathematician. Had he been able to collect it, the large salary would have relieved him of further financial anxiety. His death in 1630 is

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[32]Carola Baumgardt (ed.), Johannes Kepler: Life and Letters, Introduction by Albert Einstein (New York: Philosophical Library, Inc., 1951), p. 12. Hereafter cited as Baumgardt, Kepler: Life and Letters.

[33]Kline, Mathematics and the Physical World, p. 115.

believed to have been occasioned by his journey to Ratisbon, where he hoped to claim from the Diet the arrears of his salary.[34]

More important than the title or salary, Kepler fell heir to Brahe's observations, on which most of his subsequent work was based. It was from the stubborn facts of Brahe's observations that Kepler finally derived his laws of planetary motion.[35]

In Kepler the apotheosis of Nature, which will be followed to its zenith during the Enlightenment, is nearly complete. Thus in 1598 he wrote, "...we astronomers are priests of the highest God in regard to the book of nature...."[36] Nevertheless, despite his much discussed mysticism, Kepler's scientific genius and genial common sense usually restrained his flights of imagination. The men of the Enlightenment, as will be seen, lack the sense of their own limitations, a sense that comes from the

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[34]Wolf, History of Science, Vol. I, pp. 131-143.

[35]Jeans, Growth of Physical Science, pp. 151-156. An exception to this statement must be made in the case of the first law which seems to have been derived from Kepler's own observations of Mars during the year before Brahe's death. The Laws state: "(1) The Planet /Mars/ moves in an ellipse which has the sun at one of its foci. (2) The line joining the sun to the planet sweeps out equal areas in equal times. (3) The square of the time which any planet takes to complete its orbit is proportional to the cube of its distance from the sun."

[36]Baumgardt, Kepler: Life and Letters, p. 44.

scientists more intimate acquaintance with "Nature and Nature's God." To his future son-in-law, Kepler wrote: "I congratulate you all, as many as there are, on whatever shores you live, that you have trained your minds thus far by the study of mathematics, which alone is able to satisfy the mind by its incredible precision;...."[37] Kepler's remarkable sense of beauty and passion for "incredible precision" did not blind him to the fundamental limitations of existence in the world. Professor Whitehead expresses the relationship as follows:

> Any practical experience of exactness of realization is denied to mankind: Whereas mathematics, and ideals of perfection, are concerned with exactness. It is the difference between practice and theory. All theory demands exact notions, somewhere or other, however concealed.[38]

Somewhere between 1687 and 1789 this basic notion was lost--lost, that is, to some, like Robespierre. It was not however lost to Kepler. "...we can never," he wrote, "prove anything with symbols; in the philosophy of nature no hidden things can be revealed by geometrical symbols, but only things already known can be put together...."[39]

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[37]Baumgardt, Kepler: Life and Letters, p. 181.

[38]Alfred North Whitehead, Science and Philosophy (New York: Philosophical Library, Inc., 1948), p. 112. Hereafter cited as Whitehead, Science and Philosophy.

[39]Baumgardt, Kepler: Life and Letters, p. 80.

Kepler's chronic inability to play the hypocrite, a liability in any age, kept him on the verge of disaster in the age of the Reformation. During the years he lived at Linz, the forces of the Counter-Reformation ended the Protestant rule of the city. During a seven year period when the Protestants were in power, he was denied the Lutheran sacraments; as, from the Catholic point of view, he was a heretic, they contended themselves with impounding his library. Through all these trials, the profound faith for which he is condescendingly called a mystic, was all that sustained him. It may be this faith and his poetic language--his Latin verses had been printed while he was still at Tübingen[40]--which induces Lord Russell to call him an "...example of what can be achieved by patience without much in the way of genius."[41] There is reason to think that Kepler was well aware of his own limitations. In the Epitome of Copernican Astronomy, he wrote:

> ...I even in private free myself from the blame of seeking novelty by suitable proofs; let my doctrines say whether there is love of truth in me or love of glory:.... ...for me there is so much importance in the true doctrine of others or even in correcting the doctrines which are not in every respect well established, that my mind is never at leisure for the

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[40] Baumgardt, Kepler: Life and Letters, p. 23.

[41] Russell, History of Western Philosophy, p. 529. Of course, Lord Russell, too, has repeatedly shown himself singularly inept as a hypocrite!

> game of inventing new doctrines that are contrary to the true. Whatever I profess outwardly, that I believe inwardly: nothing is a worse cross for me than...to be unable to utter my inmost sentiments.[42]

One of those to whom Kepler expressed his inmost sentiments was his occasional correspondant and equally famous contemporary, Galileo (1564-1642). The backgrounds of the two men are, in many respects, similar. The son of an impoverished nobleman with an avocation for mathematics, Galileo was carefully not instructed in mathematics, His father hoping to make something out of him. That at least is the legend. It is known that his father had him study medicine and that he was obliged by his curiosity to take private lessons in mathematics. Of course, in the late sixteenth century, the study of medicine "...all over Europe was somewhat like the study of law in England at the present day--something to which sons might be put when their parents were not yet clear as to what they ought to do with them."[43] Galileo's progress in mathematics and physics was so spectacular that, at

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[42]Johannes Kepler, Epitome of Copernican Astronomy and The Harmonies of the World (Vol. 16 of Great Books of the Western World Series, ed. Robert Maynard Hutchins. 54 vols.; Chicago: Encyclopædia Britannica, Inc., 1952), p. 850. Hereafter cited as Kepler, Epitome or Harmonies.

[43]Wolf, History of Science, Vol. I, p. 27 and pp. 27-53. Unless otherwise indicated, the details of Galileo's life are taken from this account.

the age of twenty-five, he was appointed lecturer in the University of Pisa (his native city). The tradition which has him proving his theory of the velocity of falling bodies by dropping objects of varying weights from the Tower of Pisa as his Aristotelian colleagues were passing below is "now rejected." Nevertheless, he was generally so successful in divising means to irritate them--the telescope, for instance--that it was probably an oversight!

Excepting Newton, Galileo was probably the greatest and most original genius of the scientific revolution. In what seems a justifiable overstatement, Morris Kline remarks: "Descartes...created one of the key mathematical tools for the development of modern science. Galileo Galilei created modern science."[44] Far more than either Copernicus or Kepler, Galileo typifies the Renaissance ideal. While his technical works were written in Latin, the international language of scholarship, he preferred to lecture in the vernacular. Moreover, he is the first to attempt to educate public opinion in the new scientific theories. The Dialogue Concerning the Two Chief World Systems (1632), apart from its other merits, is regarded as a great gem in Italian literature.

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[44]Kline, Mathematics and the Physical World, p. 168.

In 1616 the Congregation of the Index had decreed a ban on his writings, and had "suggested" that he abjure the "errors" they contained. The immediate success of the Dialogue was such that by the time it could be banned few copies were to be found. For his trouble, Galileo was summoned to Rome for a personal interview with the Inquisition. Among others, the following passage from the Dialogue was cited in evidence against him:

> ...taking man's understanding intensively, in so far as this term denotes understanding some proposition perfectly, I say that the human intellect does understand some of them perfectly, and thus in these it has as much absolute certainty as Nature itself has. Of such are the mathematical sciences alone; that is, geometry and arithmetic, in which the Divine intellect indeed knows infinitely more propositions, since it knows all. But with regard to those few which the human intellect does understand, I believe that its knowledge equals the Divine in objective certainty, for here it succeeds in understanding necessity, beyond which there can be no greater sureness. ...saying that God cannot undo what is done does not in the least diminish His omnipotence. ...I say that as to the truth of the knowledge which is given by mathematical proofs, this is the same that Divine wisdom recognizes;....[45]

Galileo is here stating views which eighteenth-century France later accepted, more-or-less uncritically and often unconsciously.

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[45] Galileo, Dialogue, p. 103.

Galileo was condemned on eight counts[46] and forced to sign a rather humiliating recantation, in part, as follows:

> But whereas--after an injunction had been judicially intimated to me by this Holy Office, to the effect that I must altogether abandon the false opinion that the sun is the center of the world, and moves, and that I must not hold, defend, or teach in any way whatsoever, verbally or in writing, the said doctrine, and after it had been notified to me that the said doctrine was contrary to Holy Scripture--I wrote and printed a book in which I discuss this doctrine already condemned, and adduced arguments of great cogency in its favor, without presenting any solution of these; and for this cause I have been pronounced by the Holy Office to be vehemently suspected of heresy--that is to say, of having held and believed that the sun is the center of the world and immovable, and that the earth is not the center, and moves:.... Therefore, desiring to remove from the minds of your Eminences, and of all faithful Christians, this strong suspicion reasonably conceived against me, with sincere heart and unfeigned faith I abjure, curse, and detest the aforesaid errors and heresies, and generally every other error and sect whatsoever contrary to the said Holy Church....[47]

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[46]Galileo, Dialogue, Notes to the text, p. 474. The points on which Galileo was condemned were as follows: "1) That the imprimatur of Rome was put on the title page without proper authority. 2) That the preface was printed in different type and thus vitiated. that the closing argument was put in the mouth of a simpleton /Simplicio/, and that it was not fully discussed. 3) That Galileo often treated the motion of the earth as real and not hypothetical. 4) That he treated this subject as undecided. 5) That he contemned opponents of the Copernican opinion. 6) That he asserted some equality between the Divine and the human mind in geometrical matters. 7) That he represented it to be an argument for the truth that Ptolemaics become Copernican, but not vice versa. 8) That he ascribed the tides to motion of the earth which was non-existent."

[47]Quoted in Galileo, Dialogue, Preface, pp. xxiv-xxv.

Had Galileo refused to recant, he would probably have earned for himself the stake, as had Bruno in 1600. His recantation changed very little; the "damage" was done. Thereafter he lived, nominally but comfortably a prisoner, to finish his great contribution to physics, the Discourses and Demonstrations Concerning Two New Sciences.[48] Galileo died on January 8, 1642. "In the same year a new star rose in the West--Newton was born."[49]

Before turning to the consideration of Newton, it seems desirable to consider the impact of the Copernican revolution prior to Newton. It seems to be a fairly common assumption that the opposition to the Copernican revolution was inspired with the dread of the consequences for religious orthodoxy. In this view, it is suggested that thoughtful persons in the sixteenth and seventeenth centuries drew from Copernican theory the inference that man could not be the apex and continual object of creation if the earth were not in the center of the universe. This is a plausible conclusion which seems to have had the warm endorsement of Luther. It leaves out of consideration, however, the alternatives. True, the Church branded Galileo's opinions

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[48]Published at Leyden in 1638.

[49]Wolf, History of Science, Vol. I, p. 38.

impious and heretical, but not for dethroning man from the center of the universe. Aristotle's view had held the earth to be generable, corruptible, and alterable in contrast to the heavenly bodies which were held to be free from all mutations, a quintessence or fifth element (as opposed to the four earthly elements, earth, air, fire, and water). This view will be seen to be very compatible with the Christian view of the sinful and imperfect nature of man in contrast to the unearthly perfection of heaven. Basically, the earth was thought to be generable, corruptible, and alterable because man was seen to be generable, corruptible, and alterable. The Copernicans--especially Galileo--by assigning the earth motion and status in relation to the rest of the heavens, by demolishing the barrier of perfection separating the earth from the heavens, considerably enhanced the status of the earth by putting it on a par with the rest of the celestial spheres. Thus in the Dialogue, when Simplicio (the Aristotelian) objects that the Copernican system destroys the barrier between the pure and the impure, Salviati (who speaks for Galileo himself) retorts:

> It is true that the Copernican system creates disturbances in the Aristotelian universe, but we are dealing with our own real and actual universe. .... What is more vapid than to say that the earth and the elements are banished and sequestered from the

> celestial sphere and confined within the lunar orbit? Is not the lunar orbit one of the celestial spheres, and according to their consensus is it not right in the center of them all? This is indeed a new method of separating the impure and sick from the sound--giving to the infected a place in the heart of the city! I should have thought that the leper house would be removed from there as far as possible. Copernicus admires the arrangement of the parts of the universe because of God's having placed the great luminary which must give off its mighty splendor to the whole temple right in the center of it, and not off to one side.[50]

Thus, for its proponents, the Copernican theory had the potential of enhancing the status of the earth, and by the same sort of inference, the status of man. Without this qualification, the enthusiasm for the new theories, which reached its climax during the Enlightenment, would be inconceivable.

The world has seldom received a Christmas present fraught with more consequences than the birth of Isaac Newton, December 25 (O.S.), 1642.[51] A Lincolnshire farm-boy, Newton was educated at Grantham Grammar School and Trinity College, Cambridge. In 1667 he was elected a Fellow of Trinity College and in 1669 succeeded his teacher, Isaac Barrow, as Lucasian Professor of Mathematics. Unlike

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[50]Galileo, Dialogue, p. 268.

[51]George Simonds Boulger, "Sir Isaac Newton," The Dictionary of National Biography (Oxford: Oxford University Press, 1921-22), Vol. XIV, pp. 370-394. Hereafter cited as D.N.B. Unless otherwise indicated, the details of Newton's life are taken from this account.

Copernicus, Kepler, and Galileo, the significance of Newton's work was widely recognized in his own lifetime. Pleased by his election to the Royal Society in January, 1672, he wrote: "I shall endeavour to show my gratitude by communicating what my poor and solitary endeavours can effect towards the promoting philosophical design."[52] Newton represented Cambridge in the Convention Parliament (1689), and was knighted by Queen Anne in 1705. From 1703 until his death (March 20, 1727) he was re-elected annually to the Presidency of the Royal Society. He was buried in Westminster Abbey.

Ultimately, Newton's "poor and solitary endeavours" led to the crowning achievement of the scientific revolution, the Mathematical Principles of Natural Philosophy.[53] The Principia drew together the diverse strands of the new science; the propositions which it laid down constituted a program for mathematics, physics, and astronomy which occupied Newton's successors almost to the end of the nineteenth century.

A generation that takes for granted the theory of gravitation and requires but a moment's reflection to recall

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[52]Quoted in D.N.B., Vol. XIV, p. 373.

[53]Philosophiae Naturalis Principia Mathematica, first published in 1687, is customarily designated as Principia and is hereafter so designated.

its rate of acceleration to be thirty-two feet per second squared, such a generation may find it difficult to appreciate the impact of Newton on the mind of the late seventeenth century. The basis of Newton's calculations can be stated with deceptive simplicity:

> Every body continues in its state of rest, or of uniform motion in a right line, unless it is compelled to change that state by forces impressed upon it. .... The change of motion is proportional to the motive force impressed; and is made in the direction of the right line in which that force is impressed. .... To every action there is always opposed an equal reaction: or, the mutual actions of two bodies upon each other are always equal, and directed to contrary parts.[54]

Familiarity tends to obscure the fact that the failure to derive these principles impeded the advance of physics for about two thousand years. Herbert Muller's remark is scarcely an exaggeration: "Descartes outlined a mathematical interpretation of nature. 'Give me extension and motion,' he said, 'and I will construct the universe.' Newton proceeded to do so."[55]

Newton seems to have understood better than his eighteenth-century admirers--whose veneration identified

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[54]Florian Cajori (ed.), Sir Isaac Newton's Mathematical Principles of Natural Philosophy and His System of the World, trans. Andrew Motte, 1729 (Berkeley, California: University of California Press, 1934), p. 12. Hereafter cited as Newton, Principia. Newton's italics have been omitted.

[55]Herbert J. Muller, The Uses of the Past (New York: New American Library, Inc., 1954), p. 270. Hereafter cited as Muller, Uses of the Past.

his name with their social program--his debt to his predecessors. In a letter to another member of the Royal Society, he wrote: "If I have seen further it is by standing on the shoulders of giants."[56] Nevertheless, the eighteenth century showed a distinct inclination to replace Aristotle with Newton. Since Newton was himself a "giant," by standing on his shoulders many of the Enlightened were just tall enough to get their heads into the clouds.

The operational principles of the Newtonian World Machine are generally better known than the reasoning premises which led to them. In book three of the Principia Newton laid down what he called the "Rules of Reasoning in Philosophy." In them the common foundation of the scientific revolution is well illustrated. Moreover, they form the link between the unbroken chain of scientific reasoning and the Enlightenment. They read, in part, as follows:

> Rule I: We are to admit no more causes of natural things than such as are both true and sufficient to explain their appearances. To this purpose the philosophers say that Nature does nothing in vain, and more is in vain when less will serve; for Nature is pleased with simplicity, and affects not the pomp of superfluous causes. Rule II: Therefore to the same natural effects we must, as far as possible, assign the same causes. .... Rule III: The qualities of bodies which admit neither intensification nor remission of degrees, and which are found to belong to all bodies within the reach of

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[56] Quoted in D.N.B., Vol. XIV, p. 375.

> our experiments, are to be esteemed the universal qualities of all bodies whatsoever. .... Rule IV: In experimental philosophy we are to look upon propositions inferred by general induction from phenomena as accurately or very nearly true, notwithstanding any contrary hypotheses that may be imagined, till such time as other phenomena occur, by which they may either be made more accurate, or liable to exceptions. This rule we must follow, that the argument of induction may not be evaded by hypotheses.[57]

It will be noticed that the first of these rules is almost a paraphrase of Occam's Razor. Together, they comprise the durable premises of the scientific revolution. They will appear again in the discussion of Bacon and Descartes.

Newton's impact on the eighteenth century is a story which belongs to the Enlightenment. Before turning to it, it will be necessary to consider the philosophical developments engendered by the new science. Towards the end of his life, Newton made a remark more nearly befitting his true greatness than all the adulation of the Enlightenment. "I do not know," he remarked, "what I may appear to the world, but to myself I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."[58]

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[57]Newton, Principia, pp. 398-400. Newton's italics have been omitted.

[58]Quoted in D.N.B., Vol. XIV, p. 392.

Thus to the intellectual worldliness and critical spirit of the sixteenth century, infused into the public philosophy of Europe by Rabelais and Montaigne, were added the demonstrably valid and revolutionary hypotheses of the new science. The critical spirit notwithstanding, the Church in the early seventeenth century had shown its willingness to insist upon the literal truth of its traditional world view. It was a dangerous decision, fraught with dire and unforeseen consequences, to further expose the authority and prestige of the Church in this quite unnecessary controversy. For the adoption of this reckless position tended to assure that the hypotheses of the cosmologists concerning the <u>physical</u> world would generate far-reaching social and political consequences.

