COSMOPOLIS

The Hidden Agenda of Modernity

Stephen Toulmin

The University of Chicago Press
For Donna
Contents

Preface / ix

PROLOGUE

Backing into the Millennium / 1

CHAPTER ONE

What Is the Problem About Modernity? / 5

Dating the Start of Modernity
The Standard Account and Its Defects
The Modernity of the Renaissance
Retreat from the Renaissance
From Humanists to Rationalists

CHAPTER TWO

The 17th-Century Counter-Renaissance / 45

Henry of Navarre and the Crisis of Belief
1610–1611: Young René and the Henriade
1610–1611: John Donne Grieves for Cosmopolis
1640–1650: The Politics of Certainty
The First Step Back from Rationalism

CHAPTER THREE

The Modern World View / 89

Fashioning the New "Europe of Nations"
1660–1720: Leibniz Discovers Ecumenism
1660–1720 Newton and the New Cosmopolis
1720–1780 The Subject of Modernity
The Second Step Back from Rationalism
Preface

This book chronicles a change of mind. The discoveries it reports are as much personal as scholarly. After training in mathematics and physics in the late 1930s and early ’40s, I was introduced to philosophy at Cambridge after World War II, and learned to see Modern Science—the intellectual movement whose first giant was Isaac Newton—and Modern Philosophy—the method of reflection initiated by Descartes—as twin founding pillars of modern thought, and prime illustrations of the strict "rationality" on which the modern era has prided itself.

The picture our teachers gave us of 17th-century Europe was a sunny one. For the first time, Humanity seemed to have set aside all doubts and ambiguities about its capacity to achieve its goals here on Earth, and in historical time, rather than deferring human fulfillment to an Afterlife in Eternity—that was what had made the project of Modernity "rational"—and this optimism led to major advances not just in natural science but in moral, political, and social thought as well. In retrospect, however, that picture was too uniformly bright, at least if we take seriously the other things that historians of early modern Europe have shown us since Roland Michaud's pioneer work in the 1590s. A realistic picture of 17th-century life must now include both brilliant lights and dark shadows: both the successes of the new intellectual movements, and also the agonies of the religious wars that were their historical background.

For myself, in the late 1960s I began to be uneasy about the received account of 17th-century ideas. The cultural changes that began around 1965 were (it seemed to me) cutting into our traditions more deeply than was widely appreciated. I tried to capture this point in a draft essay for Daedalus, dealing with changes in the philosophy of science from 1945 up to 1970. Understandably, the editor urged me to produce a less ambitious text for publication, but the central perceptions remained, to be presented here in Chapter 4. My doubts were reinforced by an essay by Stephen
conception of this book owes to her own imaginative commentary, or how far her tactful criticism has shaped its execution. Finally, let me thank Rudi Weingartner and the electors to the Avalon Foundation Chair in the Humanities at Northwestern University, who gave me the chance to complete it around the normal duties of an academic life.

An investigation with the scope I have chosen here cannot hope to be equally convincing at all points, but about one thing I am certain enough. In the reappropriation of the humanist tradition, our political or cultural future is not the only thing at stake. Striking a better balance between the abstract exactitude needed in the physical sciences and the practical wisdom typical of fields like clinical medicine can also be a matter of personal importance. If we reach the Gates of Heaven, and are given the chance to take up our eternal residence on the same cloud as Erasmus and Rabelais, Shakespeare and Montaigne, few of us (I suspect) will demand that we be clouded permanently, instead, with René Descartes, Isaac Newton, and the exact-thinking but darker-souled geniuses of the 17th century.

Evanston, Illinois
May 1989

Stephen Toulmin

PROLOGUE

Backing into the Millennium

This is a book about the past, and about the future: about the terms in which we make sense of the past, and the ways in which our view of the past affects our posture in dealing with the future. The beliefs that shape our historical forecasts represent (as German philosophers put it) our Erwartungshorizonten, or "horizons of expectation." These horizons mark limits to the field of action in which, at the moment, we see it as possible or feasible to change human affairs, and so to decide which of our most cherished practical goals can be realized in fact.

As we enter the 1990s, the third millennium of our calendar is ten years ahead, and at this, of all times, onlookers might expect us to take stock, reassess our historical situation in history, and shape fresh ideas about directions in which to move—not goals we can pursue individually, but reasonable and realistic ambitions for us to embrace as a community. Instead, with eyes lowered, we are backing into a new millennium, with little serious attention to the questions, "Where shall we be, and where will we be in a position to go, from the year 2001 on?" Twenty years ago, the situation was different. In the late 1960s, many writers kept alive the practice of reflecting on and debating the prospect of human society and culture in the next century and the coming millennium. Some of the writers who participated in that debate analyzed the current trends and extrapolated them over future decades, arriving at long-range social and political forecasts, even though these were subject to qualification. But what strikes us most, looking back, is the failure of these writers to forecast important changes that were to take place after they wrote, but before their target date, not least the revival of fundamentalist religion, at home and abroad.

Social forecasting is of course notoriously chancy. Even in the field of meteorology, detailed predictions are not practicable for more than a few days ahead; and, if social or political forecasting is even harder, that should
come as no surprise. The strength of well-formed "horizons of expectation" is not that they generate accurate forecasts, to serve as a theoretical basis for the practical politics of the future: Bertrand de Jouvenel has, indeed, explained clearly and exactly why our capacity for prävision sociale is so limited. The most that we can hope to foresee is the limits within which "available" human futures lie. Available futures are not just those that we can passively forecast, but those that we can actively create: for de Jouvenel coined a new name—"futuribles". They are futures which do not simply happen of themselves, but can be made to happen, if we meanwhile adopt wise attitudes and policies.

How are we to recognize and select "wise attitudes and policies"? A well-formulated approach to the future—a realistic range of available futuribles, within reasonable horizons of expectation—does not depend on finding ways to quantify and extrapolate current trends: that we may leave to enthusiastic weather forecasters, stock exchange charlatans, or econometricians. Rather, the questions are, "What intellectual posture shouid we adopt in confronting the future? What eye can we develop for significant aspects of the years ahead? And what capacity do we have to change our ideas about the available futures?" Those who refuse to think coherently about the future, correspondingly, only expose themselves to worse, leaving the field clear to unrealistic, irrational prophets.

Ideally, social or political thought is always framed by realistic horizons of expectation; but a people's actual horizon will frequently be unrealistic. Thus, in Oliver Cromwell's time, many educated Englishmen believed that God would bring the order of things to an end in the 1650s, and they looked in the Book of Revelations for allusions to 17th-century England as uncritically as any Texan fundamentalist looks today for signs of a imminent rapture of the saved. The fact that the end of the world did not occur on schedule deeply shocked many of the Commonwealth worthies, but in the meanwhile they discussed policies and plans within delusory horizons of expectation. Some of them even argued that the Jews should be readmitted to England, on the grounds that God could make ready His Apocalypse, and build a New Jerusalem on English soil, only after the conversion of the Jews. When Ronald Reagan dipped into Revelations in the 1984 Presidential campaign and included among his expectations a coming Armageddon, therefore, listeners with an ear for history heard in his words something disturbing echoes of the 1650s.