IV. The New Philosophy

> Human knowledge and human power meet in one; for where the cause is not known the effect cannot be produced. Nature to be commanded must be obeyed....[1]
>
> ....Francis Bacon

> ...it is not sufficient, before commencing to rebuild the house which we inhabit, to pull it down and provide materials and an architect (or to act in this capacity ourselves, and make a careful drawing of its design), unless we have also provided ourselves with some other house where we can be comfortably lodged during the time of rebuilding....[2]
>
> ....Rene Descartes

The Renaissance and Reformation successfully disrupted many of the "eternal" verities which had constituted the habitation of the European mind. The random skepticism of the sixteenth century, like the writings of Montaigne, was badly lacking in organization; sixteenth century criticism seriously weakened the structure of the old orthodoxy without being able or willing to topple it. What was beginning to be apparent, however, was that the materials from which to erect a new edifice were at hand. This "new" philosophy was a synthesis of all the elements thus far discussed. To the extent that it possesses a common vein, it

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[1]Bacon, Novum Organum, p. 39.

[2]Elizabeth S. Haldane and G. R. T. Ross (trans.), "Discourse on Method," The Philosophical Works of Descartes (2 vols.; New York: Dover Publications, Inc., 1955), Vol. I, p. 95. Hereafter cited as Descartes, Philosophical Works.

was an attempt to evaluate the Renaissance, the Reformation, the new science, and much which has of necessity been omitted from the discussions of this essay.[3] In the sixteenth century and thereafter almost every year brought some new contribution to the growing store of human knowledge. In the seventeenth century, as the lives of Kepler, Galileo, and Newton adequately illustrate, the pace was dramatically accelerated. The new philosophy attempted to frame for European man a new self-concept in harmony with the facts; it sought to fashion a new cosmic theory. The salvation of man was henceforth to lie in a reasoned understanding through which he could rest content to be a part of the great orderly machine--Nature.

The seventeenth century is one of the richest veins in the entire history of philosophy, and no brief discussion could hope to do it justice. There are, however, certain basic tenets which, though interpreted with widely varying emphasis, seem to belong to the main stream of seventeenth century thought. Moreover, there are particular doctrines associated with the name of one philosopher or another which cannot be overlooked in the attempt to

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[3]Bacon, Novum Organum, pp. 13 and 102. Here Bacon refers to the influence of the compass in facilitating the voyages of discovery. The invention of printing he terms "this most beautiful discovery."

trace the history of ideas from Renaissance to Revolution. Here, as in previous sections, the aim is not to chronicle events but to illustrate change. The goal is to weave from the exposition of basic tenets and selected particulars the composite picture of man and the state which was the legacy of the seventeenth-century philosophers to the Enlightenment.

It is an historical commonplace to assert the connection between the Renaissance and the French Revolution. To take a single example, André Maurois concludes his discussion of foreign contributions to the French Renaissance as follows: "The country in the seventeenth century reverted to her own line of development, and the ultimate explosion of the new ideas was postponed until the eighteenth century. The French Revolution was the daughter of the Renaissance."[4] Few if any would seriously question the truth of this statement. Indeed, Voltaire seems to have recognized in the Renaissance a new departure of real significance to the Enlightenment. Hence the following advice:

> ...we should not squander away our lives in brooding over ancient fables. I would advise a young man to acquire a slight knowledge of these remote ages; but I would have him begin the serious study of history at that period where it becomes truly interesting to us, which, in my opinion, is toward the end of the fifteenth century.[5]

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[4]André Maurois, A History of France, trans: Henry L. Binsse (New York: Grove Press, Inc., 1960), p. 119. Hereafter cited as Maurois, History of France.

[5]Voltaire, Works, Vol. XXXVII, p. 261.

While it may seem a superfluous concession to the seventeenth-century love of clarity to state the point, there is no question of the connection between the Renaissance and the Enlightenment. It is somewhat more difficult, however, to establish the nature of that connection.[6] Consistent with the premises already stated, no hard and fast definition will be attempted. Instead, the function of seventeenth-century thought as the link between Renaissance and Enlightenment will be arbitrarily summarized to provide a working definition; its illustrations, modifications, and exceptions are the function of particular facts.

In the history of ideas, as opposed to the particular history of philosophy, i.e. philosophical systems, the great contribution of seventeenth-century thinkers was the organization of their heritage from the Renaissance. Some scholars, in fact, place the conclusion of the Renaissance and Reformation as late as 1680, the beginning of what has been called the "crisis of the European conscience."[7] This much is clear; European thought in the opening decades of the seventeenth century was undergoing a kind of Thermidor.

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[6]The strict chronological order of the thinkers in this section and the previous one was rather arbitrarily discarded as a concession to this difficulty.

[7]Hazard, The European Mind, p. 3. This volume was originally published in France under the title of La Crise de la Conscience Europeenne.

The proponents of the new knowledge must have seemed to many of the orthodox to be lost in the delights of intellectual anarchy. The cases of Bruno, Kepler, and Galileo illustrate the willingness of the "establishments" to regard the outcropings of heterodox ideas as merely another phase of the Reformation anarchy. In the course of the religious wars in France, every shade of political opinion found its way into print.[8] In the seventeenth century, little remained that was not in some degree tainted with doubt. The orthodox--which in this case means the religious majority of each country--were determined to cling with the stubbornness inspired by doubt to their traditional creeds. Minorities proved equally stubborn, and the result was an uneasy truce.

While Henry IV was actively engaged, among other things, in maintaining the religious settlement in France,[9] a few thoughtful men began to ask themselves the question which is basic to most, if not all, thought in the seventeenth century. If skepticism is to be the catalyst of progress, it must be willing to attempt an honest answer

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[8]Allen, Political Thought in the Sixteenth Century, Part III, pp. 271-444. It is interesting to note that much the same diversity of political thought manifested itself in England during the civil wars. See Gooch, English Political Thought in the Seventeenth Century.

[9]Rothrock, The French Crown, passim. The settlement of Nantes included the Edict of Nantes and several other arrangements for the safety of the Huguenots confirmed by letters patent.

to the question, "What is certain?" "How and in what is certainty to be found?" Philosophically or personally, consciously or unconsciously, the question is a perennial one. Montaigne, for example, was well aware that the burden of doubt cast up by the Renaissance and Reformation made it a pressing question, as thus:

> Never did two men judge alike about the same thing, and it is impossible to find two opinions exactly alike, not only in different men, but in the same man at different times....I have observed in Germany that Luther has left as many divisions and altercations over the uncertainty of his opinions, and more, as he raised about the Holy Scriptures.[10]

By implication, the conflicting interpretations cast doubt upon the Bible, the divinely inspired authority of the Christian religion. This created a problem for those philosophers who, like Locke, sincerely desired to preserve as much of the Christian religion as their reasonable consciences would allow. Privately, Locke admitted that:

> If everything in the holy Scriptures is to be indiscriminately accepted by us as divinely inspired, a great opportunity will be given to philosophers for doubting our faith and sincerity. If on the other hand, any part is regarded as of merely human composition, what becomes of the divine authority of the Scriptures, without which the Christian religion falls to the ground?[11]

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[10]Montaigne, Works, pp. 817-18.

[11]Quoted in Maurice Cranston, John Locke, A Biography (New York: The Macmillan Company, 1957), p. 255. Hereafter cited as Cranston, Locke.

The body of classical learning fared little better. In the course of the seventeenth century factual errors of the "ancients" continued to be exposed; in matters less easily verified, classical writers were at least as flexibly adapted as Scripture to the support of divergent opinions. It should be stressed that these doubts, especially in the case of the Scriptures, were seldom pressed with the vigor the eighteenth century addressed to the task. Nevertheless, the conflicting assertions proved by the authority of the Bible, or classical writers, or simply by dint of affirmation tended to discredit the entire structure of authority. The passages from Bacon and Descartes which head this section indicate something of the nature of the solution hit upon. Knowledge, by revealing the errors and absurdities of the recent past, had made something of a muddle; knowledge, as revealed by reason and observation, must be made to set matters straight. The seventeenth century, then, was to be a great "time of rebuilding." Clearly, however, some portion of the old structure--a room or two, or in some cases, an entire wing--had to be preserved to live in while the rebuilding was in progress. Perhaps one "cracks the wind" of Descartes's metaphor "running it thus." Nevertheless, this was the course adopted by virtually every great thinker of the period. Essentially,

the problem was to discard dogmatic absurdities while preserving faith. The meticulously reasoned supports of religious belief led to the inverted relationship between faith and reason discussed in section two. A faith sustained by reason is a faith in reason and remains after particular articles of faith have fallen away. The seventeenth century revived what in the history of philosophy is known as profound or philosophic religion; seventeenth-century thought cannot be understood without taking into consideration its religious overtones.

Underlying the profoundly religious quest of seventeenth-century thought was the concept of truth as attained and/or attainable absolute. This can only be fully appreciated if it is understood to what extent ideas of evolution and relativity have taken possession of contemporary thinking. Truth in the twentieth century is that which lends to the nature of things the appearance of order, shielding the fragile mechanism of human understanding from chaos. Truth tends to be regarded as a high degree of probability sustained by the present extent of our knowledge and relative to it. It is an evolved and evolving quantity, that conception of things which facilitates the advance of human understanding. Moderns tend to regard questions about what is ultimately true as metaphysical "blind alleys." Distaste for metaphysics did not come into its own until the advent

of Locke, who was, "as a rule, contemptuous of metaphysics."[12] Seventeenth-century thinkers were satisfied, in the main, that what is is true, but Descartes, for example, did not require a purely empirical criteria for an existence. Descartes is perhaps the best illustration of the profound change in religious attitudes. In the middle ages faith in the truth of divine revelation turned men's thoughts towards God and the perfections of another world. Objectively, however, faith in reason is or tends to become faith in the possessor of reason--man. Seventeenth-century thinkers, including Bacon, believed that nature existed in conformity with human reason. They erected a cosmos upon the clearly and reasonably indubitable and everything in it--and especially God, the author or personification of Nature--was brought into harmony with human reason. Thus Descartes discusses the existence of material things, as follows:

> ...since God...has given me...a very great inclination to believe that [my ideas of corporeal objects] are conveyed to me by corporeal objects, I do not see how He could be defended from the accusation of deceit if these ideas were produced by causes other than corporeal objects. Hence we must allow that corporeal things exist. However, they are perhaps not exactly what we perceive by the senses, since this comprehension by the senses is in many instances

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[12] Russell, History of Western Philosophy, p. 609. "[Locke's]...philosophy is piecemeal, like scientific work, not statuesque and all of a piece, like the great Continental systems of the seventeenth century."

> very obscure and confused; but we must at least admit that all things which I conceive in them clearly and distinctly, that is to say, all things which, speaking generally, are comprehended in the object of pure mathematics, are truly to be recognized as external objects.[13]

In a sense, Descartes arraigns God before the tribunal of human reason. The fact that He is acquitted is irrelevant. It is inconceivable that anyone believing literally in an omnipotent, omnicient, and infallible God should consider the possibility of His being deceitful. The true believer would have to content himself with calling such a God inscrutable. For Descartes and his successors the faith in reason and the reasonableness of Nature were too well established to admit that anything was altogether inscrutable. How is it possible for man to achieve truth and certain knowledge? Descartes answers: "...God is not a deceiver, ...consequently He has not permitted any falsity to exist in my opinion which He has not likewise given me the faculty of correcting."[14]

In Descartes the process of equating God and Nature, the process which tended increasingly to regard the moral laws of God as an extension of natural law was nearly complete. He is even quoted as saying, "You can substitute

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[13]Descartes, Philosophical Works, Vol. I, p. 191.

[14]Descartes, Philosophical Works, Vol. I, p. 191.

'the mathematical order of nature' for 'God' whenever I use the latter term."[15] This, it may be added, accords well with the reproach of Descartes's younger contemporary, Pascal, who wrote: "I cannot forgive Descartes: He would have liked, throughout the whole of his philosophy, to be able to do without God."[16]

Excepting Spinoza, seventeenth-century philosophers were unable--and perhaps unwilling[17]--to abandon an anthropomorphic metaphor for their uncaused cause, their cosmic Artisan, who created and set in motion the inexorable world-machine. Nevertheless, in the main stream of seventeenth-century thought, the salient feature was unswerving faith.

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[15]Brinton, Shaping of the Modern Mind, p. 97. Professor Brinton gives no source for a remark he claims Descartes "let slip." Nevertheless, it seems to be an accurate reflection of Descartes's view. The remark is less cautious but quite similar to statements which appear in his published works.

[16]Quoted in F. L. Carsten (ed.), The New Cambridge Modern History (Vol. V, The Ascendancy of France, 1648-88. 14 vols.; Cambridge: At the University Press, 1961), p. 78. Hereafter cited as Carsten (ed.), Ascendancy of France.

[17]Most seventeenth-century philosophers adopted what was frequently a mutually unsatisfactory compromise with orthodoxy. Whether this was dictated by prudence and/or conscience it is impossible to say. In Russell, History of Western Philosophy, p. 559, the side of conscience is favored in the case of Descartes, of whom Lord Russell writes: "His psychology is obscure, but I incline to think that he was a sincere Catholic, and wished to persuade the Church--in its own interests as well as in his--to be less hostile to modern science than it showed itself in the case of Galileo." For the Jesuit educated Descartes, the attachment may have been one of sentiment.

The key to every perplexity was to be found in the reasoned probing and mathematical exposition of Nature.

The motivations which carried forward this enterprise were perhaps more "practical" than is usually assumed. The pragmatic goals envisioned in Bacon's proposals are well known, but what of the others? Descartes is sometimes referred to as the "great metaphysician." What is startling is to note how closely his motives parallel Bacon's. In the following passage, Descartes gives his reasons for publishing the principles set forth in the Discourse:

> ...I believed that I could not keep them concealed without greatly sinning against the law which obliges us to procure, as much as in us lies, the general good of all mankind. For they caused me to see that it is possible to attain knowledge which is very useful in life, and that, instead of that speculative philosophy which is taught in the Schools, we may find a practical philosophy by means of which, knowing the force and the action of fire, water, air, the stars, heavens and all other bodies that environ us, as distinctly as we know the different crafts of our artisans, we can in the same way employ them in all those uses to which they are adapted, and thus render ourselves the masters and possessors of nature.[18]

This is not to suggest any similarity in the particular philosophical tenets of Bacon and Descartes, but the ends that motivated their respective labors are remarkably similar. They differed, as did all the outstanding

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[18]Descartes, Philosophical Works, Vol. I, p. 119.

philosophers of the seventeenth century, in the choice of means most likely to promote those ends.

It has already been suggested that the utility of much seventeenth-century thought might be hotly contested. Many problems which held the attention of the seventeenth-century mind are now considered fruitless and inefficacious pursuits. For example, even in the seventeenth century, many thinkers were not altogether in sympathy with Descartes's assertion that, "...the premises from which the immortality of the soul may be deduced depend on an elucidation of a complete system of Physics."[19] They would not, however, consider such a problem unworthy of serious consideration.[20] Apparently, an undertaking must be judged practical in relationship to the problems confronting the society which produces it. The Renaissance and Reformation had unsettled the relationships which gave peace, security, and continuity to human life. Even the most abstract and metaphysical of the seventeenth-century philosophers were seeking a practical understanding able to reconcile their lives and the heritage of their civilization to changed and changing conditions.

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[19]Descartes, Philosophical Works, Vol. I, p. 141.

[20]In the twentieth century, there is a substantial area of agreement which rules out questions of the soul's immortality; the parties to this agreement are the "faithful," for whom it is assured, and the "faithless," for whom it is absurd.

Looking, as one imagines, objectively at a problem is perhaps not the best way to understand its significance. Any problem that men take seriously, i.e. any problem that deeply influences them emotionally, is serious. And for all the philosophers' concern with God and the soul, it was God in this world, God in Nature, God as an object of men's knowledge which held their attention. Thus Descartes, usually honored as the founder of modern philosophy, wrote:

> ...in all things which nature teaches me there is some truth contained; for by nature, considered in general, I now understand no other thing than either God Himself or else the order and disposition which God has established in created things; and by my nature in particular I understand no other thing than the complexus of all the things which God has given me.[21]

In a sense, God in Nature became a suitably tangible object for the inquiring human mind. From the laws of Nature, i.e. the laws of God,[22] a rational and certain standard of moral conduct can be derived which does not depend for its certitude upon adherence to any particular sect and its interpretations of Revelation. The philosophers of the seventeenth century heralded the growing determination of European man

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[21] Descartes, Philosophical Works, Vol. I, p. 192.

[22] Locke, as will be seen, constantly uses these terms interchangeably to signify the moral precepts of a rational society; one may detect the influence of the Christian tradition in them, but they are certain by virtue of having the approbation of Reason, which renders them universal.

to focus his attention on his life and problems in this world; these held out the promise of being solvable. Perhaps it was this conviction more than any other which produced the Enlightenment. In a single sentence, Alexander Pope captured the essence of the Enlightenment: "The proper study for man is man."[23]

The anthropocentric faith of the Enlightenment was hardly new in the eighteenth century, or even in the sixteenth. What was new was the intensity of that faith, based, as it was, on the achievements of seventeenth-century science and thought. The great geniuses of the seventeenth century tended to regard the study and elucidation of Nature as the homage due to God, who most clearly manifested Himself in his creation. Newton, for example, seems to have taken his Biblical studies at least as seriously as his mathematical and physical enquiries. In short, most of the scientists and some of the philosophers in the seventeenth century were, in their way, as enthusiastic[24] as the religionists condemned by Voltaire. These philosophers brought a great faith to the task of reconstituting upon the sound foundations of new knowledge the certitudes of European faith and life. Philosophically

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[23]Alexander Pope, Essay on Man.

[24]i.e. mystical, the eighteenth-century sense of the term.

and psychologically, their pursuit of knowledge was quite as much a holy office as the prayers of monks and the invocations of pastors. God, in the conventionally religious sense of the term, may have been as remote to them as the infinite reaches of their universe. But they were surrounded by His Creation. Moreover, were they not as much a part of that Universe as the distant bodies Galileo's telescope revealed to them? If they were acutely aware of the difficulties of discovering certain knowledge, this awareness was balanced by their faith in Reason, the supreme endowment of the Supremely Rational Being.

It is this sense of high purpose in the service of God and man that lends a vestige of unity to the diverse pursuits of seventeenth-century thinkers. The particular doctrines they elicited from the study of Nature depended upon which aspect of their cosmic problems they found most pressing. The transition from Renaissance and Reformation to Enlightenment will be illustrated in the work of three thinkers, Bacon, Descartes, and Locke. Although the emphasis in each case varies considerably, all illustrate to some extent the foregoing generalizations about the new philosophy. Each recognized as vital to the success of their undertaking, the improvement of human understanding. Each of them, too, relied heavily, either explicitly or tacitly, on <u>both</u> observation and reason. These observations, these

general characteristics, must be born in mind as the attempt to trace the line of development is pursued.

The philosophy of Aristotle, the symbol of intellectual orthodoxy in the early seventeenth century, was far from being a straw man. Its champions controlled the universities and its logic formed the core of the curriculum. The ridicule heaped upon the Aristotelians by Rabelais, Galileo, and others did little to change matters. It must be remembered that these men, in their own time, were regarded as arch-radicals, the lunatic fringe. Moreover, the particular experiments and discoveries of scientific men do not constitute a scientific philosophy. What was needed was a new, scientific philosophy to propose as an alternative. In this enterprise, Francis Bacon[25] pursued "...a task which was peculiarly his

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[25]Wolf, History of Science, Vol. II, p. 632. "Francis Bacon (1561-1632) was born in London. His father was Sir Nicholas Bacon, Lord Keeper of the Great Seal under Queen Elizabeth. Francis studied at Trinity College, Cambridge, where he appears to have acquired two things--a passion for personal glory and a contempt for Scholasticism. Thanks to his unusual gifts and opportunities, the former led to his ruin, the latter secured him immortality as a leading combatant against medievalism. .... In 1584 he entered Parliament. In 1593 he incurred the Queen's displeasure by opposing a financial measure in the Commons, and so spoiled his chances of advancement.... .... He regained the Queen's favor.... But still no important post came his way,.... ...he was at last appointed Solicitor-General in 1607, under King James. In 1613 he was made Attorney-General; in 1617 Lord Keeper of the Great Seal; in 1618 Lord Chancellor and Baron Verulam; in 1621 Viscount of St. Albans. But his extravagance had involved him in certain lapses, and he was accused of bribery, condemned, and disgraced in that very year. The last five years of his life were spent in retirement, and devoted to literary work."

own, to create a new system of philosophy to replace that of Aristotle, not merely for the satisfaction of the cravings of his own speculative reason, but for the practical benefit of humanity at large."[26]

Perhaps the most famous remark about Bacon is the one attributed to his personal physician, William Harvey[27]; "He writes Philosophy," said Harvey, "like a Lord Chancellor."[28] Granting the truth of the remark, which was not intended as an expression of esteem for Bacon's scientific genius, it may be concluded less a misfortune than Harvey imagined it. Bacon's work, at its best, contains much which is not, in the usual sense of the term, philosophic. Framed in many ways like a piece of legislation, it is rich in concrete proposals. Thus, "The Record of the Royal Society of London opens with the statement that 'the foundation of the Royal Society was one of the earliest practical fruits of the philosophical labours of Francis Bacon.'"[29]

The great fault found with the Aristotelian logic, as taught in the seventeenth-century universities, was

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[26] D.N.B., Vol. I, p. 801.

[27] Famous in his own right as the discoverer of the circulation of the blood.

[28] Quoted in J. G. Crowther, Francis Bacon: The First Statesman of Science (London: The Cresset Press, 1960), p. 11. Hereafter cited as Crowther, Bacon.

[29] Crowther, Bacon, p. 2.

that it was prized not for its utility in training minds, but for its subltety as an end in itself. Bacon quite early satisfied himself that such an approach was worthless. In his earliest published work, the Essays (1597), one finds the following: "Some in their discourse desire rather commendation of wit, in being able to hold all arguments, than of judgment, in discerning what is true; as if it were a praise to know what might be said, and not what should be thought."[30]

Bacon's philosophy was built upon the foundation of his conviction that human knowledge, properly understood and pursued, possessed unlimited practical utility.[31] Thus he was the unrelenting foe of those who regarded learning of little use to a practical man, if not a positive detriment. There are, doubtless, some of this frame of mind in every age. There were, however, two more serious obstacles to the sort of program Bacon sought to inaugurate. First, there were those among the "learned" of the universities who gave the practical-minded good grounds for thinking education of little practical value. Second, there were those who

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[30]Francis Bacon, Essays or Counsels, Civil and Moral (London: Cassell and Company, Ltd., 1907), p. 110. Hereafter cited as Bacon, Essays.

[31]This conviction was to some extent shared by most seventeenth-century philosophers, and by all those to be considered here.

regarded the study of nature as impious prying into the "secrets" of God.

In the Advancement of Learning (1605), Bacon undertook a lengthy examination of education in his time, defending the potential and practical worth of study, exposing the errors of contemporary educators, and proposing a comprehensive program of reform. This work is no mere polemic, however, in behalf of a program; it is rather an earnest attempt to lay hold of the truth, to lay out meets and bounds. The following passage illustrates, among other things, the reverent spirit of the undertaking:

> ...the true bounds and limitations, whereby human knowledge is confined and circumscribed...are three: the first, that we do not so place our felicity in knowledge, as we forget our mortality. The second, that we make application of our knowledge, to give ourselves repose and contentment, and not distaste or repining. The third, that we do not presume by the contemplation of nature to attain to the mysteries of God.[32]

Clearly, Bacon has scant patience with those who imagine the study of nature an impious exercise. If he does not approach the complete apotheosis of nature found in Spinoza, he does think one must "...believe that the highest link

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[32]Francis Bacon, Of the Proficience and Advancement of Learning, Divine and Human (Vol. I of Bacon's Works. 10 vols.; London: Printed for private subscription by C. Baldwin, Printer, 1826), p. 9. Hereafter cited as Bacon, Advancement of Learning.

of nature's chain must needs be tied to the foot of Jupiter's chair."[33]

Bacon's disdain for those whom he called "intellectualists," by which he meant primarily the Aristotelian faculties of the universities, is to be found scattered throughout his works. "Upon these intellectualists," he says, "which are, notwithstanding, commonly taken for the most sublime and divine philosophers, Heraclitus gave a just censure, saying, 'Men sought truth in their own little worlds, and not in the great and common world....'"[34] Something of this sort has already been encountered in Galileo. In this instance Bacon's thought is very much in harmony with other thinkers of the age. The truth is to be sought in the book and volume of nature.

Bacon's ideas for the reform of education were, for his time, so startlingly modern, as to make it difficult to do them justice where that is not the central purpose. To take a single example, he writes, very much like a Lord Chancellor, as follows:

> ...princes find a solitude in regard of able men to serve them in causes of estate, because there is no education collegiate which is free, where such as were so disposed might give themselves to histories,

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[33]Bacon, Advancement of Learning, pp. 10-11.

[34]Bacon, Advancement of Learning, p. 37.

> modern languages, books of policy and civil discourse, and other the like enablements unto service of state.[35]

Actually, Bacon's philosophy is more a prologue to seventeenth-century thought than an integral part of it. His works contain many ideas that come to their full maturity in the hands of his successors. The thought provoking quality of his writings made them influential throughout the seventeenth century and beyond, though the extent of this generalized influence is difficult to evaluate.[36] Moreover, Bacon expressed very clearly the idea Descartes developed into systematic doubt: "...if a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties."[37] Bacon's works expressed in great abundance the interesting general ideas that belonged, in the early seventeenth century, to a kind of intellectual "public domain."

Bacon's greatest single contribution was his attempt to construct a comprehensive theory of induction. Induction is the empirical process of giving a correct general description from the observation of a given set of data; it is

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[35]Bacon, Advancement of Learning, p. 69.

[36]R. H. M. Elwes (trans.), The Chief Works of Benedict de Spinoza (2 vols.; New York: Dover Publications, Inc., 1951), Vol. II, p. 275. Hereafter cited as Spinoza, Chief Works. Bacon is the topic of discussion in some of Spinoza's letters.

[37]Bacon, Advancement of Learning, p. 38.

a process which reasons from the specific to the general. For example: Kepler observed the successive positions of the planet Mars for about a year. Kepler concluded that the orbit of Mars was an ellipse because that is the figure which correctly describes all the observed positions of the planet. Conversely, the syllogism, the logical heart of the perapetetic philosophy, reasons from the general to the specific, as thus: "All Frenchmen are Cartesians; Louis XIV is a Frenchman; therefore, Louis XIV is a Cartesian." This kind of deductive logic affords the highest degree of certainty. It cannot be doubted that Louis XIV is a Cartesian, if all Frenchmen are Cartesians and Louis XIV is a Frenchman. The pitfalls of the syllogism should be abundantly clear, if, indeed, they were not so before.

Bacon's principal objection to classical philosophy was its failure to produce anything useful. To this theme he constantly returns. The heritage of classical philosophy is, he says, "...like the boyhood of knowledge, and has the characteristic property of boys: it can talk, but it cannot generate, for it is fruitful of controversies but barren of works."[38] To correct this situation, Bacon proposed a new system of investigation--a Novum Organum--which he

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[38]Bacon, Novum Organum, p. 8.

hoped would effect "a true and lawful marriage between the empirical and the rational faculty."[39]

The useful achievements of science, Bacon thought, had been largely the result of chance. If this condition were to be changed, and a period in human history characterized by the methodical discovery of knowledge useful to man inaugurated, man's thinking habits would first have to be carefully scrutinized.

> As the sciences which we now have do not help us in finding out new works, so neither does the logic which we now have help us in finding out new sciences.... The syllogism consists of propositions, propositions consist of words, words are symbols of notions. Therefore if the notions themselves (which is the root of the matter) are confused and overhastily abstracted from the facts, there can be no firmness in the superstructure. Our only hope therefore lies in a true induction.[40]

The greatest obstacles to Bacon's inductive method were, he thought, the long sanctioned and ill-considered habits of thought by which the minds of men were deluded into error. These he called Idols, distinguishing four general types: the Idols of the Tribe, of the Cave, of the Market Place, and of the Theatre. Idols of the Tribe stem from human nature itself. Man tends to make himself the measure of all things, hence he tends to accept for

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[39]Bacon, Novum Organum, p. 14.

[40]Bacon, Novum Organum, p. 41.

truth that which he wishes were true. Idols of the Cave stem from the "individual man," his personal prejudices. Of these, as Bacon well knew, every age produces examples in bewildering variety. Idols of the Market Place stem from the imprecise use of word symbols; men derive the exact meaning of a word from their experience of the thing for which it stands. This creates serious obstacles to the clear and meaningful expression of ideas. Idols of the Theatre stem from the flights of fancy induced by literature, false philosophy, and superstition. They are the purely imaginative things men permit themselves to believe.[41] Bacon readily admits that the labor of correcting for these perennial defects in man's mental processes may greatly impede his progress. But they will also impede his propensity to err. Here Bacon is expressing a view found in all the great seventeenth-century thinkers, a reaction perhaps to the headlong plunges of the Reformation. It is no true progress to plunge beyond the brink of reasonable certainty. In a metaphor almost identical to the one later used by Descartes, Bacon concluded: "...the lame man who keeps the right road outstrips the runner who takes a wrong one. Nay, it is obvious that when

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[41] Bacon, Novum Organum, pp. 47-60.

a man runs the wrong way, the more active and swift he is, the further he will go astray."[42]

Bacon's theory of induction is less important here than the influence of his criticism. What he proposed involved little more than the systematic arrangement of observational data from which hypotheses or "axioms" were to be abstracted. Hypotheses verified by experiment became in turn the data from which new, more general hypotheses were to be abstracted. Human knowledge, thus pursued, took the shape of a pyramid, its base resting firmly upon observational data and its apex comprising the most general propositions about the nature of things.

Bacon seems to have underestimated the difficulty involved in deriving the correct hypothesis. This is not particularly surprising in a man who was not at liberty to give his full time to working with the theory he propounded. Then, too, it may be that, like the Greeks, his "...genius was not so apt for the state of imaginative muddled suspense which precedes successful inductive generalisation."[43] In any case, his success is less important, historically,

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[42]Bacon, Novum Organum, p. 58.

[43]Whitehead, Science and the Modern World, p. 11.

than the fact that the attempt was made.[44] Moreover, the Novum Organum was published in Latin; thus it was more readily accessible to the learned world of the early seventeenth century than his vernacular works. Primarily, it focused the attention of thinkers on the theoretical difficulties of what was actually being done. In a number of instances, too, it drew attention to the materialistic theories of the pre-Socratic philosophers, to which the materialism finally evolved by the seventeenth century owed a great deal. Thus he wrote:

> The human understanding is of its own nature prone to abstractions and gives a substance and reality to things which are fleeting. But to resolve nature into abstractions is less to our purpose than to dissect her into parts; as did the school of Democritus, which went further into nature than the rest. Matter rather than forms should be the object of our attention, its configurations and changes of configuration, and simple action, and law of action or motion; for forms are figments of the human mind, unless you will call those laws of action forms.[45]

Bacon's defects, it must be added, were as surprising as his virtues. Over and above his preoccupation with affairs of state, his genius seems to have been singularly self-contained. He rejected the Copernican theory, and seems

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[44] Whitehead, Science and the Modern World, p. 35. "The theory of Induction," says Professor Whitehead, "is the despair of philosophy and yet all our activities are based upon it."

[45] Bacon, Novum Organum, p. 53.

not to have been particularly well informed on the outstanding work of his contemporaries. Apparently he was even unaware of the researches of his personal physician, Harvey. His most serious error, however, was his failure to realize the significance and potential of mathematics.[46] Among the philosophers to be considered here, Bacon was, in this respect, unique. Fortunately, it was not the only respect in which he was unique.

In relationship to the emergence of modern science and scientific philosophy, Bacon and Descartes stand as two distinct but equally indispensable aspects of the same phenomenon. The pervasive quality of Bacon's empiricism is the pragmaticism of the statesman; his work in relationship to the whole is like that of the statesman whose task is to determine a policy executed by others. In contrast, Descartes was a mathematician who held up to philosophy the mathematician's ideal of perfection. Bacon would probably have accepted the notion that the truth is that which works. For Descartes, the truth was that which the mind clearly and distinctly perceived; as the truth was a measure of perfection, who could doubt that it would work? Bacon emphasized the importance of the observed fact. Descartes was no less observant; but his observations led him to

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[46]Russell, History of Western Philosophy, p. 543.

stress the ease with which men are deceived when their observations fail to penetrate beyond the simple appearances of phenomena. Thus he stressed the rational processes above the observational.

Nevertheless, the influence of Descartes in shaping the idea of the French Revolution was far greater than Bacon's. It would be wrong to suggest that all educated Frenchmen at the dawn of the eighteenth century were Cartesians. Nevertheless, their basic concept of things became, in a sense, Cartesianated. "By the end of the /seventeenth/ century Descartes's disciples had multiplied till their numbers were legion....'The universities were cartesian, the marquis, the scientific amateurs, Colbert, the king were cartesian. France conjugated the verb 'to cartesianate' and Europe followed suit enthusiastically.'"[47] The influence of Descartes was "enthusiastic" in both the present and the eighteenth-century sense of the word. This influence became, for the French, the entré to what was new in the "new" philosophy, bridging the intellectual gap between heresy and the consecrated pursuit of natural philosophy.

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[47] Wolf, Emergence of the Great Powers, pp. 212-13.

Descartes[48] is usually honored as the founder of modern philosophy. Bacon had served notice to early seventeenth-century Europe; the great keep that had sheltered the medieval mind had kept it in darkness; minor adjustments and delicately balanced compromises would no longer do; it must be torn down and in its place a structure suitable for the enlightened erected.[49] This Descartes proceeded to do,

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[48]Wolf, History of Science, Vol. II, pp. 641-42: "Rene Descartes (1596-1650) was born at La Haye in Touraine, France. His family belonged to the lesser nobility, and included a number of learned men. .... He studied at the Jesuit school at La Fleche, in Anjou. The first five years were devoted chiefly to the study of the classical languages; the last three years there were given up mainly to the study of mathematics, physics, and philosophy. In 1612 he left school, and soon afterwards entered the University of Poitiers, where he graduated in Law in 1616. In 1618 he left France apparently in search of military experience in Holland, Germany, and Austria. But there is no evidence of any real soldiering there on his part; only of intercourse with mathematicians. On November 10, 1619, while staying at Ulm, he appears to have realized in a flash that the mathematical method could be extended to other studies. This idea dominated his mind like a divine revelation. ...the next nine or ten years were almost entirely devoted to the elaboration of his new mathematical ideas.... In 1628 he went to Holland ...and spent there nearly the rest of his life. 'What other country,' he wrote, 'where you can enjoy such perfect liberty, where you can sleep with more security...where poisoning, treacheries, calumnies are less known, and where there has survived more of the innocence of our forefathers?' By 1649 Descartes had become very famous, and he was invited to Stockholm as tutor to Queen Christina, who took some interest in philosophy. But life at the Swedish Court did not suit him, and the severity of a northern winter was too much for his constitution, which had never been robust. He died on February 11, 1650, after a stay in Stockholm of barely five months."

[49]Bacon, Novum Organum, p. 46.

creating the first great, original, and comprehensive philosophical system since Aristotle. Thinkers could and did disagree with Descartes, but it was impossible to ignore him.

The essence of Descartes's philosophy is distilled of two seemingly incompatible quantities, faith and doubt: faith in the rational order of Nature and doubt of most of the received opinions of his day. In the Discourse he recounts his experience, as follows:

> ...so soon as I had achieved the entire course of study at the close of which one is usually received into the ranks of the learned, I entirely changed my opinion. For I found myself embarrassed with so many doubts and errors that it seemed to me that the effort to instruct myself had no effect other than the increasing discovery of my own ignorance.[50]

In a world where nothing was altogether free from doubt, one can readily imagine the appeal of the concise definitions and translucent demonstrations of mathematics. Thus it was his mathematical studies which Descartes resolved to pursue. "Most of all," he wrote, "was I delighted with mathematics because of the certainty of its demonstrations and the evidence of its reasoning...."[51] Through mathematics, Descartes perceived the possibility of resolving his faith and his doubt into a coherent and reasonably certain system. As he pursues his reflections, the shape

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[50]Descartes, Philosophical Works, Vol. I, p. 83.

[51]Descartes, Philosophical Works, Vol. I, p. 85.

of things to come is foreshadowed, as thus: "I was astonished that, seeing how firm and solid was its basis /i.e. mathetics/es/, no loftier edifice had been reared thereupon."[52] Over and above significant contributions to mathematics per se[53], Descartes established a great cosmic theory on what was essentially a mathematical approach.[54] The high degree of deductive certainty afforded by mathematics led him to attempt to adapt its precepts to philosophy; the result might best be termed mathematical rationalism.

Descartes's treatment of the problem of doubt was one of the most persistent and influential themes in his work. He had early resolved "...to believe nothing too certainly of which I had only been convinced by example and custom."[55] The most usual response of men whose cherished beliefs are assailed by doubt is to seek the means of ridding themselves of it. Clever men turn their attention to devising refutations, and, where doubt is

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[52]Descartes, Philosophical Works, Vol. I, p. 85.