The historical agnosticism and short-term thinking of the 1980s reflect a general sense that, today, the historical horizon is unusually hard to focus on, and is shrouded in fog and darkness. Experience in the last quarter-century has convinced people that the 21st century will resemble the 20th even less than the 20th century has resembled the 19th. We are now at the end of an era not just in a calendrical sense—leaving behind a thousand years starting with "1", and entering a thousand years that will start with "2"—but in a deeper historical sense. The political supremacy of Europe has ended, and the hegemony of European ideas is ending too. For two hundred years, people in Western Europe and North America were content to believe that theirs was the modern age: that their way of farming and manufacturing was the "modern" one, along with their medical skills, that they had "modern" scientific and philosophical ideas, and lived in the relative security of "modern" nation states. They tackled all their practical and intellectual problems in distinctive "modern" ways; and, in a dozen fields, their life embodied rational ways of testing our procedures and institutions, not available to people in the tyrannical societies and superstitious cultures that existed before the age of "modernity".

Twenty years ago many writers still retained this faith. Their confident extrapolations for decades ahead—"their readiness to take mid-20th century social tendencies and cultural trends as likely to continue unchanged for another 40 or 50 years"—is evidence of that. They did not display the unease and sense of historical discontinuity which people in many fields claim to be experiencing today. When they proclaimed the "end of ideology", they show a belief that, in the last 200 years, modern philosophy and science had succeeded (in John Locke's famous phrase) in "clearing away the underbrush that stands in the way of knowledge". In their view, if we could only prevent ideological and theological issues from confusing matters, both the intellectual and the practical means of improving the human lot were ready to hand.

Today, the program of Modernity—"even the very concept—no longer carries anything like the same conviction. If an historical era is ending, it is the era of Modernity itself. Rather than our being free to assume that the tide of Modernity still flows strongly, and that its momentum will carry us into a new and better world, our present position is less comfortable. What looked in the 19th century like an irresistible river has disappeared in the sand, and we seem to have run aground. Far from extrapolating confidently into the social and cultural future, we are now stranded and uncertain of our location. The very project of Modernity thus seems to have lost momentum, and we need to fashion a successor program.

To form reasonable and realistic "horizons of expectation" today, we must therefore begin by reconstructing an account of the circumstances in which the Modern project was conceived, the philosophical, scientific, social, and historical assumptions on which it rested, and the subsequent sequence of episodes that has led to our present quandary. When are we
to think of the "modern" era as originating? What ideas or assumptions, about nature or society, have lain at the foundation of the "modern" program for human improvement? And how has the Western imagination come to outgrow these ideas and assumptions? These are the central questions we need to tackle in this book.

CHAPTER ONE

What Is the Problem About Modernity?

Dating the Start of Modernity

Statements like "The modern age has come to an end" are easier to resonate with than to understand. We can see why people set such store on the demise of modernity—a demise that is supposedly unavoidable, if it has not already happened—only if we first ask what they mean by the word "modern", and just when do they think that Modernity began.

Raise these questions, and ambiguity takes over. Some people date the origin of modernity to the year 1456, with Gutenberg's adoption of movable type; some to A.D. 1520, and Luther's rebellion against Church authority; others to 1648, and the end of the Thirty Years' War; others to the American or French Revolution of 1776 or 1789, while modern times start for a few only in 1895, with Freud's Interpretation of Dreams and the rise of "modernism" in the fine arts and literature. How we ourselves are to feel about the prospects of Modernity—whether we join those who are despondent at its end and say goodbye to it with regret, or those who view its departure with satisfaction and look forward with pleasure to the coming of "post-modern" times—depends on what we see as the heart and core of the "modern", and what key events in our eyes gave rise to the "modern" world.

In one sense, the idea of Modernity "coming to an end" is paradoxical. For advertisers of consumer goods, to be modern is just to be new (to be the latest thing, le dernier cri), superseding all similar things. Most of us are living in a consumption economy, which never tires of novelty, and its motto—semper aliquid novi—was already familiar to Paul of Tarsus. In this sense, the future brings us new (and "more modern") things one after the other, so that Modernity is the inexhaustible cornucopia of novelty. The
Modern age can have a stop, then, only in some quite other sense, which marks off an identifiable period of history, beginning in or around 1436 or 1648 or 1895, and now showing signs of completion. The critical question is, "What marks define the beginning and end of Modernity?" The end of Modernity is closer to us than the beginning, and may be easier to spot, so let us look at the groups who write or speak about the coming, "post modern" period in various fields of human activity, and decipher the signs that herald the end of Modernity for them. Recently this debate has been most articulate in architecture. For thirty years after the Second World War, the modern style of Mies van der Rohe and his followers, with its anonymous, timeless, indistinguishable buildings, dominated large-scale public architecture worldwide. In the 1970s, a new generation of architects and designers, led by Robert Venturi in the United States, with colleagues in half-a-dozen European countries, fought against this featureless and minimal modern style, and reintroduced into architecture elements of decoration, local color, historical reference, and even fancy that Mies would have objected to on intellectual as well as aesthetic grounds. These designers have been so productive that by now a noted German historian of architecture, Heinrich Klotz, has actually written a fullscale History of Post-Modern Architecture.

The debate about "post-modern" architecture is vocal, intriguing, and well publicized, but for our purposes it is rather marginal. When Venturi and his colleagues argue that the age of "modern" architecture is past, and must yield to a new "post-modern" style of building, their target of criticism is not modernity as a whole, but the particular movement in 20th-century art and design known as "modernism." Those who study the origins of the modernist style often trace it back to the late 19th century, particularly to the Glasgow architect-engineer, Charles Rennie Mackintosh. So, in architecture, we are concerned with a story only ninety years old—far less than historians have in mind, when they contrast modern with ancient and medieval history. Yet, for our purpose, architecture is neither irrelevant nor uninteresting; in some curious and unexpected ways modernist art and architecture, from 1900 on, picked up and gave new life to ideas and methods originating in the modern thought and practice of the 17th century. But, whatever else is or is not clear, the Modernity around which controversy rages today clearly started long before 1890.

Even the controversy about "post-modern" precedes the revolution in architecture begun by Venturi. The "post-modern" is the topic of a set of essays in social, economic and political criticism by Peter Drucker, dating from as early as 1957 and published in 1965 in a book, Landmarks for Tomorrow. Drucker pointed out radical differences between current economic, social, and political conditions and those typically associated with the term "Modernity", and concluded that it is quite misleading to apply that term to "the way we live nowadays". He argued that, instead of assuming that the nations of the world can continue with business as usual, we must see that the nation-state, which claims unqualified sovereignty, is no longer the self-sustaining political unit that it was in the 17th and 18th centuries. The times that we live in demand institutions of new and more functional kinds: institutions that overlap national boundaries and serve transnational social and economic needs.

If the central topic of the debate about Modernity are the political claims of the modern nation-state, so that the end of Modernity is linked with the eclipse of national sovereignty, we must look for the beginning of that era in the 16th and 17th centuries. On this measure, the modern era began with the creation of separate, independent sovereign states, each of them organized around a particular nation, with its own language and culture, maintaining a government that was legitimated as expressing the nation's will, or national traditions, or interests. That brings us closer to what contemporary historians call the "early modern" period, and gives us three hundred or more years of elbow room to maneuver. In the mid-16th century, the organization of states around nations was the exception, not the rule. Before 1590, the general foundation of political obligation was still feudal fealty, not national loyalty. In this sense, the starting date for Modernity belongs where many historians already put it—somewhere in the period from 1600 to 1650.