[53]No student who has ever plotted an equation can forget the Cartesian co-ordinant system. To the student not gifted in mathematics, the axes of this system may more nearly resemble a cross to be borne, or worse!

[54]Descartes did not, however, organize the presentation of his philosophy under mathematical headings. Spinoza, deeply influenced by Descartes, presents his Ethics as a geometrical system of definitions, axioms, postulates, etc.

[55]Descartes, Philosophical Works, Vol. I, p. 87.

personified in the existence of another human being or group of human beings, persecutions may result. The Reformation had shown the appalling lengths to which this sort of thing can be carried.[56] Refutation, moreover, ceases to be very effective when doubt has become so generalized. Descartes's solution of this problem seems to have been altogether unique. He incorporated doubt into his philosophy much as the British might take a troublesome critic of the government into the ministry. By giving it an important place and assigning it a specific function he made it bare a share of the responsibility for the result. Instead of banishing doubt, he resolved to doubt everything and work from thence to what was reasonably certain. Of course, one cannot doubt quite everything; there must be a first premise or point of departure from which to begin the rebuilding. For Descartes, skepticism was what Santayana later called it: a mountain into which one climbs to survey a more comfortable home on the slope. Descartes himself describes it as thus:

> I resolved to assume that everything that ever entered into my mind was no more true than the illusions of my dreams. But immediately afterwards I noticed that whilst I thus wished to think all things false, it was absolutely essential that the 'I' who thought this should be somewhat, and remarking that this truth '<u>I think</u>,

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[56] Perhaps history has been remiss in its duty. The deplorable example of the Reformation hasn't prevented some staggering instances of persecution in the twentieth century.

> therefore I am' was so certain and so assured that all the most extravagant suppositions brought forward by the sceptics were incapable of shaking it, I came to the conclusion that I could receive it without scruple as the first principle of the Philosophy for which I was seeking.[57]

The obvious trouble with this is that it comes perilously close to solipsism. As Crane Brinton puts it, "...perhaps I am the only person in the universe and all the rest is an illusion; I think, therefore I am--but nothing else need be."[58] This difficulty did not seem to trouble Descartes.

It will be remembered that Descartes tended to equate the "mathematical order of nature" with God. Clearly, however, in a society still very much dominated by conventional religious notions, it would be better, having established one's self in the universe as a thing that thinks, to establish God as well. Prove the existence of God; then, if it turns out that we have proved the mathematical order of nature in the bargin, so much the better.

Descartes's proofs of God, drawn largely from medieval philosophy, were not original; nor, in all probability, were they intended to be. What better way to gain the acceptance of novel and heterodox ideas than to associate

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[57]Descartes, Philosophical Works, Vol. I, p. 101. /Descartes's italics/.

[58]Brinton, Shaping of the Modern Mind, p. 98.

them with what is familiar and generally accepted?[59] Thus Descartes reasons from himself to God, as follows:

> ...reflecting on the fact that I doubted, and that consequently my existence was not quite perfect (for I saw clearly that it was a greater perfection to know than to Doubt), I resolved to inquire whence I had learnt to think of anything more perfect than I myself was; and I recognised very clearly that this conception must proceed from some nature which was really more perfect....it is no less contradictory to say of the more perfect that it is what results from and depends on the less perfect, than to say that there is something which proceeds from nothing, [thus] it was equally impossible that I should hold it of myself. In this way it could but follow that it had been placed in me by a Nature which was really more perfect than mine could be, and which even had within itself all the perfections of which I could form any idea--that is to say, to put it in a word, which was God.[60]

Some of Descartes's deductions from the existence of God have already been mentioned. One of them must be stressed again. For Descartes the concept of the perfection of God or Nature is indispensable to the success of the enterprise. "...if we did not know," he concludes, "that all that is in us of reality and truth proceeds from a perfect and infinite

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[59] In one degree or another, this sort of subterfuge was standard procedure in the seventeenth century. Locke's ideas of the origin of the state and the state of Nature owe more than he ever admitted to Hobbes. Nevertheless, when he wanted the support of authority for his arguments, it was not to Hobbes (whose infamy in his own time came close to rivaling that of Machiavelli), but to the Bible and the "judicious" Hooker's Laws of Ecclesiastical Polity that he turned.

[60] Descartes, Philosophical Works, Vol. I, p. 102.

Being, however clear and distinct were our ideas, we should not have any reason to assure ourselves that they had the perfection of being true."[61]

As a mathematician, Descartes was able to understand and accept the work of Kepler and Galileo. His own great work of pure science, Le Monde (unpublished during his life), contained both of Galileo's "heresies," the earth's rotation and the infinity of the universe.[62] In securing the acceptance of the basic notions of the new science, the influence of Descartes probably exceeds that of any other single writer.[63] His philosophical works were published first in French; they were written, moreover, in an excellent style intended to prevent the exclusion of the educated public. Throughout, Descartes stresses a position which exactly answers the common sense objections to the new scientific hypotheses. The story is told of a scientific amateur who attempted to explain to a French noblewoman that the sun was actually many times greater than the earth. The lady, however, held up a gold coin which obscured the sun and consequently refused to be convinced. Descartes

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[61] Descartes, Philosophical Works, Vol. I, p. 102.

[62] Russell, History of Western Philosophy, p. 559.

[63] The acclaim accorded Newton often obscures this fact. One may well wonder what sort of reception Newton would have had if Descartes had not first, so to speak, gotten his foot in the door.

never tires of illustrating the ways in which the senses deceive us. The point is illustrated with perfectly commonplace examples:

> ...many experiences little by little destroyed all the faith which I had rested in my senses; for I from time to time observed that those towers which from afar appeared to me to be round, more closely observed seemed square, and that colossal statues raised on the summit of these towers, appeared as quite tiny statues when viewed from the bottom; and so in an infinitude of other cases I found error in judgment founded on the external senses.[64]

Moreover, Descartes did his best to ease the way towards accepting the new scientific doctrines for those with sincere religious scruples regarding them. We know, he says in effect, that the world was created as recounted in Genesis. Let us suppose, however, that it were otherwise:

> ...although He had not, to begin with, given this world any other form than that of chaos, provided that the laws of nature had once been established and that He had lent His aid in order that its action should be according to its wont, we may well believe, without doing outrage to the miracle of creation, that by this means alone all things which are purely material might in course of time have become such as we observe them to be at present; and their nature is much easier to understand when we see them coming to pass little by little in this manner, than were we to consider them as all complete to begin with.[65]

Descartes preserved and gave more-or-less final form to the dualism of mind and matter. As with most of his

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[64]Descartes, Philosophical Works, Vol. I, p. 189.

[65]Descartes, Philosophical Works, Vol. I, p. 109.

philosophy, this dualism was a necessary consequence of his mathematical rationalism. In the period to and including Descartes's lifetime, some notable progress had been made in such non-mathematical branches of science as physiology, anatomy, and chemistry. The most spectacular progress, however, had been in astronomy and physics which had proven amenable to mathematical interpretation. These sciences, together with their indispensable partner, mathematics, were thus able to pose their philosophy of nature from a commanding position. This quantitative theory of nature was nearly complete in the work of Galileo.[66] In the seventeenth century a quantitative theory of nature meant *de facto* a mechanical theory. Descartes fully accepted this theory, believing that ultimately, every natural phenomenon could be explained in terms of the laws of physics. Animals and, it would seem to some extent, man (in his purely physical capacity), he regarded as mere automatons. Unless the pride

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[66] R. G. Collingwood, *The Idea of Nature* (New York: Oxford University Press, 1960), p. 103. Hereafter cited as Collingwood, *Idea of Nature*. "With Galileo the modern science of nature reaches maturity. It was he who first laid down clearly and finally the terms on which nature could be an object of adequate and certain scientific knowledge. In a word, these terms were the exclusion of everything qualitative and the restriction of natural reality to a complex of quantities--quantities spatial or quantities temporal, but quantities and nothing more. The principle of science as understood by Galileo is that nothing is scientifically knowable except what is measurable."

of Creation, rational men, were to be reduced to a position approximately equal to that of the rest of the animals, some auxiliary arrangement would have to be made. The "arrangement" hit upon was the dualism of mind and matter, the idea that "...matter was one thing and mind another and that both somehow proceeded from God as their source."[67]

Descartes pursued his distrust of sense perception to a rigidly logical conclusion. The perception of our senses is deceitful and manifestly imperfect, whereas our knowledge of the truth, the fruit of rationality, is a measure of perfection. Thus the mind, or soul, whereby we attain to this degree of perfection, must proceed independently from the Author of Creation; "...without doubt," Descartes concludes, "all our perceptions proceed from something which is different from our mind."[68] That something was matter.[69]

Compounded of the various elements discussed, the Cartesian dualism of mind and matter was fraught with historical consequences. The mind, independent of matter

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[67]Collingwood, Idea of Nature, p. 105.

[68]Descartes, Philosophical Works, Vol. I, p. 254.

[69]Russell, History of Western Philosophy, p. 567. "...the Cartesian system presents two parallel but independent worlds, that of mind and that of matter, each of which can be studied without reference to the other."

and the material fetters of human existence, may attain to the perfection of certain knowledge. What is Descartes's conclusion from a world in which, as yet, he postulates only himself and God?

> ...I as yet have only known certainly my own existence and that of God, nevertheless since I have recognized the infinite power of God, I cannot deny that He may have produced many other things, or at least that He has the power of producing them, so that I may obtain a place as a part of a great universe....considering what are my errors (for they alone testify to there being any imperfection in me), I answer that they depend on a combination of two causes, to wit, on the faculty of knowledge that rests in me, and on the power of choice or of free will--that is to say, of the understanding and at the same time of the will.[70]

If this passage is taken in relation to the rest of Descartes's position, strange consequences seem about to appear. Is it possible that man wills to err? A traditional Christian philosopher would answer yes, due to original sin and the consequent imperfections of man's nature. Descartes occasionally pays what seems to be lip service to this dogma, but the overall implications of his teaching do not sustain his sincerity. Indeed, man errs, but a great share of the time, needlessly.

> ...I recognise that the power of will which I have received from God is not of itself the source of my errors--for it is very ample and very perfect of its kind--any more than is the power of understanding; for since I understand nothing but by the power which God has given me for understanding, there is no doubt

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[70]Descartes, Philosophical Works, Vol. I, p. 174.

> that all that I understand, I understand as I ought, and it is not possible that I err in this. Whence then come my errors? They come from the sole fact that since the will is much wider in its range and compass than the understanding, I do not restrain it within the same bounds, but extend it also to things which I do not understand: and as the will is of itself indifferent to these, it easily falls into error and sin, and chooses the evil for the good, or the false for the true....the light of nature teaches us that the knowledge of the understanding should always precede the determination of the will.[71]

The implication throughout is that man, to an undetermined but very real extent, is capable of improvement; he is, in short, perfectable.

> ...possibly I am something more than I suppose myself to be, and perhaps all those perfections which I attribute to God are in some way potentially in me, although they do not yet disclose themselves, or issue in action. As a matter of fact I am already sensible that my knowledge increases and perfects itself little by little, and I see nothing which can prevent it from increasing more and more unto infinitude; nor do I see, after it has thus been increased or perfected, anything to prevent my being able to acquire by its means all the other perfections of the Divine nature; nor finally why the power I have of acquiring these perfections, if it really exists in me, shall not suffice to produce the ideas of them.[72]

"...I recognise," he concludes, "that this cannot be," but one does not altogether believe him, and neither did his contemporaries.

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[71]Descartes, Philosophical Works, Vol. I, pp. 175-76.

[72]Descartes, Philosophical Works, Vol. I, p. 167.

One can readily appreciate the influence Descartes came to exercise. Of what use to his successors, like Voltaire, was a God who looked at the world and saw that it was good, when they could look at the world with an enlightened understanding, and see that it could be <u>improved</u>? The advent of a progressive theory of human life and history must certainly be accounted among the most significant developments. Probably no one man can properly be called the originator of so sweeping an innovation in human thought. The reader may recall the remark of Professor Whitehead from the discussion of Perspectives: "A whole literature arises which explains how inspiring is the general idea...." Bacon's imaginative thought, for example, clearly spanned the gulf of centuries to a time when the material condition of human life would be vastly improved. The notion of material progress is clearly a part of Descartes's vision. It becomes almost incidental, however, in relation to his personal vision of man's untapped potential. Man is endowed by Nature with the means whereby he may seek his own salvation. He has only to apply his reason to the systematic improvement of his understanding. There are no doubt limits to the perfection to which he may attain, but they can only be revealed by the systematic exploitation of his unique characteristic, his mind. "...reason is a universal

instrument which can serve for all contingencies...."[73]

It is not hard to understand why Descartes has been called the founder of modern philosophy. In him the diverse elements of the process of philosophy were momentarily assembled, as it were, under one roof; revised in terms of the new science, they proceed from Descartes upon their divergent ways. Armed in varying degrees from the Cartesian arsenal, Descartes's successors turned their attention to the particular problems confronting the joint social enterprise. Even in their choice of titles, Descartes's successors mirror--often unintentionally--the bias of the Cartesian position; in the lists of "Current and Choice" for the years after 1650 there appeared Recherche de la Vérité, Ethics, On the Improvement of Human Understanding, and, of course, An Essay Concerning Human Understanding. It may be that too much importance has been attached to the philosophical controversies of the late seventeenth century. One excellent history, for example, observes that "...none of the varieties of Cartesianism was capable of holding its own against the rival systems of Spinoza, Leibniz, Newton, and Locke."[74] This remark is quite correct; as so often

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[73]Descartes, Philosophical Works, Vol. I, p. 116.

[74]Carsten (ed.), Ascendancy of France, p. 79.

happens, it establishes the fact and misses the point.[75] Descartes's importance in the history of modern thought lies in the fact that "...modern philosophy has very largely accepted the formulation of its problems from Descartes, while not accepting his solutions."[76]

The historical influence, then, of Descartes must be sought, not in the celebrated controversies of the seventeenth century, but in the substantial area of agreement from which they stemmed. If controversy is to produce more than a rancorous impasse, the parties to it must possess that most important _je ne sais quoi_, empathy; fruitful controversies may produce a good deal of rancor as a by-product, but they must begin with a tacit "I agree with you, but...." Descartes's work constitutes, among other things, a systematic synthesis and an intelligible presentation of ideas--scarcely more than disquieting implications--which clouded the horizon of European thought. It is the measure of his success that the first-class minds of his time could be so aroused by his thought. Elaborating on, differing with, or devising refutations for Descartes was one of the steady

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[75]This remark is by no means intended to reflect unfavorably on Professor W. von Leyden's generally excellent chapter on philosophy in the period 1648-88.

[76]Russell, _History of Western Philosophy_, p. 564.

occupations of thinkers for the remainder of the century.[77] Probably this is as it should be. No philosopher, be it Aristotle, Descartes, or Lord Russell, is well served by the uncritical disciple who takes his work, as it were, in trade, new scriptures for old. Reverence is misplaced when it identifies the creation of any one man with the whole truth. Conversely, a man whose whole life was given over to seeking the truth is worthy of the most profound respect. Descartes was such a man, and, in the last analysis, one must concur in the judgment of Professor Cranston: "Descartes revolutionised European philosophy; and whatever the defects of his system, his historical importance is second only to that of Aristotle."[78]

The controversies which centered around the Cartesian system were to some extent inevitable. Philosophically, Descartes's interests centered around the scope and function of the mind. As a scientist, however, he was deeply committed to working with his famous "...Method of Rightly Conducting the Reason and Seeking for Truth in the Sciences." His

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[77]Descartes, Philosophical Works, Vol. II, pp. 60-78. Even during Descartes's life, many celebrated scholars were concerned to submit their objections to his views, among whom Thomas Hobbes was only the most famous. These objections pertained specifically to the Meditations on First Philosophy. This matter illustrates the temper of Descartes's mind; with each new edition of the Meditations, Descartes published the objections along with his comments in response.

[78]Cranston, Locke, p. 100.

particular conclusions provided the subjects for controversy. Ironically, perhaps, but quite naturally, those whose objections were the most penetrating were those who best understood the world of the Cartesian method. Apparently, a teacher who <u>really</u> wants his students to think must expect that one day they may think him wrong.

The influence of Descartes on Locke[79], the immediate forerunner of the Enlightenment, is clearly established and profound. Locke's lifelong friend, Lady Masham, wrote of it, as follows:

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[79]Wolf, <u>History of Science</u>, Vol. II, p. 656. "John Locke (1632-1704) was born at Wrington, in Somersetshire, and educated at Westminster School, London, and Christ Church, Oxford. He was a Puritan by upbringing, and thought of becoming a clergyman. But his growing love of freedom and tolerance led to his abandonment of the idea, in favour of medicine. In this way he came into contact with Sydenham and Boyle, and under the influence of their empiricism. In 1667 he moved to London, and for the next fifteen years he stayed at Exeter House with Lord Ashley, subsequently Earl of Shaftesbury, as his confidential secretary. It was here, in 1670, that Locke formed the project of writing his <u>Essay Concerning Human Understanding</u>, which it took him twenty years to complete. From 1675 onwards political troubles in England forced Locke to live abroad a good deal. He spent three years in France, and five years in Holland. Eventually he returned to England in 1689 in the same boat as Princess Mary, and about three months after the accession of William of Orange. In 1685 he had published his <u>Letter on Toleration</u> and <u>Two Treatises on Government</u>. In 1690 his <u>Essay</u> appeared at last. In 1691 he went to live with Sir Francis Masham at Oates Manor, in Essex, and spent there the rest of his life. Lady Masham was the daughter of his friend, Ralph Cudworth....It was /Locke's/...insight into the limitations of human knowledge, and the dubiousness of so many human convictions, that saved Locke from fanaticism and made him a champion of toleration."

> The first books (as Mr. Locke himself has told me) which gave him a relish of philosophical studies were those of Descartes. He was rejoiced in reading of these because though he very often differed in opinion from this writer, yet he found that what he said was very intelligible; from whence he was encouraged to think that his not having understood others had, possibly, not proceeded altogether from a defect in his understanding.[80]

In the work of Locke the emphasis shifts again in favor of empiricism. A physician and scholar, Locke numbered among his friends many of the outstanding members of the Royal Society, including Newton and Boyle. Indeed, it was through the latter that he first became acquainted with the work of Descartes.[81] While Locke was greatly influenced by the Baconian tradition, his empiricism possesses a quality which was distinctly his own--moderation. Locke may not know the answer to a problem, but his unruffled common sense saves him from underestimating the difficulty of knowing. Locke is the founder of the tradition in philosophy which insists upon affirming the premises of common sense, British empiricism. Common sense insists that man and the physical world exist and that they are more-or-less as they appear to be; better, then, to get on with the great investigation and avoid metaphysical fanfare. Thus Locke

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[80]Quoted in Cranston, Locke, p. 100.

[81]Cranston, Locke, p. 102.

welcomed Descartes's method of systematic doubt and rejected the metaphysics that went with it.[82] To Locke it seemed almost as absurd to doubt everything as to doubt nothing. Santayana, whose own position is in the empirical tradition, speaks of Locke thus:

> ...had Locke's mind been more profound, it might have been less influential. He was in sympathy with the coming age, and was able to guide it: an age that confided in easy, eloquent reasoning, and proposed to be saved, in this world and the next, with as little philosophy and as little religion as possible. When quarrelled with, no less than when embraced, his opinions became a point of departure for universal developments. The more we look into the matter, the more we are impressed by the patriarchal dignity of Locke's mind. Father of psychology, father of the criticism of knowledge, father of theoretical liberalism, [and] god-father...of Voltaire and the Encyclopaedia....A chief element in this moderness of Locke was something that had hardly appeared before in pure philosophy,...I mean, the tendency to deny one's own presuppositions--not by accident or inadvertently, but proudly and with an air of triumph....the central presuppositions, which he embraced heartily and without question, were those of common sense.[83]

Locke was critical enough of his own understanding, with or without the aid of Descartes's method, to be sure that understanding and right reason were by no means as sure as Descartes seemed to imply. Descartes had adopted

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[82]Cranston, Locke, p. 102.

[83]George Santayana, Some Turns of Thought in Modern Philosophy (New York: Charles Scribner's Sons, 1933), pp. 4-6. Hereafter cited as Santayana, Turns of Thought.

a notion very like that attributed by Plato to Socrates. One possesses, he thought, correct and adequate ideas of things, which have, however, been obscured by the deception of our senses. He thought, in other words, that men possessed innate ideas derived from a source other than experience. In all fairness, Descartes seems to have meant something a bit more complicated than the bare notion that from birth the mind possesses ideas which are innate and intrinsic to its nature. Nevertheless, the mere notion of innate ideas so outrages common sense that Locke devotes the first book of the Essay to refuting it, as thus:

> ...it seeming to me near a contradiction to say, that there are truths imprinted on the soul, which it perceives or understands not: imprinting, if it signify anything, being nothing else but the making certain truths to be perceived....To say a notion is imprinted on the mind, and yet at the same time to say, that the mind is ignorant of it, and never yet took notice of it, is to make this impression nothing. No proposition can be said to be in the mind which it never yet knew, which it was never yet conscious of....That certainly can never be thought innate which we have need of reason to discover....[84]

In an age when men who have never heard of Locke accept his theory of knowledge as, indeed, a matter of common sense, this may seem self-evident; in the seventeenth century,

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[84]Locke, Essay, Vol. I, pp. 40-43.

however, it was a decidedly radical doctrine.[85]

In principle, Locke might have agreed with Descartes that it is a greater perfection to know than to doubt. He would have added, however, that it is a tragic vice to act upon the belief that one knows with certainty that which is not empirically knowable. He found the persecutions his contemporaries advocated (and not infrequently executed) appalling. He was the prophet of the broad toleration which characterized the Enlightenment. In the absence of evidence, it is better to doubt, to suspend judgment.

> ...where is the man that has incontestable evidence of the truth of all that he holds, or of the falsehood of all he condemns; or can say that he has examined to the bottom all his own, or other men's opinions? The necessity of believing without knowledge, nay often upon very slight grounds, in this fleeting state of action and blindness we are in, should make us more busy and careful to inform ourselves than to constrain others.[86]

Locke shared the faith in reason which dominated the thought of the seventeenth and eighteenth centuries, but tended, as suggested above, to equate reason with common sense. Clearly, he does not regard reason and logic as the same thing. When the Essay discusses reason,

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[85]Russell, History of Western Philosophy, p. 610. In Locke's day, "...the mind was supposed to know all sorts of things a priori, and the complete dependence of knowledge upon perception, which he proclaimed, was a new and revolutionary doctrine."

[86]Locke, Essay, Vol. II, p. 373.

the primary concern is still to refute the Aristotelians and their precious syllogism. For "syllogizing" Locke had no use whatsoever. "...God," he remarks sarcastically, "has not been so sparing to men to make them barely two-legged creatures, and left it to Aristotle to make them rational...."[87] Locke's refusal to equate reason and formal logic goes a long way toward explaining the extent of his influence. The Essay was begun as a series of informal discussions at Exeter House. The members of the group were mostly practical men of affairs to whom Locke was concerned to explain his ideas about human understanding. Locke's success stemmed from his conviction that reason and reasonable standards of conduct were dictated by the Law of Nature. Clearly, then, reason cannot be something accessible only to those with a formal education. It must, rather, be something that ordinary men can grasp in the form of a few sensible, self-evident principles. This, as Lord Russell observes, is Locke's dominant characteristic:

> He is always sensible, and always willing to sacrifice logic rather than become paradoxical. He enunciates general principles which, as the reader can hardly fail to perceive, are capable of leading to strange consequences; but whenever the strange consequences seem about to appear, Locke blandly refrains from drawing them. To a Logician this

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[87] Locke, Essay, Vol. II, p. 391.

> is irritating; to a practical man, it is a proof of sound judgement.[88]

Curiously enough, the seventeenth-century influence of which the Enlightenment was most conscious was not that of the Frenchman Descartes but of the two Englishmen, Bacon and Locke. Voltaire called the Novum Organum "the scaffold with which the new philosophy was raised,"[89] and of the particular quality of Locke's influence, one finds the following:

> Perhaps no man ever had a more judicious or more methodical genious or was a more acute logician than Mr. Locke, and yet he was not deeply skilled in mathematics. This great man could never subject himself to the tedius fatigue of calculations, nor to the dry pursuit of mathematical truths, which do not at first present any sensible objects to the mind; and no one has given better proofs than he, that it is possible for a man to have a geometrical head without the assistance of geometry.[90]

Locke personified the *éspirit géometrique sans géometrie*. To men like Voltai*éspirit géometrique* there appeared to be a close connection between Locke's theory of knowledge and his political philosophy. Perhaps the connection is less apparent today than it was then, but it certainly exists to the extent that both are founded upon a readily intelligible common sense. Moreover, the

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[88]Russell, History of Western Philosophy, p. 606.

[89]Voltaire, Works, Vol. XXXIX, p. 29.

[90]Voltaire, Works, Vol. XXXIX, pp. 33-34.

influence of a thinker is based not upon the individual worth of this or that work, but on a total impression. In evaluating the impact of Locke, it must be remembered that eighteenth-century Frenchmen could look across the channel and see Locke's political philosophy working in the most free, prosperous, and powerful country of the century. In the eighteenth century, "England's spectacular conquests, her prosperity and comparative stability gave her great prestige, and observers were ready to believe that the English Constitution ensured the preservation of liberty and the acquisition of great wealth."[91]

Few philosophers have been more fortunate than Locke in respect to his political philosophy.[92] Until recently it was believed that the Treatises of Government were written after 1688 to justify the Glorious Revolution; as his biographer points out, however, this view does not stand up well to scrutiny.[93] Actually, Locke's influence

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[91]J. O. Lindsay (ed.), The New Cambridge Modern History (Vol. VII, The Old Regime, 1713-63. 14 vols.; Cambridge: At the University Press, 1957), pp. 10-11. Hereafter cited as Lindsay (ed.), The Old Regime.

[92]Russell, Wisdom of the West, p. 58. Plato, for example, ran into rather perilous circumstances trying to establish something resembling his republic in Syracuse.

[93]Cranston, Locke, pp. 207-08. Professor Cranston is the first of Locke's biographers (excepting Lord King, a descendant of Locke's heir) to have full access and to make full use of the "Lovelace Collection" of Locke manuscripts. He seems, moreover, to have made the fullest use of the other available sources; his biography will be definitive for some time to come.

on the events of 1688 did not depend upon the Treatises; his position as physician, secretary, friend, and confidant to Lord Shaftesbury gave him far more immediate access to the leaders of the Country or Whig party.[94] Collectively the legislation which implemented the Glorious Revolution appeared to embody the systems Locke proposed. His objectives, in retrospect, may seem modest, but they were solidly based upon the realities of politics and human nature and the historic constitutional potential of his country. He is, indeed, "the apostle of the...most moderate and the most successful of all revolutions."[95]

As a political philosopher, Locke is probably unique. His system is neither utopian and impracticable nor brutally realistic and unacceptable. Best of all, perhaps it .... avoids the error into which even Spinoza fell, of being too specific.[96] Locke's system might best be described as a synthesis of what is and what ought to be.

Locke, in common with most realists, believed that a successful state must be founded upon the realities of

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[94]Cranston, Locke, Chapter 10 and passim.

[95]Russell, History of Western Philosophy, p. 604.

[96]Spinoza, Chief Works, Vol. I, pp. 287-387. Spinoza's detailed recommendations reflect to some extent the political institutions of his adopted country, Holland. Though they arrive as diametrically opposite conclusions, both Spinoza and Locke owe a great deal to Hobbes, as will be seen in the case of Locke.

human nature. Hence his notion of the State of Nature is basically the same as Hobbes'. In the famous passage from Leviathan, one finds the following:

> Whatsoever therefore is consequent to a time of war, where every man is enemy to every man; the same is consequent to the time, wherein men live without other security, than what their own strength, and their own invention shall furnish them withal. In such condition, there is....continual fear, and danger of violent death; and the life of man, solitary, poor, nasty, brutish, and short.[97]

In an early Locke manuscript, one finds the State of Nature described as follows: "No peace, no security, no enjoyment, enmity with all men and safe possession of nothing, and those stinging swarms of misery which attend anarchy and rebellion." "It is not a good crib," Professor Cranston concludes, "but it is unmistakably cribbed."[98]

In the Second Treatise, Locke's ideas have been modified somewhat, but his notions of the State of Nature are basically the same. They differ principally in his distinction between the State of Nature and the State of War.

> The State of Nature has a Law of Nature to govern it, which obliges every one: And Reason, which is that Law, teaches all Mankind, who will but consult it, that being all equal and independent, no one ought to harm another in his Life, Health, Liberty, or Possessions....Men

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[97]Hobbes, Leviathan, p. 82.

[98]Quoted in Cranston, Locke, p. 62.

> living together according to reason, without a common Superior on Earth, with Authority to judge between them, is properly the State of Nature. But force, or a declared design of force upon the Person of another, where there is no common Superior on Earth to appeal to for relief, is the State of War....[99]

Attentively read, without too much regard for what is still the standard textbook interpretation, Locke makes it quite clear that "the Inconveniences of the State of Nature, which must certainly be Great, where Men may be Judges in their own Cases,"[100] are such as to make the distinction between the State of Nature and that of War a purely academic one. Obviously, men ought to be governed by reason, but one sees that frequently they are not. As, in the State of Nature, men are absolutely free, the State of War is consequent to the abuse of that freedom.

In order to determine the "True Original, Extent, and End of Civil Government," it is necessary to determine why it came to exist. Locke believed that government was the result of men contracting together to overcome the inconveniences of the State of Nature by forming a single society.[101] These inconveniences are very great and have

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[99]John Locke, Two Treatises of Government, ed. Peter Laslett (Cambridge: At the University Press, 1960), pp. 289 & 298. /Hereafter, unless otherwise indicated, italics are Locke's/. Hereafter cited as Locke, Treatises.

[100]Locke, Treatises, p. 294.

[101]Locke, Treatises, pp. 348-51.

driven most men into commonwealths. For, where the absence of a common judge leaves men free to prey upon one another, there is no security for property. By the term property, Locke does not mean material possessions only (as he himself repeatedly stresses). A man's estate is that which by his labor he separates from what is given by God in common to all men.[102] Although a man's estate is included in his property, Locke most generally means the term to include life, liberty, and estate; it is in this sense of the term that he concludes: "The great and chief end therefore, of Mens uniting into Commonwealths, and putting themselves under Government, is the Preservation of their Property. To which in the State of Nature there are many things wanting."[103]

Clearly, then, men do not form a commonwealth with the object of loosing their liberty; they aim rather to secure and enhance it. That being the case, in what does freedom under civil government consist?

> ...Freedom of Men under Government, is, to have a standing Rule to live by, common to every one of that Society, and made by the Legislative Power erected in it; A Liberty to follow my own Will in all things, where the Rule prescribes not;

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[102]Locke, Treatises, pp. 303-20.

[103]Locke, Treatises, pp. 368-69.

> and not to be subject to the inconstant, uncertain, unknown Arbitrary Will of another Man.[104]

What if men consent to the arbitrary rule of one man? Locke was convinced that arbitrary government was far worse than its muddle-headed advocates imagined. It was not only uncertain and inconvenient; it was immoral and un-Natural!

> This Freedom from Absolute, Arbitrary Power, is so necessary to, and closely joined with a Man's Preservation, that he cannot part with it, but by what forfeits his Preservation and Life together. For a Man, not having the Power of his own Life, cannot, by Compact, or his own Consent, enslave himself to any one, nor put himself under the Absolute, Arbitrary Power of another, to take away his Life, when he pleases. No body can give more Power than he has himself; and he that cannot take away his own Life, cannot give another power over it.[105]

Having explained the origin of the commonwealth, and the ends for which it was established, Locke proceeded to examine the extent of its powers and its special embodiments. As the laws are to be supreme in the commonwealth, immediately upon its establishment it becomes necessary to provide for their enactment and impartial execution. This supreme authority Locke terms the legislative power; the form of the government depends upon its distribution and duration.[106] Regardless of the form of the commonwealth,

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[104]Locke, Treatises, p. 302.

[105]Locke, Treatises, p. 302.

[106]Locke, Treatises, pp. 372-73. Locke's treatment of forms of government basically follows the Aristotelian outlines, with minor variations appropriate to the seventeenth century.

however, the supreme power may not deviate from the ends for which it was established. "The Legislative, or Supreme Authority, cannot assume to its self a power to Rule by extemporary Arbitrary Decrees, but is bound to dispense Justice, and decide the Rights of the Subject by promulgated standing Laws, and known Authoris'd Judges."[107]

Locke specifically states, that in calling the supreme power in the commonwealth the "Legislative Power," he does not intend thereby to indicate the form of the commonwealth. Of course, he regarded the best ordered states as those in which the legislative power was embodied in a representative assembly and his doctrine of the separation of powers is well known. Nevertheless, in the Lockeian sense of the term, it would be proper to call the power which theory reposed in the King of France, Legislative.[108] Theoretically, the French king was the sole source of power in the commonwealth and to him was entrusted the safe-guarding of the interests for which his subjects had contracted to submit themselves to him. If, then, the king faithfully and justly discharged this

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[107]Locke, Treatises, p. 376.

[108]In theory, the powers which resided in the person of the French monarch would have to be called, in Locke's terms, legislative, executive, and federative. The latter powers, however, are derivatives of the legislative power.

duty, should the people nevertheless seek to set limits to his power?

> ...it be very possible, and reasonable, that the People should not go about to set any Bounds to the Prerogative of those Kings or Rulers, who themselves transgressed not the Bounds of the publick good. For Prerogative is nothing but the Power of doing publick good without a Rule.[109]

Nevertheless, the setting of precedents is a most serious matter; a power long established by its use in the public good may not always be used to that end: "Upon this is founded that saying, That the Reigns of good Princes have been always most dangerous to the Liberties of their People."[110] Is a king in whom the legislative power is vested, and who consequently has the sole responsibility for determining the law, above the Law? And has he therefore the right to use his powers for ends other than those for which they were established? No, that would be tyranny:

> ...Tyranny is the exercise of Power beyond Right, which no Body can have a Right to....When the Governour, however intituled, makes not the Law, but his Will, the Rule; and his Commands and Actions are not directed to the preservation of the Properties of his People, but the satisfaction of his own Ambition, Revenge, Covetousness, or any other irregular Passion.[111]

In Locke's system the situation of an absolute monarch who is not arbitrary and tyrannical is theoretically

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[109]Locke, Treatises, p. 396.

[110]Locke, Treatises, p. 396.

[111]Locke, Treatises, pp. 416-17.

possible, but Locke would undoubtedly consider the possibility remote. Moreover, a monarch in whom the supreme power of the commonwealth is solely vested is in a State of Nature in relationship to his subjects, there being no common judge between them. Then, as the use of force in the absence of a common judge results in a State of War and the dissolution of the government, and no government can govern without the use of force, absolute government produces ipso facto the dissolution of the government. Locke's definition of the legislative power allows that it might be vested in one person.[112] In effect, however, the entire system combines to render such a contingency definitively impossible. In spite of its moderate tone, the effect of Locke's system is to give to the subjects of an absolute government the right to resist until such time as it becomes possible to make other provision for the exercise of the legislative power.

Consistent with his philosophical and political views, Locke is remembered as a great proponent of toleration. Toleration in the seventeenth century tended to be the creed of the under-dog, to be maintained only so long as it proved impossible to become the upper-dog. For example, it was during the years when Locke had prudently withdrawn

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[112]Locke, Treatises, p. 375.

to Holland[113] that Louis XIV revoked the Edict of Nantes, which had been one of the brightest achievements of his dynasty. Referring to the aftermath of that event, the following passage from Bayle well ilustrates the quality of seventeenth-century toleration:

> ...Refugee Ministers have changed their Opinions, while the Ruin of their Churches, by the Authority of the Sovereign, was quite fresh in their Memory, and the Wound still bleeding. If they had been asked, while the Edicts of Persecution were pouring on their Party, what they thought of the Conduct of a Prince, who inflicted Penalties on Those of his Subjects, who desired only the Liberty of serving God according to their consciences, they would have answered, that it is unjust; and yet, as soon as they are come into another Country, they have pronounced their Anathema against Those, who condemn the use of Penal Laws, in order to suppress Errors.[114]

Although Locke's heterodox views put him frequently in need of toleration, his views on the subject seem to have stemmed from a quite genuine devotion to principle. The civil government, he believed, had "nothing to do with the good of men's souls or their concernments in another

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[113] Cranston, Locke, pp. 202 & 228. He was not technically in exile, but at least two of his colleagues at Oxford are definitely known to have been reporting his movements to the government. In all fairness to these gentlemen, they appear to have motivated by conviction; i.e. they were not the paid spies of the government. Their zeal, however, was not devoid of personal enmity for Locke.