This date for the start of Modernity also fits the preoccupations of other contemporary critics. The 1960s and '70s saw the renewal of an attack on the mechanistic "inhumanity" of Newtonian Science launched 150 years earlier by William Blake in England, and Friedrich Schiller in Germany. By the mid '60s, people argued, it was time to push Blake and Schiller's critiques through to a political completion. Blake had warned that industry would destroy the country, and turn it into a waste land of satanic mills, but the economic power and political clout of big business now meant that this process was unchecked. With Barry Commoner as a spokesman for biology, and Rachel Carson's Silent Spring as a rhetorical manifesto, people in the 1970s fought for "ecology" and "environmental protection", so as to defend the natural world against human despoilers and violators.

The satanic mills and factories about which Blake complained were products of the late 18th and 19th centuries: water or steam power were needed to run the machines that made these new methods of production more efficient than cottage industry had ever been. By this standard, the
beginnings of Modernity thus go back to around 1800. Newton’s classical
*Mathematical Principles of Natural Philosophy* was published in 1687, but
his theory of dynamics and planetary motion was of no direct use to
engineers. Machinery and “manufactories” waited until the effective de-
velopment of the steam engine, after 1750. Taking the rise of industry as
the mark of Modernity, then, places the start of the modern age on either
side of the year 1800, at the time of the Industrial Revolution.

By contrast, if we see Newton’s creation of modern science as the start
of Modernity, the starting date is in the 1680s, or —to the extent that
Newton completed intellectual tasks that were framed by Galileo in sci-
entific terms, and as methodological issues by Descartes—back in the
1630s. This is where Modernity begins for many purposes. British and
American universities begin their courses on modern philosophy with
Descartes’ *Meditations* and *Discourse on Method*, while their courses on
the history of science present Galileo as the founder of modern science.
The critics are far from unanimous in their objections to modernism and
Modernity, and in their chronologies of the modern era, but for most of
them the chronology eventually reaches back to the early decades of the
17th century.

*If critics of Modernity cannot agree on when the Modern Age began, the
same is also true of its supporters.* The German philosopher Jürgen
Habermas pokes fun at the loose way in which some writers throw the
phrase “post-modern” around, and laughs at them as “posties.” For him,
the modern era began, inspired by the French Revolution, Imman-
uel Kant showed how impartial, universal moral standards can be applied
to judge intentions and policies in the political realm. In Kant, the French
Enlightenment’s social ideals found philosophical expression; and, ever-
since, progressive politics has been directed by the impartial demands of
Kantian equity. By destroying the *ancien régime*, the French Revolution
opened the road to democracy and political participation, and its moral
legacy is as powerful today as it was in the late 18th century. For Habermas,
then, the starting point is the last quarter of the 18th century, more
specifically the year 1776 or 1789.

That date, however, is only a stepping stone to an earlier beginning.
Habermas’s work did not come out of a blue sky. His emphasis on universal
moral maxims extends into ethics an ideal of “rationality” that had been
formulated by Descartes, in logic and natural philosophy, more than a
century before. Once again, “Modernity” is the historical phase that begins
with Galileo’s and Descartes’ commitment to new, rational methods of
inquiry; and any suggestion that Modernity today is over and done with is
suspect, being at least reactionary, and very likely irrationalist, too. Con-
temporary appeals to the “post-modern” may thus serve only as additional
obstacles to further emancipatory change.

Some critics, seeking a starting date in the 17th century or earlier, may
claim that the foundational works of Modernity are those of Francis
Bacon, René Descartes, and Baruch Spinoza. Others may argue that the
*Philosophical Writings* of Baruc de Spinoza (1632–1677) and the *Philoso-
phies* of Rene Descartes (1596–1650) and Galileo Galilei (1564–1642)
should be included. And some may argue that the development of Mod-
ernity should be studied in parallel to the development of the modern
state, and that the Modern Age only started after the French Revolu-
tion. The debate goes on, and the outcome is still uncertain.
Cosmopolis

What is the Problem About Modernity?

and grandparents' demolition work! The recent critique here gives us some first useful clues. When doubts are raised about the legitimacy of philosophy, what is called in question is still the tradition founded by René

Descartes at the very beginning of Modernity. Though Wittgenstein opens
his Philosophical Investigations with a passage from Augustine and also
discusses some positions from Plato, his main thrust (like Dewey's and
Heidegger's) is directed at a "theory-centered" style of philosophizing—
i.e., one that poses problems, and seeks solutions, stated in timeless,
universal terms—and it was just that philosophical style, whose charms
were linked to the quest for certainty, that defined the agenda of "modern"
philosophy from 1650 on.

Beginning with Descartes, the "theory-centered" style of philosophy is
(in a word) modern philosophy, while conversely "modern" philosophy is
more or less entirely theory-centered philosophy. In philosophy more
than elsewhere, then, one can argue that Modernity is over and done with.
With the collapse of natural science the continued evolution of modern ideas and
methods has bred a new generation of ideas and methods that can escape
criticisms that are fatal to 17th-century ideas about scientific method, in
philosophy there is no way left in which this can happen. After the
destructive work of Dewey, Heidegger, Wittgenstein, and Rorty, philos-
ophy has limited options. These boil down to three possibilities: it can cling
to the discredited research program of a purely theoretical (i.e., "modern")
philosophy, which will end by driving it out of business; it can look for new
and less exclusively theoretical ways of working, and develop the methods
needed for a more practical ("post-modern") agenda; or it can return to its
pre-17th-century traditions, and try to recover the lost ("pre-modern")
topics that were sidetracked by Descartes, but can be usefully taken up for
the future.

If the cases of science and philosophy are any general guide to the issues
underlying the contemporary critique of the "modern" age, or underlying
the recent doubts about the value of Modernity, they confirm that the
epoch whose end we supposedly see today began some time in the first
half of the 17th century. In a dozen areas, the modes of life and thought
in modern Europe from 1700 on (modern science and medicine, engi-
neering and institutions) were assumed to be more rational than those
typical of medieval Europe, or those found in less developed societies and
cultures today. Further, it was assumed that uniquely rational procedures
exist for handling the intellectual and practical problems of any field of
study, procedures which are available to anyone who sets superstition and
mythology aside, and attacks those problems in ways free of local prejudice
and transient fashions. These assumptions were not confined to philoso-
phers, but were shared by people in all walks of life, and lay deep in our "modern" ways of thinking about the world.

In the last few years, those assumptions have come under damaging fire. As a result, the critique of Modernity has broadened into a critique of Rationality itself. Faced with questions about rationality, Rorty takes what he calls a "frankly ethnocentric" position: every culture is entitled to judge matters of rationality by its own lights. In a similar spirit, Alasdair MacIntyre requires us to look behind all questions of abstract "rationality" and inquire into the conception of rationality in any given situation. If the adoption of "rational" modes of thought and practice was the crucial new feature of Modernity, then the dividing line between Medieval and Modern times rests more on our philosophical assumptions than we have supposed.

Now that rationality too is open to challenge, the traditional picture of a medieval world dominated by theology yielding to a modern world committed to rationality must be reconsidered.

Evidently, something important happened early in the 17th century, as a result of which—for good or for ill, and probably for both—it seems that society and culture in Western Europe and North America developed in a different direction from that which they would otherwise have followed. But this still requires us to ask, first, what the events were that were so crucial to the creation of modern Europe; secondly, how these events influenced the ways in which Europeans lived and thought later in the century; and, lastly, how they shaped the development of Modernity right up to our own time—not least, our horizons of expectation for the future.