[114] E. A. Beller and M. duP. Lee Jr. (eds.), Selections from Bayle's Dictionary (Princeton, New Jersey: Princeton University Press, 1952), p. 64. Hereafter cited as Bayle, Selections. When history gets at the truth, it becomes difficult to tell the heroes from the villains.

life."[115] Locke's advocacy of religious toleration did not, however, stem from indifference to religion. His biographer says of him,

> ...Locke was always and essentially a deeply religious man, a fact which is sometimes not appreciated because he spent so much energy and time attacking orthodox religion. His religion was that of the Latitudinarian wing of the Church of England....Latitudinarianism was primarily the religion of the minimal creed. Its exponents did not specifically challenge more than one or two Christian dogmas....They demolished the basis on which most dogmas rested and then remained discreetly silent....'Socinian' would be too strong a word to apply to the early Latitudinarians....Later Latitudinarians, including Locke after 1688, were more deserving of the name. Socinianism was Latitudinarianism pushed to its logical conclusion; and a particular characteristic of the Latitudinarians was that they did not push things to their logical conclusion. They would not have thought of doing anything so immoderate.[116]

This theme of moderation cannot be overemphasized. Locke did not relish shocking people; his most heterodox ideas never fail to make their appearance in the respectable garb of orthodoxy. He never fails to respect the forms (if not the substance) of conventional institutions. Locke never disputes men's right to believe. What he denounces

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[115] Quoted in Cranston, Locke, p. 112. It must be noted that Locke did not regard toleration for English Roman Catholics politically feasible. He shared the persistent notion that their political views were not compatible with the public welfare. Roman Catholics in England were not relieved of their civil disabilities until 1829.

[116] Cranston, Locke, pp. 124-26.

is their right to kill one another and disrupt the tranquility of the state on the probably erroneous assumption that a particular point of view is absolutely true.

In contrast with Locke, the philosophes, to whom attention must presently be given, delighted in pushing things to their logical conclusions--some things, at least. (One of their most successful techniques involved a very special type of "logical conclusion," the reductio ad absurdum!) The philosophes accepted most of Locke's ideas and worked brilliantly with his techniques; there is, however, a fundamental difference. Locke believed he had discovered a small but significant part of the truth. Perhaps it is for that reason that he never ceased to regard truth as a constant object of human endeavor. To the readers of his Essay he wrote, "...it is truth alone I seek, and that will always be welcome to me, when or from whencesoever it comes."[117] Locke never ceased to be a seeker of the truth.

Bacon, Descartes, and Locke dominated seventeenth-century philosophy much as the tallest peaks dominate a mountain chain. Their combined influence, however, greatly exceeded the personal contributions of any one of them.

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[117]Locke, Essay, Vol. I, p. 16.

Bacon synthesized into a formulated, more-or-less coherent whole the intellectual experience of the Renaissance. This synthesis became the frame of reference, or, as Voltaire called it, the "scaffold" of the new philosophy. Bacon, like Descartes, was interested to reach beyond the "intellectualists" to the rank and file of educated men. In France, Descartes's influence was the greatest single factor in bridging this gap. Descartes, one almost suspects by dint of affirmation, established the road to reconciliation between science and scientific philosophy and French Catholics. Without this reconciliation the broad base, the social phenomenon, of the Enlightenment would have been virtually impossible. It was not Descartes, however, but Locke who determined the final form the influence of the new philosophy was to take. Descartes was too metaphysical, in the main, for practical men. Like the Commander in Shaw's "Don Juan in Hell" sequence, the practical man is apt to have trouble pronouncing "metaphysics" much less thinking about it. Thus the new philosophy, enhanced by the enormous prestige of Newton, came to the Enlightenment, as it were, suitably attired in the moderation and common sense of Locke.

Locke's contribution completed for the most part the intellectual raw material for the French Revolution. Thus it will occasionally be necessary, in discussing the

Enlightenment, to return to him. The esteem of the philosophes for Locke, and their general acceptance of his ideas, has tended to obscure the fact that they were separated by a very real gulf. The philosophes were not so concerned with seeking the truth; they had found it, or so at least they believed. They regarded the temple of the Enlightenment as complete; their's was the task of guiding those who dwelt in darkness to the portals of light. The moderation of Locke gave way to the supreme optimism of the young Voltaire and sobriety blossomed into satire. Many diverse elements contributed to the widening of this gulf, but one is more basic than the others. The philosophes were the prophets of a new religion, and their emotional commitment to it colored every phase of their activities. Whatever his defects, "Locke never made the same mistake of looking to philosophy for an emotional substitute for religion."[118]

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[118]Cranston, Locke, p. 128.

V. The Enlightenment

> Superstition is the most dreadful enemy of the human race. When it rules the prince, it hinders him from consulting the good of his people; when it rules the people, it makes them rebel against their prince. There is not a single example in history of philosophers opposing themselves to the laws of the prince. There never was an age in which superstition and enthusiasm did not occasion commotions that fill us with horror.[1]
>
> ...Voltaire

> ...it will be ever a glorious undertaking to render a government subservient to human happiness.[2]
>
> ...Charles de Montesquieu

> All power comes from God. I admit that....The same thing is true, however, of all sickness. Are we, then, forbidden to call in a doctor?[3]
>
> ...Jean Jacques Rousseau

The structure of the Establishment in France, monarchy and society, retained in the sixteenth and early seventeenth centuries a measure of flexability and responsiveness not altogether unequal to the demands put upon it by an increasingly dynamic civilization. But the monarchy rough hewn by the Cardinals (Richelieu and Mazarin), polished by Louis XIV,

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[1] Voltaire, Works, Vol. XXXVII, p. 230.

[2] Charles, Baron de Montesquieu, The Spirit of the Laws, trans. Thomas Nugent (2 vols. in one; New York: Hafner Publishing Company, 1949), Vol. I, p. 36. Hereafter cited as Montesquieu, Spirit of Laws.

[3] Jean Jacques Rousseau, The Social Contract, trans. Willmoore Kendall (Chicago: Henry Regnery Company, 1954), p. 7. Hereafter cited as Rousseau, Social Contract.

and expounded by Bossuet was inextricably bound to a social structure which bore a decreasing resemblance to the actual complexities of French society. Many of the discrepencies are obvious. In the first estate an impassable gulf yawned between the rich and usually noble prelates and the abject poverty of the curates. Within the second estate, a similar division existed among the noblesse d'épeé, between the court nobility and the country gentlemen. Such was often the poverty of the latter, that his sword was frequently the only means of distinguishing him from his peasants.[4] Still within the second estate, considerable gradations existed among the nobless de robe. This pattern of mutually exclusive divisions was equallypervasive in the third estate, where Moliere's Bourgeois Gentilhomme and the journeyman of the town nominally belonged to the same estate.[5]

The ties that bound the monarchy to the privileged orders were numerous; frequently they were multiplied in the very processes by which the position of the crown was secured and its power extended. The sale of offices, for example, made permanent the position of obstructive elements in the administration. Moreover, the means by which the

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[4]W. H. Lewis, The Splendid Century, Life in the France of Louis XIV (Garden City, New York: Doubleday & Company, Inc., 1957), pp. 144-159. Hereafter cited as Lewis, Splendid Century.

[5]Lindsay (ed.), The Old Regime, pp. 235-240.

nobility were rendered innocuous were tantamount to bribery. "By completing the elimination of all rival authorities from the Government Louis XIV had put on the monarchy the burden of total responsibility, but at the same time without endowing it with total power. He had gone either too far or else not far enough."[6] Following the death of the Grand Monarch, an attempt was made to restore to the nobility a share of the government. Despite many irrelevant reflections on his personal life, the Regent, Phillippe, Duc d'Orléans, must be regarded as an able and determined man. The failure of the reforms he attempted suggests that the worst abuses of the old regime were, short of drastic, determined, and sustained reforms, self-perpetuating. After a brief interval, the Regent was succeeded by Cardinal Fluery, in many ways a worthy heir to the tradition of Richelieu and Mazarin. Nevertheless, Fleury is never placed within the state-building tradition of his predecessors. For all his excellent qualities, the system--or lack of system--had fossilized under the long reign of the roi soleil, and the last of the great Cardinal-ministers was constrained to function within its inelastic limits. Indeed, Fleury "...administered France as if she were a trust fund."[7]

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[6]Lindsay (ed.), The Old Regime, p. 220.

[7]Arthur McCandless Wilson, French Foreign Policy During the Administration of Cardinal Fleury, 1726-1743 (Cambridge: Harvard University Press, 1936), p. 95. Hereafter cited as Wilson, Administration of Cardinal Fleury.

The position of the French king was in many respects ambiguous. As the sole source of power in the state, he was at the head of an, in the main, talented and professional body of administrators, the intendants. In this sense he was, indeed, the "first servant of the state." In another sense, however, he was the father of his people, a king by Divine Right. In this feudal sense, the person of the monarch was bound to the privileged orders in a way that the pure theory of the monarchy was not. This was a misfortune for the eighteenth-century monarchy, for "A monarchy by Divine Right implies a general acceptance of the religious basis of society, and a Church which was equal to its role in the State. Unfortunately the Church in eighteenth-century France was in no condition to face the attacks delivered from opposite quarters by Jansenists and philosophes."[8] This was a misfortune indeed, for the attack upon the Church thus struck to some degree at the roots of the monarchy.

This summary of the problems and defects of the monarchy must not obscure the fact that it was, on the continent, the most effective governmental instrument of its time. But in the course of the eighteenth century, even its efficiency often worked against it. Frequently

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[8]Lindsay (ed.), The Old Regime, p. 229.

its power was great enough to make itself felt without making itself effective. In short, it functioned well enough to give its numerous and vocal supporters high hopes for its potential as an institution. Thus, in the last analysis, "Nothing can be more erroneous than the picture of the old regime as an unregenerate tyranny, sweeping to its end in a climax of despotic indifference to the clamor of its abused subjects."[9] The clamor, in fact, arose from the apparent failure of the monarchy to deal effectively with problems for which, in theory, its powers were adequate.

The Enlightenment in France was a concerted (if not always co-ordinated) attack on the Establishment. Armed with the weapons forged in the previous century and fortified behind the palpable successes of Newton and Locke, the flood of criticism swirled to the steps of the throne itself.[10] Previously, the discussion has been confined to the examination of the intellectual arsenal of the Enlightenment. To complete the picture of the idea structure underlying the French Revolution, some consideration of Enlightenment "strategy" is essential. This much

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[9]Crane Brinton, The Anatomy of Revolution (New York: Vintage Books, Inc., 1957), p. 40. Hereafter cited as Brinton, Anatomy of Revolution.

[10]Lindsay (ed.), The Old Regime, p. 85.

is clear; most of the philosophes were too well instructed on the nature of the internal disorders which had racked the states of Europe throughout their history ever to have favored the tangent taken by the Revolution. Their position hinges upon what may appear to be a fine distinction. These thinkers were not philosophers in the usual sense of the word, a fact that English-speaking writers frequently denote by the use of the French word. Thus Professor Whitehead notes:

> Sometimes it happens that the service rendered by philosophy is entirely obscured by the astonishing success of a scheme of abstractions in expressing the dominant interests of an epoch. This is exactly what happened during the eighteenth century. Les philosophes were not philosophers. They were men of genius, clear-headed and acute, who applied the seventeenth century group of scientific abstractions to the analysis of the unbounded universe. Their triumph, in respect to the circle of ideas mainly interesting to their contemporaries, was overwhelming....We cannot overate the debt of gratitude which we owe to these men. For a thousand years Europe had been prey to intolerant, intolerable visionaries.[11]

It is hard to believe that the philosophes did not, to some extent, foresee the consequences of their polemic. Their writings, in retrospect, seem continually to foreshadow the coming of the great Revolution. To take a single example, Montesquieu made the following observation, which in many ways aptly describes the course of events that began in

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[11]Whitehead, Science and the Modern World, p. 86.

1789: "...the least accident can produce a great revolution, often quite as unforeseen by those who make it as by those who suffer its consequences."[12]

From the works of Montesquieu, Voltaire, and Rousseau the attempt to reconstruct the picture of the Enlightenment as a whole will be made. Each of these men had his own particular formula for averting the great disaster and for inaugurating an era of "enlightened" reconstruction. Whether or not they actually believed that revolution would result from the failure to secure the necessary reforms is an open question. In considering this question, it will be well to keep in mind the terse observation of Crane Brinton: "...one of the great functions of the intellectuals in Western society has always been to shake ordinary mortals out of their unthinking optimism, and Cassandra has perhaps as much claim as Plato to be founder of a great academic tradition."[13]

The faith of the Enlightened offers one of the most unsullied examples of sustained belief in the noble potential and great expectations of mankind. The "Heavenly City" of the philosophes enshrined one of the most significant general

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[12]Charles, Baron de Montesquieu, The Persian Letters, trans. J. Robert Loy (New York: Meridian Books, Inc., 1961), p. 163. Hereafter cited as Montesquieu, Persian Letters.

[13]Brinton, Anatomy of Revolution, p. 69.

ideas in human history. Secular writers of the classical and early modern periods had focused their attention upon the first law of nature, self-preservation. By the dawn of the eighteenth-century, however, the state system of western Europe had developed beyond anything known previously. Mere security, subsistence, was no longer enough. Human happiness came to be regarded as a worthy ideal not to be despised. Almost imperceptibly, Locke's life, liberty, and property, as the object of the joint endeavors of man and the state, became "life, liberty, and the pursuit of happiness."

Basing themselves upon Locke, the philosophes adopted a hedonistic philosophy which was the origin of several of the main streams of Enlightened thought. In the Essay, Locke had written:

> Things...are good or evil, only in reference to pleasure or pain. That we call good, which is apt to cause or increase pleasure, or diminish pain in us; or else to procure or preserve us the possession of any other good or absence of any evil. And, on the contrary, we name that evil which is apt to produce or increase any pain, or diminish any pleasure in us: or else to procure us any evil, or deprive us of any good....we love, desire, rejoice, and hope, only in respect of pleasure; we hate, fear, and grieve, only in respect of pain ultimately.[14]

Their hedonism led the philosophes to abandon as irrelevant the perennial search for the highest good; the highest

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[14]Locke, Essay, Vol. I, pp. 303 and 306.

good and the primary object of government was to ignore metaphysical abstractions and actively work to secure the greatest good of the greatest number. On this they were agreed.

The terms which best describe the philosophical orientation of the philosophes all seem to belong to later periods in the history of philosophy; for example, in the loose sense of the term, they were pragmatists. They were for the most part satisfied that good is as good results, or, as Montesquieu put it, "...I don't know what kind of a virtue is a virtue from which there results nothing."[15] While far from lacking the qualities of the moralist, they were deeply concerned with the utility of an act. None of the three principals to be considered here even took up the purely speculative labors of philosophy. They turned instead to history and the areas of study grouped under the term social disciplines. The reason is fairly clear; the skepticism of the seventeenth century had come, as it were, full circle. The skepticism which had been the foundation of a new philosophy was at last turned again upon philosophy itself. The extreme case, of course, was David Hume, who wrote, "To be a philosophical sceptic [sic.] is, in a man of letters, the first and most essential step towards being

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[15] Montesquieu, Persian Letters, p. 214.

a sound, believing Christian...."[16] If the philosophes never went quite that far, there is one obvious reason. In France, the philosophes faced a still powerful Roman Church, which had within living memory driven out the Huguenots. To the extent that philosophical skepticism would have brought them, as it brought Hume, to question the efficacy of reason in matters of religion, they were not philosophical skeptics. They were, however, skeptical enough to prefer the "useful" pursuit of history to that of pure philosophy, and in history they saw the record of the crimes and cruelties of superstitious terror. In this spirit, Voltaire wrote:

> If an English parliament has condemned a man of fortune to the torture--if an assembly of theologians had demanded the blood of an unfortunate who differed in opinion from themselves, it should be the duty of an historian to inspire all ages with horror for these juridical assassins. We should always make the Athenians blush for the death of Socrates.[17]

In general the philosophes were agreed; a great share of human misery was the result of superstition, and the stronghold of superstition was revealed religion--the Church. To the Church, the philosophes were determined to accord the full "attention" they were sure it so richly deserved!

Dialogues

[16]David Hume, Dialogues Concerning Natural Religion (New York: Hafner Publishing Co., 1948), p. 94. Hereafter cited as Hume, Dialogues.

[17]Voltaire, Works, Vol. X, p. 60.

Voltaire's Lettres philosophiques (1734) has been called the "first bomb thrown at the Old Regime."[18] This "honor" is by no means undeserved, but the target areas had been clearly outlined as early as 1721. To be sure, men of letters had been sniping at various aspects of the regime, and in particular the Church, since the time of Rabelais. But with the publication of Montesquieu's Persian Letters (1721) the attack began in ernest. The vogue of travel literature in the late seventeenth and early eighteenth century is, of course, well known. Thus Montesquieu chose to set his brilliant satire on Regency France in the form of letters from two Persian travelers in Europe.

The Church, in the withering and irreverent view of the "Persian" President à Mortier of the Parlement of Bordeaux,presented a sorry spectacle.[19]

> The Pope is the head of the Christians. He is an old idol worshipped out of habit. Formerly he was to be feared even by kings, for he deposed them... easily....But now he is no longer feared. He claims that he is the successor of one of the first Christians, who is called Saint Peter, and his is most certainly a rich succession, for he has immense treasures and a great country under his domination. Bishops are lawyers subordinate to him, and they have under his authority, two quite different functions.

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[18]Gustave Lanson, quoted in Gay, Voltaire's Politics, p. 48.

[19]Montesquieu assumed his uncle's office in 1716 following the death of the latter.

> When they are assembled together they create, as does he, articles of faith. When they are acting individually they have scarcely any other function except to give dispensation from fulfilling the law. For you must know that the Christian religion is weighed down with an infinity of very difficult practices. And since it has been decided that it is less easy to fulfill these duties than to have bishops around who can dispense with them, this last alternative was chosen out of a sense of common good. In this way, if you don't wish to keep Ramadan [Lent], if you don't choose to be subjected to the formalities of marriage, if you wish to break your vows, if you would like to marry in contravention of the prohibitions of the law, even sometimes if you want to break a sworn oath--you go to the bishop or the Pope and you are given immediate dispensation.[20]

The spirit of Montesquieu, like many of his ideas, is very much in the tradition derived from Locke, and justice and moderation are his constant themes. Thus his criticism of the Church is far less passionate than was the case with many of the _philosophes_. He was, it would seem, constitutionally incapable of sharing Voltaire's obsession to _écraser l'infâme_, slay the infamous thing.[21] For that very reason his criticism may have been, in the long run, more effective. He struck not at the flowering excesses of religion but, rather, at its roots by means of a calm and reasoned religious relativism. Thus he wrote,

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[20]Montesquieu, _Persian Letters_, pp. 85-86.

[21]Gay, _Voltaire's Politics_, pp. 239-249.