Most scholars agree on one point. The "modern" commitment to rationality in human affairs was a product of those intellectual changes in the mid-17th century whose protagonists were Galileo in physics and astronomy, and René Descartes in mathematics and epistemology. Beyond this point, different people go on in different directions. Some focus on the merits of these changes, some on their damaging by-products, while a few attempt to strike a balance between the costs and benefits of the new attitudes. What is rarely questioned is the timing of the changeover: the major changes are usually placed between the prime of Galileo in the early 1600s, and the appearance of Newton's *Principia* in 1687.

As the old song warns, however, what everyone is liable to assume "ain't necessarily so." Too often, what everyone believes, nobody knows. Until recently, people assumed that Scottish tartans were woven to old designs handed on from generation to generation within a Highland clan, and it was a shock when the historians found that they were invented by an enterprising 18th-century textile merchant from South of the Border. Until recently, again, historians of science believed that William Harvey discovered the circulation of blood, by refuting Galen's theory that the blood "ebbed and flowed" in the veins. A little first-hand research showed Donald Fleming that Galen, too, believed in a unidirectional blood circulation, and that Harvey refined his theory rather than refuting it. The unanimity of earlier historians, it seemed, had been the result of their borrowing from each other's narratives instead of returning to the original texts.

As we have just seen, age-old traditions are sometimes conjured into existence long after the event, and the circumstances of their creation throw as much light on the times in which they were invented and accepted as they do on the times to which they ostensibly refer. As a result, all we can safely conclude from this initial survey of the debate between the moderns and the post-moderns is that, for much of the 20th century, people in Western Europe and North America generally accepted two statements about the origins of Modernity and the modern era: viz., that the modern age began in the 17th century, and that the transition from medieval to modern modes of thought and practice rested on the adoption of rational methods in all serious fields of intellectual inquiry—by Galileo, by Descartes in epistemology—with their example soon being followed in political theory by Thomas Hobbes.

These general beliefs are the foundation stones of what we may call the *standard account* or *received view* of Modernity. But the existence of a consensus is one thing; the soundness of this view, the reliability of the historical assumptions on which it depends, are something else. Those questions are sufficiently open to doubt to justify our starting our inquiries here, by looking again more closely at the actual credentials, and the historical basis, of the standard account.

### The Standard Account and Its Defects

Those of us who grew up in England in the 1950s and '60s had little doubt what Modernity was, and we were clear about its merits. It was our good fortune to be born into the modern world, rather than some earlier, bloodied and starved time. We were better fed, more comfortable, and healthier than our ancestors. Even more, we were free to think and say what we liked, and follow our ideas in any direction that youthful curiosity pointed us. For us, Modernity was unquestionably "a Good Thing"; and we only hoped that, for the sake of the rest of humanity, the whole world would soon become as "modern" as us.

In those two decades we also shared in the received wisdom about the beginning of Modernity. We were told that by A.D. 1600 most of Europe,
notably the Protestant countries of Northern Europe, had reached a new level of prosperity and material comfort. The development of trade, the growth of cities, and the invention of printed books, had made literacy as widespread in the prosperous city as it had earlier been among priests, monks, and other ecclesiastics. A secular culture emerged, characteristic of the educated laity rather than of the Church. Lay scholars read and thought for themselves, no longer recognized the Church's right to tell them what to believe, and began to judge all doctrines by their inherent plausibility. Turning away from medieval scholasticism, 17th-century thinkers developed new ideas based on their first-hand experience.

The rise of a lay culture cleared the ground for a definitive break with the Middle Ages, in both the intellectual and the practical realms. The intellectual revolution was launched by Galileo Galilei, and by René Descartes. It had two aspects: it was a scientific revolution, because it led to striking innovations in physics and astronomy, and it was the birth of a new method in philosophy, since it established a research tradition in theory of knowledge and philosophy of mind that has lasted right up to our own times. In fact, the founding documents of modern thought—Galileo's *Dialogue concerning the Two Chief World Systems* and Descartes' *Discourse on Method*—both dated from the same decade: that of the 1630s.

We were taught that this 17th-century insistence on the power of rationality, along with the rejection of tradition and superstition—the two were not clearly distinguished—reshaped European life and society generally. After a brief flowering in Classical Greece, natural science had made little progress for two thousand years, because people either did not understand, or were distracted from, the systematic use of "scientific method." Earlier ideas of Nature were thus refined spasmodically and haphazardly, for lack of recognized ways to improve scientific thought systematically and methodically. Once the "new philosophers" (notably, Galileo, Bacon, and Descartes) had brought to light and clarified the conditions for intellectual progress in science, ideas of Nature became progressively more rational and realistic. Meanwhile, alongside the new empirical sciences of nature, philosophy was being emancipated from the tutelage of theology, thus setting aside earlier errors and prejudices, and making a fresh start. What Descartes had done for scientific argument in the *Discourse on Method,* he did for general philosophy in his *Meditations.* He carried the analysis back to primitive elements in experience that were, in principle, available to reflective thinkers in any culture, and at all times.

As a result, philosophy became a field of "pure" inquiry, open to all clear-headed, reflective, self-critical thinkers. The 1930s view of Modernity put less emphasis on technology or the practical arts. Initially, the 17th-century revolution in natural science and philosophy had no direct effect on medicine or engineering: the new scientists helped design a few devices, such as vacuum pumps, ship's chronometers, and microscopes, but, as Bacon had foreseen, it was a long time before the theoretical light of 17th-century science yielded an equal harvest of practical fruit. (In the event, it took until after 1850.) However, though hopes of technological improvement were deferred, they were none-the-less guaranteed. Given enough time, a sound theory of nature could not help generating practical dividends.

Finally (we learned) the splits within Christendom, and the growing power of the laity, allowed European nations to insist on their sovereign authority to manage their social and political lives, which the medieval Papacy had usurped and the Counter-Reformation Church still coveted. By the year 1630, the Holy Roman Empire was an empty shell of an institution: from now on, European politics focused singlemindedly on the acts of sovereignty nation States. So understood, loyalty and political obligation referred to one state at a time. A few monarchs, like Charles I of England, claimed to be unchallenged embodiments of their nation's sovereignty; but every country had a right to order its affairs, free of interference by outsiders, notably ecclesiastical outsiders. All challenges to sovereign authority arose from within the nation-state in question, for instance, from members of a new, mercantile class, who sought a larger share in the exercise of that national sovereignty. True in the 1640s, tranquil old England had seen a Civil War, which led to the execution of Charles I. But this (we were told) was a fleeting trouble of the new age: it sprang from Charles's obstinacy in pressing anachronistic claims. As late as the 1640s, the structure of the Nation-State was not yet clear: the new patterns of society and loyalty took their definitive form only after 1660. Meanwhile, the emancipatory power of reason generated a ferment of enthusiasms that still had to be worked through and outgrown.

One way or another, then, a combination of sensory experience with mathematical reasoning, Newton's science with Descartes' philosophy, combined to construct a world of physical theory and technical practice of which we in the England of the 1930s were the happy inheritors. Right up to the 1950s, indeed, this optimistic line remained appealing, and the authenticity of the historical narrative was rarely questioned. Even now, historians of early modern England still treat the early 17th century as the transition point from medieval to modern times. If this means that William Shakespeare is not a truly modern but a late-medieval dramatist, that leaves them unmoved. In their eyes, this view of Shakespeare is no stranger than John Maynard Keynes' description of Isaac Newton, on the tercentennial
of his birth in 1942, as being not merely the first genius of modern science, but also "the last of the Magi".

Looking back at the "received view" of Modernity after fifty years, my inclination is to retort, "Don't believe a word of it!" From the start, that whole story was one-sided and over-optimistic, and veered into self-congratulation. True, it is easy enough to criticize your own former beliefs harshly, so I must try not to exaggerate. In some respects, the standard account is still correct, but we need to balance these truths against its major errors of history and interpretation. These defects become more evident with each year that goes by. The originality of the 17th-century scientists' work in mechanics and astronomy—that of Galileo and Kepler, Descartes, Huygens, and above all Newton—is as real and important as ever. But any assumption that this success was the outcome of substituting a rationally self-justifying method for the medieval reliance on tradition and superstition misses all the light and shade in a complex sequence of events. On the frontier between philosophy and the sciences, many things have changed since 1950; these changes undermine earlier assumptions that the logical recipe for making discoveries about nature lies in a universal scientific method. The worst defects in the standard account, however, are not matters of philosophy, but of straight historical fact. The historical assumptions on which it rested are no longer credible.

The received view took it for granted that the political, economic, social, and intellectual condition of Western Europe radically improved from 1600 on, in ways that encouraged the development of new political institutions, and more rational methods of inquiry. This assumption is increasingly open to challenge. Specifically, in the 1930s we assumed that 17th-century philosophy and science were the products of prosperity, and that belief no longer bears scrutiny. Far from the years 1600-1650 being prosperous or comfortable, they are now seen as having been among the most uncomfortable, and even tragic, years in all European history. Instead of regarding Modern Science and Philosophy as the products of leisure, therefore, we will do better to turn the received view upside down, and treat them as responses to a contemporary crisis.

We also assumed that, after 1600, the yoke of religion was lighter than before, whereas the theological situation was in fact less onerous in the mid-17th century than it became from 1620 to 1630. Despite his radical ideas, Nicholas Copernicus in 1543 or 1745 did not suffer the rigid church discipline that Galileo was exposed to a hundred years later. After the Council of Trent, the confrontation between the Protestant and Catholic heirs to historic Christianity took on a fresh intolerance. This set "papists" and "heretics" at one another's throats, and made the Thirty Years' War from 1618 to 1648, a particularly bloody and brutal conflict. In any event, the cultural break with the Middle Ages did not need to wait for the 17th century: it had taken place a good 100 or 150 years earlier. When we compare the spirit of 17th-century thinkers, and the content of their ideas, with the emancipatory ideas of 16th-century writers, indeed, we may even find 17th-century innovations in science and philosophy beginning to look less like revolutionary advances, and more like a defensive counter-revolution.

As a first constructive step toward a better account of the origins of Modernity, let us see why these assumptions no longer carry the same conviction among general historians today that they did in the 1930s. Over the last thirty years, modern historians have reached a unanimous verdict about the social and economic condition of Europe from 1610 to 1660. In the 1676 century, Europe enjoyed a largely unbroken economic expansion, building up its capital holdings from the silver in the holds of the treasure ships from Spain's South American colonies: in the 17th century, the prosperity came to a grinding halt. It was followed by years of alternating depression and uncertainty. In early 17th-century Europe, life was so far from being comfortable that, over much of the continent from 1615 to 1650, people had a fair chance of having their throats cut and their houses burned down by strangers who merely disliked their religion. Far from this being a time of prosperity and reasonableness, it now looks like a scene from Lebanon in the 1980s. As many historians put it, from 1620 on the state of Europe was one of general crisis.

The picture of early 17th-century Europe as in "general crisis" was made explicit in the 1950s by the French historian, Roland Mousnier, but it has since been developed by historians of many backgrounds, and from countries as far apart as Scandinavia and Italy, the U.S.A. and the Soviet Union. Naturally, they give different interpretations of the crisis, but the basic facts are not in dispute. By 1660, the political dominance of Spain was ending, France was divided in religious lines, England was drifting into civil war. In central Europe, the fragmented states of Germany were tearing one another apart, the Catholic princes being kept in line by Austria, and the Protestants reinforced by Sweden. Economic expansion was replaced by depression: there was a grave slump from 1619 to 1622. International trade fell away and unemployment was general, so creating a pool of mercenaries available for hire in the Thirty Years' War, and all these misfortunes were aggravated by a worldwide worsening of the climate, with unusually high levels of carbon in the atmosphere. (This was
the time of the Little Ice Age—as described in Virginia Woolf’s novel *Orlando*—when the River Thames froze over at London, and whole oxen were roasted on the ice.)

As Spain lost its undisputed command of the South Atlantic, the inflow of silver became unreliable, and the growth of Europe’s capital base was checked. There were recurrences of the plague. France was especially hard hit in 1630–32 and 1647–49, while the Great Plague of 1665 in England was only the last in a sequence of violent outbreaks. Meanwhile, a series of cool, wet summers had severe effects on food production. With 80 to 90 percent of the population dependent on farming, this led to widespread suffering and rural depopulation. In marginal upland areas above all (we are told) there was, from 1615 on, a steady fall in grain yields, and entire villages were abandoned, to swell the disease-ridden city slums. Amid these catastrophes, the United Provinces of the Netherlands (Holland, as we know it) stands out as the sole exception, enjoying a Golden Age at a time when the rest of Europe went through a particularly bad patch.

Despite this unanimity among general historians, surprisingly few writers on science and philosophy in the 17th century take that verdict into account. Instead, they continue to treat the expected prosperity and relaxation of the early 17th century as an obvious and familiar fact. Consult Volume IV of *The New Cambridge Modern History*, covering the late 16th and early 17th century, and you will discover that every essay but one considers how the Religious Wars, notably the Thirty Years’ War, affected their subjects. The single exception is the essay on the history of 17th-century science, which ignores these brutal conflicts and treats the agenda of natural science as having arisen autonomously, out of its internal arguments alone.

The second of our earlier assumptions has no more historical basis. Any idea that ecclesiastical constraints and controls were relaxed in the 17th century is misconceived: if anything, the truth was more nearly the opposite. Rejecting all the Protestant reformers’ attempts to change the institutions and practices of Christianity from within, the Papacy chose direct confrontation, and denounced the Protestants as schismatic. This policy was launched in the late 16th century after the Council of Trent, but culminated after 1618, with the bloodshed of the Thirty Years’ War. From then on, backsliders met with no mercy. Theological commitments were not less rigorous and demanding, but were. There was less chance for critical discussion of doctrine, not more. For the first time, the need to close ranks and defend Catholicism against the Protestant heretics was an occasion for elevating key doctrines out of reach of reappraisal, even by the most sympathetic and convinced believers. The distinction between “doctrines” and “dogmas” was invented by the Council of Trent. Counter-Reformation Catholicism was thus dogmatic, in a way that the pre-Reformation Christianity of, say, Aquinas could never have been. Theological pressure on scientists and other intellectual innovators did not weaken in the first half of the 17th century; rather, it intensified. Nor was this the case on the Catholic side of the fence exclusively; on the Protestant side, equally, many Calvinists and Lutherans were just as rigorous and dogmatic as any Jesuit or Jansenist.