> It seems to me...that we never judge of matters except by a secret reflex we make upon ourselves. I am not surprised that Negroes should paint the devil in blinding white, and their own gods black as coal; nor that the Venus of certain tribes should have paps hanging to her knees; nor that all idolaters should have pictured their gods with human faces, and should have advised them of all their own inclinations. It has been well said that if triangles were to create a god, they would give him three sides....Thus, it remains true indeed that we must distrust our zeal.[22]

Saving the unreasonable and the ridiculous, to which any self-respecting philosophe may be expected to object, Montesquieu's interest in religion ends with its relation to the state; that religion which contributes to, or at least does nothing to impair, the administration of justice, the establishment of domestic tranquility, and the pursuit of happiness is to be regarded as a good religion.

> As amidst several degrees of darkness we may form a judgment of those which are the least thick, and among precipices which are the least deep, so we may search among false religions for those that are most conformable to the welfare of society; for those which, though they have not the effect of leading men to the felicity of another life, may contribute most to their happiness in this.[23]

Montesquieu comes closer than any of the other philosophes to the position of Hume. Thus his formal attitude towards

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[22]Montesquieu, Persian Letters, pp. 128-132. The three-sided god of the triangles comes from Spinoza. Whether it originated there it is impossible to say.

[23]Montesquieu, Spirit of Laws, Vol. II, p. 27.

Christianity is more believably deferent than was the case with Voltaire and the younger philosophes.[24] He is not satisfied that reason can prove a religion either true or false and, with neatly suspended judgment, his criterion is purely pragmatic.

> From the characters of the Christian and Mohammedan religions, we ought, without any further examination, to embrace the one and reject the other; for it is much easier to prove that religion ought to humanize the manners of men than that any particular religion is true.[25]

Voltaire was unquestionably the spear-head of the attack on revealed religion in general and the Church in particular. Moreover, it is in this area he shows himself to be a very personification of paradox. He was fanatically opposed to fanaticism, intolerant to the N-th degree of intolerance, and indeed a veritable high priest of anti-clericalism. Voltaire was a living reminder that religion is "in the breast," or nowhere. This is probably the most complicated aspect of a very complex personality, and if one is to understand his influence, some attempt must be made to understand him.

Significantly, Voltaire's early reputation was based upon his eminence as a poet. Such was the popular

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[24]The memory of the young Voltaire, brash and out to conquer the world, is too often shrouded in the picture of the bent and toothless prophet of Ferney.

[25]Montesquieu, Spirit of Laws, Vol. II, p. 30.

esteem for his early successes, that by the time he was thirty he had come to be regarded as "...the successor of Virgil as well as Racine--truly an eminent citizen in the Republic of Letters."[26] His work in all phases seems to display the sensitivity, personal and aesthetic, of the poet. With a brilliant mind thus tempered and applied to the study of human history, Voltaire was constantly appalled by the evidence history affords of unspeakable crimes committed in the name of religion. Believing that history is philosophy teaching by example, his early attacks upon institutional religion were confined to "self-evident" examples and satire. Thus in the Lettre philosophiques (1734), he offers England as an example:

> If one religion only were allowed in England, the government would very possibly become arbitrary; if there were but two, the people would cut one another's throats; but as there are such a multitude, they all live happy and in peace.[27]

Voltaire's steady stream of satirical thrusts reveal, among other things, the many years devoted to the most careful study of the Bible. In the Philosophical Dictionary appears the following:

> The history of events has been divided into sacred and profane. Sacred history is a series of divine

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[26]Gay, Voltaire's Politics, p. 39.

[27]Voltaire, Works, Vol. XXXIX, pp. 218-219.

> and miraculous operations, by which it has pleased God formerly to direct and govern the Jewish nation, and, in the present day, to try our faith....If the style of the history of the kings,...is divine, it may nevertheless be true that the acts recorded in these histories are not divine. David murders Uriah; Ishbosheth and Mephilbosheth are murdered; Absalom murders Ammon; Joab murders Absalom; Solomon murders his brother Adonijah;....[etc., ennumerating in all, nearly a quarter of a page of murders]. It must be acknowledged, that, if the Holy Spirit did write this history, He did not choose a subject particularly edifying.[28]

Voltaire's enthusiastic faith in reason and his consequent deism do not altogether account for the steady growth of his animosity towards Christianity. This animosity seems to have been the natural result of a Christian conscience, with the fundamental ideal of Christianity ever before it, reacting to the lurid and depraved history of Christian failure to honor the ideals of their founder. Of the poverty sworn servants of Christ he wrote with savage contempt:

> ...I hear the abbés...ask: "Why are not we to accumulate wealth and honors? Why are we not to become princes? The Bishops are, who were originally poor, like us; they have enriched and elevated themselves; one of them has become superior even to kings; let us imitate them as far as we are able." Gentlemen, you are right. Invade the land; it belongs to him whose strength or skill obtains possession of it. You have made ample use of the times of ignorance, superstitution, and infatuation, to strip us of our inheritances, and trample us under your feet, that you might fatten on the substance of the unfortunate.

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[28]Voltaire, Works, Vol. X, pp. 61 and 95.

> Tremble, for fear that the day of reason will arrive![29]

The real defendant summoned by Voltaire's outraged sense of justice to the bar of Reason was dogma. Locke had established with disconcerting clarity the difficulties that blocked the path to _certain_ knowledge. Upon this theme Voltaire composed endless variations. He never ceased to rail against a Church that could proclaim as dogma, not only things grossly uncertain, but palpable errors, which, moreover, belonged to matters beyond its competence.

> Miserable human beings,...never seek to employ authority where nothing is concerned but reason, or consent to be reviled in all ages as the most impertinent of men, as well as to endure public hatred as the most unjust. You have been told a hundred times of the insolent absurdity with which you condemned Galileo, and I speak to you of it for the hundred and first. I would have it inscribed over the door of your holy office. Seven cardinals...threw into prison the master of thinking in Italy, at the age of seventy; and made him live upon bread and water because he instructed mankind in that of which they were ignorant.[30]

To Voltaire, then, dogma was the real enemy, the poisonous essence of _l'infâme_. If mankind were somehow to emerge the victor in the timeless struggle with the forces of ignorance and superstition, authority must be prevented from constraining them to beliefs beyond or in contradiction to the evidence.

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[29]Voltaire, _Works_, Vol. V, p. 15.

[30]Voltaire, _Works_, Vol. VI, p. 178.

It is in this sense that Voltaire ceaselessly urged his brethren to *écrasez l'infâme*!

While Rousseau's work, in many respects, is in sharp contrast to the rest of the *philosophes*, his criticism of religion and the Church does not present a striking departure from the spectrum of Montesquieu and Voltaire. The path he followed, however,--one can hardly call it a reasoning process--was radically in opposition to the intellectual tradition traced thus far from the Renaissance. Rousseau was the prophet of that baffling *je ne sais quoi*, *sensibilité*. This glaring aberration in the history of western thought is a sort of panacea which may repudiate, not only reason, but honor, duty, justice, "and the rest of the seven deadly virtues" on grounds which may be summed up by saying, "the heart has its reasons!" In the *Discourse on Inequality* (1754), which Voltaire called, "your new book against the human race,"[31] Rousseau elaborated the basic idea which colors the rest of his work, and much of subsequent history. Man in his natural state, the "noble savage," is basically good; his corruption and depravity are the result of that monstrous evil, civilization and

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[31] Voltaire, *Works*, Vol. XXXVIII, p. 223. Rousseau had sent a copy of his *Discourse* to Voltaire. One may be sure that the letter quoted above was not the response Rousseau had in mind.

all its uses.[32] (It may be unnecessary to point out that a careful and altogether too literal reading of the works of Voltaire might seem with perfect logic to lead to just such a conclusion.)

None of the philosophes seem to have anticipated the doctrine of a rigid separation between church and state, though it might reasonably be inferred from Voltaire. Montesquieu and Rousseau, who possessed a reverence for classical antiquity not shared by Voltaire, tended to think of religion as a civil function, an integral and supporting feature of the state structure. Nevertheless, as one might expect from their sharp divergence of premises, they frequently arrive at diametrically opposed conclusions. Thus Rousseau, commenting upon the spread of the Roman empire, concluded:

> ...paganism finally became, all over the known [i.e. Roman] world, a single, homogeneous religion. Thus matters stood when Jesus made his appearance, bent on establishing a spiritual kingdom on earth--an enterprise which forced a wedge between the political system and the theological system, and so undermined the unity of the state. Hence the internal divisions that--as we are about to see--have never ceased to plague the Christian peoples.[33]

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[32]Jean Jacques Rousseau, On the Inequality Among Mankind and Profession of Faith of a Savoyard Vicar (Vol. 34 of The Harvard Classics Series, ed. Charles W. Eliot. 50 vols.; New York: P. F. Collier & Son Corporation, 1910), pp. 165-228, passim. Hereafter cited by particular title, as thus: Rousseau, On Inequality or Savoyard Vicar.

[33]Rousseau, Social Contract, p. 208.

Thereafter, Rousseau describes, after a fashion, the process whereby Christianity became, first the state religion, and finally the co-equal partner of the Roman empire. "This dual power," he concluded, "produced a continuing struggle over jurisdiction, the effect of which was to make a sound constitution impossible in the Christian states."[34] From the foregoing, Rousseau's view of the rest of the Church can correctly be inferred. Indeed, by putting his exposition of natural religion in the mouth of his Savoyard vicar, a poor, obscure, and outcast priest, he achieves an interesting effect. The vicar, as a Catholic priest, is presented as the noteworthy exception that proves the rule.

The dominant negativism of the attack leveled at the Church should occasion no surprise considering that even among the Janissaries of the counter-Reformation there was a strong undercurrent of Renaissance worldliness; almost from their inception, there was something a little Machiavellian about the Jesuits. In all probability, the bishops and abbotts of the eighteenth-century French Church would have found themselves at home at the court of Leo X. Many of the French churchmen were disinterested in fending off the attacks of the philosophes,

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[34]Rousseau, Social Contract, p. 209.

and those who were interested were frequently not of the front rank intellectually. It is somewhat symbolic of the condition of the French Church that Voltaire's initiation to the deist and epicurean writers was received at the hands of his godfather, the abbé de Chateauneuf.[35]

In their criticism of the government the philosophes were, as a rule, more circumspect and more positive. Something as vague as écrasez l'infâme can hardly be called a program of reform. With the monarchy, however, it was otherwise. Indeed, Voltaire and a majority of the philosophes might easily have been won to the support of the government; they did in fact support the theory of the monarchy. The censorship affords an excellent example of the failure of the government, whose half measures were irritating but ineffective. Thus in May, 1734, what Voltaire modestly called his "philosophical, political, critical, poetical, heretical, and diabolical"[36] Lettres philosophiques were burned by the public executioner and a lettre de cachet issued for his arrest. But nothing came of it. Voltaire had prudently retired to Cirey, the Chateau of his mistress, the marquise du Chatelet. From thence, a

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[35]Gay, Voltaire's Politics, p. 38.

[36]Quoted in Gay, Voltaire's Politics, p. 66.

safe distance from Paris, he performed the "ritual of the old regime," writing pious letters--which nobody believed--denying his authorship. The situation is neatly summarized by Peter Gay, as follows:

> The censorship was too weak to be wholly effective, too active not to alienate writers from the government. It deprived the state of the natural spokesmen for its reforms and needlessly enlarged the circle of its critics. In its caprice, vacillation, uncertainty, the censorship was less a policy than a symptom--a symptom of the declining authority of the Old Regime.[37]

It is perhaps not strictly correct to say that the majority of the _philosophes_ supported _the_ theory of the monarchy. The majority, of which, in this case, Voltaire is representative, supported the absolutist theory of the monarchy, the _thèse royale_. Since the sixteenth century, however, two broad, general theories of the constitution of the French monarchy had been in more or less constant conflict. The reign of Louis XIV had seen the triumphant ascendancy of the _thèse royale_. Nevertheless, the rival theory had never ceased to have its adherents, and the attempted reforms of the duc d'Orleans represented a practical attempt to implement the _thèse nobiliaire_, the nobility's claim to possess a right to share in the government of the kingdom. France, however, lacked a continuously

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[37]Gay, _Voltaire's Politics_, p. 87.

functioning institutional embodiment of this claim. In 1715, for example, the year in which the roi soleil at last expired, the Estates General had not met for a hundred and one years. Moreover, had it been summoned, it would not, in all probability, have provided an outlet for the ambitions of the nobility that could have been made consistent with stable government. It would merely have provided another stage upon which the courtiers could play their daily farce of influence and intrigue. Nevertheless, the thèse nobiliaire provided a polarity of theoretical justification for critics of the monarchy.

The most able champion of the thèse nobiliaire, perhaps the only one of permanent stature, was Montesquieu.[38] Both theories were supported by plausible and by no means mutually exclusive interpretations of the origin of the French monarchy. The thèse nobiliaire, however, in seeking to establish the rights of the nobility from the origins of the monarchy, was placed in the awkward position of

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[38]The intention of the Spirit of Laws goes far deeper than a mere defense of the Thèse nobiliaire, but the adherents of the latter gratefully seized upon it, regarding Montesquieu as their champion. Thus, in 1754, when the parlement of Paris advanced its most bold interpretation of the constitutional position of the "sovereign" courts, and sought to secure from Louis XV recognition of their right to register royal decrees as a legislative rather than an administrative function, it was to Montesquieu's theory of intermediate powers that they turn for justification.

contending that something in the neighborhood of five hundred years of constitutional development had been, in a sense, "unconstitutional." No one seems to have noticed, that, had the French aristocracy been able to accept the counsel Montesquieu offered, the counsel of moderation, the national interest would not have required their exclusion.

Montesquieu's apparent advocacy of the thèse nobiliaire, in his preference for the principles of mixed monarchy, probably owed more to his admiration of the British monarchy than to any undue faith in the competence of the aristocracy of his own country. He was less prone than the other philosophes to passionate outbursts, striving instead to achieve a carefully balanced judgment. At the time of his death, his friend, Lord Chesterfield, wrote:

> On the tenth of this month, died at Paris, universally and sincerely regretted, Charles Secondat, Baron de Montesquieu, and President a Mortier of the Parliament at Bordeaux. His virtues did honor to human nature, his writings to justice! A friend to mankind, he asserted their undoubted and inalienable rights with freedom, even in his own country, whose prejudices in matters of religion and government he had long lamented and endeavored, not without some success, to remove. He well knew and justly admired the happy constitution of this country where fixed and known laws equally restrain monarchy from tyranny and liberty from licentiousness. His works will illustrate his fame and survive him as long as right reason, moral obligations, and the true spirit of laws shall be understood, respected, and maintained.[39]

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[39]Printed in London Evening Post, February, 1755. Quoted here from Franz Neumann, Introduction to Montesquieu, Spirit of Laws, p. ix.

Montesquieu's Spirit of Laws would have to be regarded, in any century, as a noble effort to discover the truth, a balanced judgment forged, as William James put it, in the "teeth of irreducible and stubborn facts." Montesquieu had no illusions about the difficulties of effecting the establishment of his principles in France. Thus he wrote of his "raw material:"

> There are three estates in France: the Church, the Sword, and the Law. Each holds a sovereign scorn for the two others. Such and such a man, for example, who should be held in scorn because he is stupid, is often so held only because he is a man of the robe.[40]

When Montesquieu was critical of the French monarchy per se, as opposed to the theory of monarchies, there was always the implication that "Caesar would not play the wolf if Romans were not such sheep."

> The King of France is the most powerful prince of Europe. Unlike his neighbor the King of Spain, he has no gold mines. Yet he possesses greater rights, for he draws from the vanity of his subjects a wealth more inexhaustible than mines. He has been known to undertake and wage great wars with no other funds than honorary titles to sell and by reason of this miracle of human pride, his troops are paid, his fortresses armed, and his navies fitted out.[41]

When he turned to the theory of governments, Montesquieu distinguished three basic types: monarchy,

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[40]Montesquieu, Persian Letters, p. 102.

[41]Montesquieu, Persian Letters, p. 77.

democracy, and tyranny. While various moral qualities are present in varying degrees in all types, he recognized in each type of government a dominant principle, or characteristic which he regarded as essential to their maintenance. The essential principle of monarchy is honor, of democracy, virtue, and of tyranny, fear. Right reason, however, dictates that all governments have a common raison d'être which only two of the basic types, monarchy and democracy, are capable of meeting. Government exists to establish, in the broadest sense of the word, justice. Thus,

> If there is a God...of necessity he must be just, for if he were not, he would be the most evil and imperfect of all beings....Thus, even were there to be no God, we should always love justice--that is to say, to do our best to resemble that being of whom we have such a beautiful idea, who if he were to exist, would be of necessity, just. Free though we might be from the yoke of religion, we ought never to be free from that of equity. ...justice is eternal and not dependent on the conventions of men. It if should so depend, this would be a horrible truth that we should have to hide from ourselves. We are surrounded by men stronger than ourselves. They could harm us in myriad different ways and three fourths of the time could get away with it unpunished. What a relief to know that in the hearts of all these men there exists an interior principle that fights in our favor and protects us from their machinations![42]

No matter what the particular institutional arrangements through which a government functions, it is only through

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[42]Montesquieu, Persian Letters, pp. 165-66.

moderation that it can hope to establish justice. It is on this basis that Montesquieu excluded tyranny from the desirable forms of government.[43] In a tyranny, "they have no limitations or restrictions, no mediums, terms, equivalents, or remonstrances;"[44] moderation and tyranny, and hence tyranny and justice are incompatible.

In the Spirit of Laws Montesquieu did not level his criticism at the French monarchy per se. His readers could hardly fail, however, to apply his discussion of monarchy to their own situation. The privileged proponents of the thèse nobiliaire were sure they saw France in the following passage:

> Monarchy is destroyed when a prince thinks he shows a greater exertion of power in changing than in conforming to the order of things; when he deprives some of his subjects of their hereditary employments to bestow them arbitrarily upon others; and when he is fonder of being guided by fancy than judgment. Again, it is destroyed when the prince, directing everything entirely to himself, calls to the state his capital, the capital to his court, and the court to his own person.[45]

Montesquieu must have believed his defense of the thèse nobiliaire to have been historically sound; he

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[43]Like Locke, Montesquieu is obliged to recognize the existence of tyrannical governments. Nor does he altogether exclude the possibility of a benign tyranny. But the principle upon which it rests is fear; if it fails for long to inspire its subjects with terror, it works its own undoing.

[44]Montesquieu, Spirit of Laws, Vol. I, p. 27.