The third assumption is at best a half-truth. In the 17th century, the spread of education and literacy among lay people gave their learning an increasing influence over European culture, and so helped destroy the Church’s earlier monopoly in science and scholarship. In many countries, it effectively drove the ecclesiastical culture away from the center of the national scene. But this change was no novelty. Already, by 1600, printed books had been available for over a century. Any suggestion that modern literature—in contrast to modern science or philosophy—was significantly influential only after 1600 will not bear examination. In this respect, Galileo and Descartes were late products of changes that were already well under way in Western Europe by 1520, and in Italy a good time before. The cultural world of the 1630s, embodied in men like Blaise Pascal and Jean Racine, John Donne and Thomas Browne, had its distinctive character. But, when we place that mid-17th-century culture beside that of the 16th-century humanists—such writers as Desiderius Erasmus or François Rabelais, William Shakespeare, Michel de Montaigne, or Francis Bacon—we can scarcely go on arguing that the lay culture of Modernity was a product of the 17th century alone.

Printing opened the classical tradition of learning to lay readers, and so was an important source of Modernity. But its fruits began long before Protestants and Catholics reached their later hostility, and the acrimony of the Council of Trent overlaid and distracted attention from the less polemical concerns of the 16th century. If anything, the transition from the 1560s to the 1600s (from *Paramegia* to *Pilgrim’s Progress*, from the *Essays* of Montaigne to *Desayn’s Meditations*, and from Shakespeare to Racine) saw a narrowing in the focus of preoccupations, and a closing in of intellectual horizons, not least the “horizon of expectations.” As late as the first years of the 17th century, Francis Bacon looked forward to a future for humanity whose time-scale had no clear bounds. Forty years later, serious thinkers in England shared the belief of the Commonwealth worthies, that God’s World was in its last days and “the End of the World” was literally “at hand”—to be completed by an Apocalypse, probably in or around the
What Is the Problem About Modernity?

unusual among 17th-century scientists. Robert Boyle, too, liked to think of his scientific work as serving a pious purpose, by demonstrating God’s Action in Nature (this made him, as he said, a “Christian virtuoso”), while Gottfried Wilhelm Leibniz placed theological constraints on the patterns of explanation within physics quite as stringent as any that a medieval theologian might have demanded.

To him at a point that will be of importance to us later: one aim of 17th-century philosophers was to frame all their questions in terms that rendered them independent of context, while our own procedure will be the opposite—to recontextualize the questions these philosophers took most pride in decontextualizing. The view that modern science relied from the very start on rational arguments, divorced from all questions of metaphysics or theology, again assumed that the tests of “rationality” carry over from one context or situation to another, just as they stand i.e., that we can know without further examination what arguments are rational in any field, or at any time, by reapplying those that are familiar in our own experience. Here, by contrast, instead of assuming that we know in advance what questions 16th- or 17th-century writers saw as “rational” at the time, or what kinds of arguments carried weight with them then, we shall need evidence of what was in fact at stake in their inquiries.

Our examination of the standard account of Modernity began with a review of its underlying historical and philosophical assumptions, many of which, we hinted, were exaggerated, or even downright false. In the light of this review, where does that received view stand? Clearly, it is time to give up any assumption that the 17th century was a time—the first time—when lay scholars in Europe were prosperous, comfortable, and free enough from ecclesiastical pressure to have original ideas; and it is also time to reconstruct our account of the transition from the medieval to the modern world on a more realistic basis. There must be some better way to draw the line between these two periods, and so avoid the confusions built into our present conception of Modernity. One item on our agenda is thus to outline a revised narrative that can avoid this confusion, and so supersede the standard account.

But that is only one of two complementary tasks. Since the 1950s, when Roland Mousnier wrote about the “general crisis” of the early 17th century, it should be obvious that Galileo and Descartes did not work in prosperous or comfortable times. Even in the 1620s or ’30s, however, enough was known to show (if people cared to ask) that the standard account did not hold water. The statistics of recession and depression in the years after
1618 were investigated and published in detail only in the last twenty years, but no writer of the 1900s could plead ignorance of the trial of Galileo, the Thirty Years War, or the Renaissance Humanism of, for instance, Erasmus and Babelais, Montaigne, and Shakespeare. The time has therefore come for us to ask why the twin myths of "rational" Modernity and "modern" Rationality, which continue to carry conviction for many people even in our own day, were so eager responses among philosophers and historians of science after 1920. Like any historical tradition, the standard account of Modernity is the narrative of a past episode reflected in a more recent mirror; as such, it can be a source of insight both about the episode itself and about the writers who hold up this particular retrospective mirror. Both sides of that relation claim our attention here. If we are to reach a balanced assessment of the claims of Modernity, we must keep these two tasks in proportion. On the one hand, we can justly criticize 20th-century assumptions about Modernity, only if we take more seriously the actual historical facts about the origins of the modern period. On the other hand, we can pose our historical questions about the period more exactly only if we make allowance for the special perspectives—even, the distortions—that were imposed on the received view by the faulty historical and philosophical assumptions looked at in this first revision. As we learn to correct our historical account of Modernity, we may keep at least half an eye on our own historiographical mirror, and so come to understand better the nature of its special perspectives. Conversely, as we set out to eliminate the distortions from that mirror, we may keep in mind whatever discoveries come to light along the way, to show in just what contexts and circumstances the features typical of "modern" life or thought, society or culture, actually made their first appearance in the history of Western Europe and North America.

The Modernity of the Renaissance

The first step in developing our revised narrative of the origins of Modernity must be to return and look again at the Renaissance. As a historical period, the Renaissance gives tidy-minded chroniclers some trouble. It saw the first seeds of many "modern" developments, but made few radical changes in the political and institutional forms of "medieval" Europe, and certainly did not abandon them. In the familiar tripartite chronology of European history—ancient, medieval, and modern—the Renaissance falls somewhere on the boundary between the second and third divisions. As a result, historians who rely on that traditional division must treat it either as a phenomenon of "late medieval" times, or else as a premature anticipation of the "modern" age.

Does it matter which we choose? The Renaissance was evidently a transitional phase, in which the seeds of Modernity germinated and grew, without reaching the point at which they were a threat, or worse, to the accepted structures of political society. Many of the leading figures of late Renaissance culture, from Leonardo (1452-1519) up to Shakespeare (1564-1616), worked in situations that retained much of their medieval character, without having fully developed the marks of Modernity proper. This fact can be in no way surprising, and, for our part, we may readily assume some degree of overlap between the "late medieval" and "early modern" history of Europe. Our choice of terms matters, then, only if we let it matter, and one curious feature of advocates of the received view is their insistence on deferring the start of Modernity until well after 1600. (Taking Galileo as their landmark figure for the start of modern science, for example, they call the work of his scientific precursors "medieval mechanics"). This insistence tends to distract attention from, and even conceals, one major change in the direction of intellectual and artistic, literary and scientific work that we shall recognize in the early years of the 17th century: a change which we shall recognize as one of the crucial steps, for the purposes of our revised narrative.

When we today read authors born in the 15th century, such as Desiderius Erasmus (b. 1467) and François Rabelais (b. 1494), it may take time and effort for us to grasp their "modernity," but nobody questions the ability of such writers as Michel de Montaigne (b. 1533) and William Shakespeare (b. 1564) to speak across the centuries in ways we feel upon our pulses. Instead of focusing exclusively on the early 17th century, here we may therefore ask if the modern world and modern culture did not have two distinct origins, rather than one single origin, the first (literary or humanistic phase) being a century before the second. If we follow this suggestion, and carry the origins of Modernity back to the late Renaissance authors of Northern Europe in the 16th century, we shall find the second, scientific and philosophical, phase, from 1630 on, leading many Europeans to turn their backs on the most powerful themes of the first, the literary or humanistic phase. After 1600, the focus of intellectual attention turned away from the humane preoccupations of the late 16th century, and moved in directions more rigorous, or even dogmatic, than those the Renaissance writers pursued. Something needs explaining here. To begin with, how far did the later scientists and philosophers positively reject the values of the earlier humanistic scholars, and how far did they merely take them for granted? Further, to the extent that they truly turned their backs on those
values, how far did the birth of modern philosophy and the exact sciences involve something of an actual counter-Renaissance?

Many historians of science or philosophy will find such questions heretical, but they are nowhere near as unfamiliar to historians of ideas. There are good precedents for the suggestion that the 17th century saw a reversal of Renaissance values. Writing about 16th-century Italian intellectual history, for example, Eugenio Bantoni found in the conservatism of the Council of Trent what he called an antirinascimento; while Hiram Haydn described the literary and intellectual changes in 17th-century England as a “counter-Renaissance.” Historians of science, by contrast, take far less seriously the idea that 17th-century rationalists beat a strategic retreat from the achievements of Renaissance humanism, or that their theories rested in part on a destructive critique of its central values. Nor does this idea figure prominently in standard histories of philosophy: Indeed, few of the historians involved even consider the possibility of a connection between the 17th-century change in cultural direction and the wider economic and social crisis of the time.

If we compare the research agenda of philosophy after the 1640s with what it was a century before, however, we find notable changes. Before 1600, theoretical inquiries were balanced against discussions of concrete, practical issues, such as the specific conditions on which it is morally acceptable for a sovereign to launch a war, or for a subject to kill a tyrant. From 1600 on, by contrast, most philosophers are committed to questions of abstract, universal theory, to the exclusion of such concrete issues. There is a shift from a style of philosophy that keeps equally in view issues of local, timebound practice and universal, timeless theory, to one that accepts matters of universal, timeless theory as being entailed by an exclusive place on the agenda of “philosophy.”

Turning back to the Renaissance, then, what are the foci of concern for educated 16th-century laymen in countries like France and Holland? How do they carry further the work of earlier Renaissance scholars and artists in 15th-century Italy, and of later scholars in Northern Europe? In describing these concerns, we must use a word that today has misleading implications, if not for Europeans, then at least for many Americans. The lay culture of Europe in the 16th century was broadly humanistic, so it is natural for us to refer to the writers of the time as “Renaissance humanists.”

What is the Problem About Modernity?

Isaac Newton was a student of Erasmus, who was a child when Erasmus died in the 1530s, criticized claims to theological certainty in a similar vein, as being presumptuous and dogmatic. Yet he too saw himself as being a good Catholic and, on a visit to Rome, felt entitled to ask for an audience with the Pope. The fundamentalist’s “secular humanism” is, in fact, a bugaboo.

In the 15th and 16th centuries, the emergence of real-life humanism, and the rise of the Humanities as an academic field, took place inside a European culture that was still dominated by Christian. Indeed, the humanists made major contributions to Reform, not just Protestant humanists as John Calvin, but also those within the body of the Roman Church.

True, from Erasmus to Montaigne, the writings of the Renaissance humanists displayed an urban open-mindedness and skeptical tolerance that were novel features of this new lay culture. Their ways of thinking were not subject to the restraints of pastoral or ecclesiastical duty: they regarded human affairs in a clear-eyed, non-judgmental light that led to honest practical doubt about the value of “theory” for human experience—whether in theology, natural philosophy, metaphysics, or ethics. In spirit, their critique was no less hostile to the practices of religion, just so long as this was informed by a proper feeling for the limits to the practical and intellectual powers of human beings. Rather, it discouraged intellectual dogmatism of kinds that elevated disputes over liturgy or doctrine to a level at which they might become matters of political dispute—or even of life and death.

The humanists had special reasons to deplore, condemn, and try to head off the religious warfare that was picking up intensity throughout the 16th century, as antagonism between the two branches of Western Christianity deepened. Human modesty alone (they argued) should teach reflective Christians how limited is their ability to reach unquestioned Truth or unqualified Certainty over all matters of doctrine. As Etienne Pasquier foresaw, the risk was that, pressed into the service of worldly political interests, doctrinal issues would become fighting matters: in the 1560s, he was already deplores name calling between the two sides of the debate—

with “papist” denouncing “heretic,” and vice versa—and he foresaw the disasters to which such name calling would lead.
Theological modesty of the humanists owed much, of course, to the recovery of classical learning and literature. Much of Greek and Latin learning was available to medieval scholars and lawyers: in law and ethics, logic and rhetoric, medicine and philosophy, clerical scholars in the 13th and 14th centuries reconstructed the frameworks of ideas developed in antiquity, notably by Aristotle, and they had a serious grasp of Plato before him, and of the Stoics, Cicero, and Quintilian after him. Being ecclesiastics in Holy Orders, these medieval scholars were less concerned with the historians, Thucydides and Livy, let alone with the Athenian playwrights, whether tragedians like Aeschylus and Sophocles, or writers of comedies like Aristophanes. They had some acquaintance with Latin lyric and epic poetry, from Horace and Virgil to Ovid and Catullus; they were less familiar with the Greek and Roman texts on personalities and politics, or with the memoirs and reflections of the later Latin writers—except, of course, for the Confessions of St. Augustine.

The reason is not hard to see. In modern times, novelists and poets find their grasp in the very diversity of human affairs; but, for medieval scholars, this variety had little significance. Human beings were sinful and fallible in ways that later readers found fascinating; but medieval clerics and teachers saw these failings as making humans less, not more, interesting to write about. What merit was there in spelling out (let alone in celebrating) all the varieties of human sinfulness or fallibility? Augustine’s Confessions are autobiographical in form, but their theme is still confessional: he revels in telling us what a wild young man he was, to put it in a better light the Divine Grace that gave him the opportunity to repent, and save his soul.

With the Renaissance, the rest of ancient literature and learning was available to lay readers. This included the last neglected school of Greek philosophy, that of Epicurus, which surfaced with the recovery of Lucretius’s poem, De Rerum Natura. It included also history and drama, memoirs and recollections—notably, from Pliny, Suetonius, and Marcus Aurelius—as well as political biographies like those in Plutarch’s Lives. The poetry of classical antiquity also acquired a new importance for lay readers, first in the Italian city states with Dante and Ariosto, later in Northern or Western Europe as well. Following Georges Baran, many recent historians of science deplore the dominance of Aristotle over medieval philosophy, for reasons that are now anachronistic. Medieval scholars and educators owed one crucial thing to Aristotle’s Ethics, Politics, and Rhetoric: his sensitivity to the “circumstantial” character of practical issues, as they figure in problems of medical diagnosis, legal liability, or moral responsibility. The recovery of ancient history and literature only intensified their feeling for the kaleidoscopic diversity and contextual dependence of human affairs. All the varieties of fallibility, formerly ignored, began to be celebrated as charmingly limitless consequences of human character and personality. Rather than deplore these failings, as moral casuists might do, lay readers were interested in recognizing what made human conduct admirable or deplorable, noble or selfish, inspiring or laughable. The ground was first prepared for redirecting the arts of narrative (which earlier had played a part in case law or moral theology) into the “novel of character” and other new literary genres.