[45]Montesquieu, Spirit of Laws, Vol. I, p. 113.

devoted almost the whole of the second volume of the Spirit of Laws to it. By the same token, his penetrating criticism of the privileged orders suggests that he regarded it as politically impracticable. While the French aristocracy, as a whole, produced many able men, it also produced innumerable parasites willing to make the government a mere tool of private factions. They seem never to have produced a majority able to compromise in the national interest. Deprived of their "right" to make anarchy a principle of government, they resisted the more tenaciously any encroachment on their privileges. Thus, "By the end of Louis XV's reign, the stream of social ascent had become a narrow and obstructed trickle."[46] The ablest members of the aristocracy became the patrons of the philosophes; as protagonists of reform, they were frequently the most severe critics of their own orders. As Brinton puts it,

> This is the deliberate espousal by members of the ruling class of the cause of the discontented or repressed classes--upperdogs voluntarily siding with underdogs. It is not altogether cynical to hazard the guess that this is sometimes an indication that there is about to be a reversal in the position of the dogs.[47]

In contrast to Montesquieu, Voltaire's view of the secular establishment was relatively unambiguous.

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[46]Gay, Voltaire's Politics, p. 312.

[47]Brinton, Anatomy of Revolution, p. 46.

He was the champion of the thèse royale. It must be understood, however, that the eighteenth century honored a distinction between absolutism and despotism. Voltaire and the majority of the philosophes regarded France as a "constitutional absolutism."[48] As they saw it, legitimate reform could only be effected by the power of the crown. Thus, while Voltaire worked tirelessly to promote the responsible exercise of the powers of the crown, he opposed with equal vigor the tendency of that power to become arbitrary and tyrannical. Thus he wrote,

> It is very likely that the more ancient fables, in the style attributed to Aesop, were invented by the first subjugated people. Free men would not have had occasion to disguise the truth; a tyrant can scarcely be spoken to except in parables; and at present, even this is a dangerous liberty.[49]

Voltaire believed that the fundamental constitution of France made it incumbent upon the crown of France to establish justice and to respect and defend the liberty of its subjects. In short, it was thought to be the constitutional duty of the king of France to establish and maintain the rights of man. "Despotism," Voltaire wrote, "is the abuse of monarchies, as anarchy is the

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[48]Gay, Voltaire's Politics, Chapter VII.

[49]Voltaire, Works, Vol. VIII, p. 311.

abuse of republics. A prince who imprisons or executes his subjects without justice or due process of law is nothing but a highway robber who is called 'Your Majesty.'"[50]

From the earlier discussion of Rousseau, it is not surprising to discover that his view of government *per se* is in sharp contrast to that of the other *philosophes*. "It is Rousseau's historic merit," writes Franz Neumann, "to have reduced the *thèse nobiliaire* and the *thèse royale* to insignificance and to have put the political problem on an entirely new basis, that of pure democracy."[51] This may be true, but it is somewhat misleading, particularly in a time and country where constitutional polity is revered under the name of democracy. Rousseau distinguished between the sovereign and the government. In any legitimate form of government, sovereignty resides with the people; regardless of the form, the government is the agent of the sovereign. Consequently, a government derives its just powers from the consent of the governed. While Rousseau regarded liberty and equality as the objects of the social contract,[52] the context he established for them renders plausible the criticism that he foreshadowed the Republic

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[50]Quoted in Gay, *Voltaire's Politics*, p. 141.

[51]Franz Neumann, Introduction to Montesquieu, *Spirit of Laws*, p. xxix.

[52]Rousseau, *Social Contract*, p. 76.

of Virtue and the totalitarian state.[53] Of democracy, he wrote: "No real democracy--taking this term in its most rigorous sense--ever existed, and none ever will exist.... While a people made up of gods, if one were to exist, would govern itself democratically, no such perfect form of government is advisable for one made up of mere man."[54]

Rousseau's general remarks often seem so pertinent to particular conditions that one is apt to wish so brilliant a man had been a bit less muddle-headed. For example, in the following passage, the basic difficulty of the old regime is brilliantly summarized:

> If the laws are inflexible, and consequently unable to adapt themselves to events, then they may prove positively harmful; indeed they may, at a critical moment, bring about the downfall of the state.[55]

From the labor of Renaissance and Reformation, science and philosophy, a new structure of values emerged to shape the destiny of western man. The genius and devotion of two centuries had gone into the analysis of man in all his myriad aspects and relationships, individual and corporate, seen and unseen. In France in the eighteenth century, an intellectual elite, a creative minority, of

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[53]Rousseau, Social Contract, pp. 41-47.

[54]Rousseau, Social Contract, pp. 100 and 102.

[55]Rousseau, Social Contract, p. 195.

seldom surpassed brilliance forged the fruit of these labors into what was, overall, a comprehensive program of reform. Voltaire, the symbol of his age, stood in direct line of succession to the intellectuals who had contributed their labors to establishment of the French monarchy. The proponents of the thèse royale were driven, as it were, into opposition by the failure of the monarchy to realize the potential with which its theorists had endowed it. "Advocates of the thèse royale from Bodin to d'Argenson subjected the crown to the unwritten fundamental laws of France and assumed, further, that the king would obey the decrees he had made."[56] For the majority of philosophes, then, the monarchy was the chosen instrument of enlightened reform. This was a natural choice. The French monarchy had traditionally drawn support from an intellectual elite which cut across the lines of class, an aristocracy of ability; Bodin and Montaigne had been more than men of letters; they had actively and ably served the crown.

In the course of the eighteenth century the monarchy gradually and in varying degrees alienated this source of traditional support. This discussion has been confined to examining the major influences that shaped the changing value structure; thus it has examined the Enlightenment

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[56]Gay, Voltaire's Politics, p. 315.

only as its criticisms of the old regime reflected the basic alteration in that structure. But the activities of the philosophes were by no means limited to this sphere. Under their influence, the face of France and the scope of its activities in every sphere were in the process of transformation.[57] The ultimate success of the Enlightenment required that the Establishment be brought into harmony with what was being done. This the philosophes sought to accomplish by "constitutional" means; first and foremost, the absolute monarch had to be induced to become more responsive to the desires of the expanding group of his politically articulate subjects. Moreover, the theoretical structure of society on which law and privilege were founded would have to be based upon a conceptualization less archaic than the three "orders." The law must be made to take cognizance of society as it actually existed. Reduced to simplest terms, the philosophes demanded that the monarchy justify itself on purely pragmatic grounds. They envisioned the monarch as a father-figure, a divine viceroy; he might hold his power from God, but he was expected to take his precepts of government from Locke. Had it been realized, the program of the philosophes would

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[57] Leo Gershoy, From Despotism to Revolution 1763-1789 (Vol. X of The Rise of Modern Europe Series, ed. William L. Langer. 20 vols.; New York: Harper & Brothers Publishers, 1944), pp. 307-322.

have amounted to a second Bloodless Revolution. This, of course, seems less feasible in retrospect than it did to those who attempted it. In retrospect, constitutional absolutism seems to be a contradiction in terms. The French monarchy, however, had been traditionally a representative institution. This "representative eminence" steadily declined throughout the eighteenth century. Only very gradually did the idea take shape that the old regime could no longer embody the collective aspirations of its most productive subjects.

The philosophes would have been unalterably opposed to the French Revolution as it actually developed. This statement, if not quite beyond modification, enjoys the highest degree of probability. Even Rousseau, by all odds the most radical of the critics of the regime, may be said to have favored a modified monarchial solution, to the extent that he regarded republican forms of government as best suited to small countries with subsistence level economies. This being the case, in what inadvertent way did the philosophes contribute to the coming of the French Revolution?

The thèse royale was in varying forms, the dominant theory of political association in the eighteenth century. Other forms of government, varying as widely as Geneva,

Holland, and Venice were lumped together as republics; such forms of political association were generally regarded as unsuited to great nations. The philosophes, for all the brilliance of their insights, failed to realize that the old regime as it existed in France was incompatible with the structure of social values they advocated. The effect of their attempts to make the monarchy the means of implementing their program of reforms was to drive it and the privileged orders it maintained ever deeper into reaction. Thus the old regime was inexorably undermined by the very party that sought to make the monarchy the champion of the Enlightenment. The failure of the philosophes was in their inability to recognize the fundamental contradiction that made their ends and those of the monarchy inimical.

Since the Renaissance, the growth of political consciousness had been a phenomenon which had cut across the lines and gradations of class. Men of this stamp from every class had built the French monarchy with a definite objective in view. Whatever the personal motives of individual French monarchs, their supporters were motivated by the recognition that all classes of society stood to gain from a truce to anarchy and the establishment of order. This motive was already clearly present when the civil wars of the late sixteenth century and the clear and present

danger of a resumption in the second decade of the seventeenth century fixed stability as the only political value. The age of Louis XIV revealed the extent to which the quest for stability had taken possession of the society.

> The classical mind...loves stability, nay, if it could, it would be stability. Now that the Renaissance and the Reformation--big adventures these!--were over, the time had come for a mental stock-taking, for an intellectual "retreat." Politics, religion, society, art--all had been rescued--.... Humanity's storm-tossed barque had made port at last. Long might it stay there! Long! Nay, let it stay there for ever! Life was now a regular, well-ordered affair. Why, then, go outside this happy pale, to risk encounters that might unsettle everything? The Great Beyond was viewed with apprehension; it might contain some uncomfortable surprises. Nay, Time itself they would have made stand still, could they have stayed its flight. At Versailles, the visitor got the impression that the very waters had been arrested in their course, caught and controlled as they were, and sent skywards again, and yet again, as though destined to do duty forever.[58]

This was the goal, or rather the ideal of the politically conscious elements of French society for over a century. Acting upon this ideal, they championed the thèse royale and the monarchy of Henry IV, Louis XIII, the Cardinal Ministers, and Louis XIV. Given this passion for order, with its roots deep in the public philosophy, the enthusiastic acceptance of the Cartesian philosophy and the new

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[58]Hazard, The European Mind, pp. 3-4.

science follows quite naturally. In the rational order of nature and the inexorable, eternal world-machine proponents saw, as it were, a cosmic justification of their own socio-political ideal. Their acceptance, however, ultimately involved far more than they were prepared to cope with. Even before the death of the Grand Monarch, critics like Fénelon and Vauban had dared to imply that their's was not the "best of all possible worlds."

Throughout the time span of this essay, the life of Europe was changing. When the rate of change had accelerated to the point where it ceased to be historically imperceptible, one begins to speak of the Renaissance. From the Renaissance it becomes possible to trace, though imperfectly, the unbroken interaction of thought and changing conditions. During the late seventeenth and eighteenth centuries the intellectual revolution of the earlier period began to overtake the awareness of the educated public. Most educated people were incapable of reading Newton, and even Locke was probably not read by <u>all</u> who had the ability. The <u>philosophes</u>, however, brought before the educated a system of socio-political inferences from the doctrines of science and philosophy. This system possessed a personal immediacy seldom achieved by pure theory; for it focused attention upon the steadily widening

gulf that separated a dynamic society from the society established in law and presided over by the monarchy.

The philosophes found the value structure of French society already greatly modified from what it had been in the reign of Louis XIV. The major effort went into the attempt to give specific application to those new values in the pattern laid out by Locke. The steady scrutiny of their polemic subjected the events of their age to the interpretation of the new value structure. This new public philosophy must be understood, however, as a synthesis. The philosophes themselves were deeply concerned to find a solution to the problems of the old regime which maintained order and stability. Thus they supported the thèse royale, the theory historically and by no means unreasonably identified with the establishment of stable government.

The monarchy, however, was not the creation of a semi-mythical Law-giver of the kind imagined by Montesquieu and Rousseau. Rather it was an institution built of responses to the particular situations arising in the society it sought to govern. The monarchy was a creation designed to preserve and bring harmony to the social structure of the old regime, not to overthrow or bring into abject submission any part of it. Thus one finds Richelieu, the great servant of monarchical power,

reminding his royal master of his constitutional duty in the preservation and reform of the Estates.[59] The privileged orders, then, were an integral part of the constitutional structure of the French monarchy; no part of the structure could be weakened or removed without seriously weakening the whole.

It must not be supposed that the philosophes began the process of undermining the privileged orders. As a body, they had never risen above the particularism of class to view their privileges as the counterpart of responsible conduct in the national interest. Despite their frequently admirable qualities as individuals, they were, with respect to the national interest, an excellent example of individualism run amuck. If the French constitution was not by any means what the eighteenth-century proponents of the thèse nobiliaire contended, it cannot, on that account, be denied that they possessed the right, however ill-defined, to a voice in the conduct of affairs. Thus the final form given the monarchy by Louis XIV was, in a sense, a confession of failure. (The continental position of France, of course, made it impossible to solve their constitutional difficulties

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[59] Henry Bertram Hill (trans.), The Political Testament of Cardinal Richelieu (Madison: The University of Wisconsin Press, 1961), pp. 13-33.

as Britain had, by a brief period of virtual withdrawal from the affairs of Europe.) In the press of events, a deliberate and single-minded effort to effect the reform of the privileged orders envisioned by Richelieu was virtually impossible. Louis XIV, by completing the separation of privilege from power, maintaining the former as the price of domestic tranquility, compromised the future of the monarchy for political expedience. The original justification of privilege had been service. The failure to preserve both and bring them into harmony with the national interest was the first and most basic failure of the old regime.

Perhaps the class interests of the French nobility would never have broadened to become national in scope. But the separation of privilege from responsibility tended to perpetuate their narrow viewpoint. Thus a public philosophy that looked to the interests of the social enterprise as a whole, one which regarded the welfare of the state as inseparable from that of its people, could not hope for more than scattered support from orders whose responsibilities did not transcend the particular interests of their class. Apparently the majority of the privileged orders regarded, and rightly so, the new values as inimical to their position. In the last analysis, however, values do not make revolutions. The historical significance of

the line of development traced from the Renaissance lies in the changing understanding men had of the reality around them.

Basically, the idea of the French Revolution is a thing independent of the Revolution itself. It began to take shape before the outbreak of the Revolution and it continued to be molded after the Revolution had run its course. It is basically the idea that the form of political association which constitutes a nation must be an adequate reflection of the collective image of its people. It should be noted that this is not the same as saying that a government must govern with the consent or assent of the governed. The Tudors or Henry IV knew nothing of such things in the terms they are thought of today, but their governments were not the less truly representative. A government may be successful, regardless of its form, if it provides a safe repository of the national interest and an adequate symbol of the national aspiration. It must, in short, be a government with which the politically conscious citizen can identify himself psychologically. No government can long survive the mass alienation of the society's leaders. One of the salient political developments of the eighteenth century was the progressive disenchantment of the social leadership. This condition became steadily more acute as the ranks of the opposition were swelled by the blocked

avenues of social ascent and the increasing number of politically conscious and articulate individuals. The outstanding French monarchs, prizing talent, had held open the path to preferment and nobility, drawing the services of the able to themselves. In the eighteenth century, however, a relatively weak national monarch too often heard only the counsels of a class divested of national responsibility. This must be regarded as an important factor in the further alienation of the politically conscious creative minority. The _philosophes_ made explicit the problem long implicit in the alienation of this traditional support of the monarchy and the _thèse royale_. In the eighteenth century the problem was rendered acute by the weakness at the center, Louis XV. Lacking a coherent policy and buffetted by conflicting influences, the monarchy shifted from conservatism to reaction. Reaction, in a progressive society, was no more possible before the Revolution than after it. As it became apparent that the monarchy was no longer capable of representing the collective image of the national leadership, the idea of the French Revolution was born.

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Russell, Bertrand. Mysticism and Logic. Garden City, New York: Doubleday & Company, Inc., 1957.
Intense and thought provoking collection of Russell's early essays.

Russell, Bertrand. The Wisdom of the West. Garden City, New York: Doubleday & Company, Inc., 1959.
This is not, as might be supposed, a handsomely illustrated rechauffé of the History of Western Philosophy. It contains several new evaluations which the author is uniquely qualified to make.

Santayana, George. The Life of Reason, or The Phases of Human Progress. Vol. II, Reason in Society. 5 vols.; New York: Charles Scribner's Sons, 1922.
Santayana's first work in philosophy, originally published in 1905. Its insights into the nature of man and his works reveal, as no technical exposition of philosophy could, the mind of this great philosopher.

Santayana, George. Some Turns of Thought in Modern Philosophy. New York: Charles Scribner's Sons, 1933.

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Ultimate Religion is the commerative address presented by Santayana at the Hague on the occasion of the three-hundredth anniversary of the birth of Spinoza. One of the most beautiful things of its kind ever written.

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The insights of a great mind into the currents of belief through the vicissitudes of human history.

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Includes Mrs. Warren's Profession, Caesar and Cleopatra, The Devil's Disciple, Candida, Saint Joan, Arms and the Man, Man and Superman.

Smith, Preserved. The Age of the Reformation. New York: Henry Holt and Company, 1923.

This well-known work still affords an excellent introduction to the subject. Its presentation is the more clear for being somewhat less subdued to caution than the present standard of historical writing.

Thompson, James Westfall. The Wars of Religion in France, 1559-1576. Chicago, Illinois: The University of Chicago Press, 1915.

Impressive, among other things, for its treatment of the events leading up to 26 August 1572. Probably still the best account of the subject in English.

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As long as scholars study the French Revolution, de Tocqueville's insights will afford serious food for thought.

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The great virtue of this work stems from Whitehead's recognition of the fact that ideas can only be meaningfully studied in terms of why they were thought to be true.

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The 1925 Lowell Lectures, this work is a challenging classic in modern philosophy.

Whitehead, Alfred North. Science and Philosophy. New York: Philosophical Library, Inc., 1948.
Graceful and penetrating reflections on personal experience, philosophy, education, and science.

Wilson, Arthur McCandless. French Foreign Policy During the Administration of Cardinal Fleury, 1726-1743. Cambridge: Harvard University Press, 1936.
This superb monograph omits virtually nothing in the treatment of its subject. It satisfactorily modifies many criticisms of Fleury's administration, including the charge that his economies cost France an effective navy. It is a thorough study, and hence, the history of Europe in this period on a French axis.

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Probably the definitive survey of the subject in English. The scope of the work allows it to come to terms with the complicated interrelatedness of science, technology, and philosophy in these centuries.

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This volume is one of the best in the series. The excellent treatment of the impact of Descartes, Newton, and Locke is only one of its virtues.

Zeller, Gaston. Les institutions de la France au XVI^e siècle. Paris: Presses Universitaires de France, 1948.

This volume is esteemed a modern classic on the subject.

Zweig, Stefan. Erasmus of Rotterdam. Trans. Eden and Cedar Paul. New York: The Viking Press, 1960.

An excellent literary biography of the great Renaissance humanist.