Renaissance scholars were quite as concerned with circumstantial questions of practice in medicine, law, or morals, as with any timeless, universal matters of philosophical theory. In their eyes, the rhetorical analysis of arguments, which focused on the presentation of cases and the character of audiences, was as worthwhile—indeed, as philosophical—as the formal analysis of their inner logic: Rhetoric and Logic were, to them, complementary disciplines. Reflecting on the details and circumstances of concrete human actions—considering their morality as “cases” also shared top billing with abstract issues of ethical theory: in their eyes, casuistry and formal ethics were likewise complementary. Many 16th century readers were fascinated by theoretical speculations, some of them with overtones of neo-Platonism, or “natural magic.” But this speculative streak went hand in hand with a taste for the variety of concrete experience, for empirical studies of natural phenomena (such as magnetism), and for the different branches of natural history.

The results had a certain higgledy-piggledy confusion, including the irresolvable disagreement and inconsistency that led Socrates long ago to despair of a rational consensus about the world of nature. In the Europe of the 16th century, as in classical Athens, some scholars condemned as irrational confusion what others welcomed as intellectual profusion. For the moment, then—Montaigne argued—it was best to suspend judgment about matters of general theory, and to concentrate on accumulating a rich perspective, both on the natural world and on human affairs, as we encounter them in our actual experience. This respect for the rational possibilities of human experience was one chief merit of the Renaissance humanists, but they also had a delicate feeling for the limits of human experience. They declared that, to those whose trust in experience gives courage to observe and reflect on the variety of conduct and motive, “Nothing human is foreign,” and they set out to do this in rich detail, which was new at the time, and has rarely been equaled; the political analyses of Niccolò Machiavelli and the dramas of William Shakespeare are among our permanent inheritances as a result. In the 16th century, the accepted ways of thinking had still constrained new ideas of human character and
motives: in the last decades of the 16th century, they no longer placed limits on the creator of Othello and Hamlet, Shylock and Portia, Juliet and Lady Macbeth.

The reports of European explorers deepened the humanists' curiosity about human motives and actions. The 16th century saw a growing taste for the exotic, and a fascination with alternative ways of life, that was to be a counterpoint to much later philosophical argument. (As late as the 18th century, Montesquieu and Samuel Johnson still found it helpful to present unusual ideas by attributing them to people in a far-off land like Abyssinia or Persia.) Access to the diversity of cultures put to a test their commitment to an honest reporting of first-hand experience. Exotic populations can be viewed as primitive, savage, or marginally human, their ways of thinking and living as heretical, pagan, or chaotic: that option is always available to those with minds made up in advance. Instead, we could alternatively add these fresh and exotic discoveries to the pool of testimony about Humanity and human life, and so enlarge our sympathy to a point at which the accepted framework of understanding could accommodate the riches of ethnography: that second choice was typical of lay humanists in 16th-century Europe. But this dividing line never set eclectics and secular writers against one another. When, for example, reaching South America, the conquistadores set out to enslave the native population, it was Father Bartolomeo de las Casas who argued for the humanity of the indigenous Americans, and petitioned the Pope to put them out of reach of the slave trade. When posted to Peking at the turn of the 17th century, yet another priest, the Jesuit Father Matteo Ricci, adopted the life and manners of a Mandarin, and taught Christianity to a Chinese flock in terms that spoke to their condition, rather than condemning it. As for Montaigne, though his journeying reached barely beyond his trip to Rome, he was too happy to collect ethnographic reports, and add to his repertoire of personal experience reflections on topics like nudity and cannibalism, which had hitherto been seen as merely scandalous.

Within philosophy itself, the humanists' respect for complexity and diversity worked out differently. Naturalism rejoiced in the profundity of God's Creation, but those who looked for comprehensive systems of physical theory in human experience faced disappointment. Given the very varied ideas that circulated in the 16th-century intellectual world, no one could ever bring matters of physics to a convincing confrontation, and everyone was free to believe what he liked. In natural philosophy, many of the humanists—once again, like Socrates—were driven to adopt atti-
certainty, necessary, or generality beyond "the nature of the case." The skeptics placed similar limits on appeals to experience. We need not be
ashamed to limit our ambitions to the reach of humanity: such modesty
does us credit. Meanwhile, the range of particular everyday phenomena, on
which human experience gives solid testimony, is unlimited in the realm
of human affairs, and in natural history. There may be no rational way to
convert to our point of view people who honestly hold other positions, but
we cannot short-circuit such disagreements. Instead, we should live with
them, as further evidence of the diversity of human life. Later on, these
differences may be resolved by further shared experience, which allows
different schools to converge. In advance of this experience, we must
accept this diversity of views in a spirit of tolerance. Tolerating the
resulting plurality, ambiguity, or linguistic vagueness is no error, let alone a
sin. Honest reflection shows that it is part of the price that we inevitably
pay for being human beings, and not gods.

Retreat from the Renaissance

During the 17th century, these humanist insights were lost. True, the
founders of the Royal Society of London used Francis Bacon's modest
claims for natural science in their public propaganda in the 1660s, and in
their requests to Charles II for financial support, though in their actual
practice they often ignored the constraints that Bacon placed on the uses
of theory. In four fundamental ways, however, 17th-century philosophers
set aside the long-standing precepts of Renaissance humanism. In
particular, they disregarded any serious interest in four different kinds of
practical knowledge: the oral, the particular, the local, and the timely.

From the Oral to the Written

Before 1600, both rhetoric and logic were seen as legitimate fields of
philosophy. The external conditions on which "arguments"—i.e., public
utterances—carry conviction with any given audience were accepted as on
a par with the internal steps relied on in the relevant "arguments"—i.e.,
strings of statements. It was assumed that new ways of formulating theo-
real arguments might be found in fields that were as yet merely em-
pirical; but no one questioned the right of rhetoric to stand alongside logic
in the canon of philosophy, nor was rhetoric treated as a second-class—
and necessarily inferior—field.

What Is the Problem About Modernity?

This pre-Cartesian position contrasts sharply with that which has been
taken for granted throughout the history of modern philosophy. In the
philosophical debate that was started by Descartes, everyone read ques-
tions about the soundness or validity of "arguments" as referring not to
public utterances before particular audiences, but to written chains of
statements whose validity resided on their internal relations. For modern
philosophers, the rhetorical question, "Who addressed this argument to
whom, in what forum, and using what examples?" is no longer a matter
for philosophy. For them, it is part of the price that we inevitably pay for
philosophy, as part of the price that we inevitably pay for being human beings, and not gods.

From the Particular to the Universal

There was a parallel shift in the scope of philosophical reference. In the
Middle Ages and the Renaissance, moral theologians and philosophers
handled moral issues using case analyses that new ways of formulating theo-
real arguments might be found in fields that were as yet merely em-
pirical; but no one questioned the right of rhetoric to stand alongside logic
in the canon of philosophy, nor was rhetoric treated as a second-class—
and necessarily inferior—field.

The Good," Aristotle said, "has no universal form, regardless of the subject
matter or situation; sound moral judgment always respects the detailed circumstances of specific kinds of cases. Their insights into the particularity of human action nourished the practice of Catholic and Anglican casuistry right up to the 17th century; even Descartes, while expressing the hope that ethics might eventually achieve the standing of a formal theory, acknowledged the provisional adequacy of this inherited moral experience. In the 16th and 17th centuries, however, Antoine Arnaud, a close friend of the mathematician Blaise Pascal, was indiscertful of the ecclesiastical court at Paris on a charge of heresy, at the insistence of the Jesuits in his defense, Pascal published a series of anonymous *Discourses on Mathematical and Moral Subjects*. His chosen target was the method used by the Jesuit casuists based on analysis of specific, concrete “cases of conscience” (*casus conscientiae*). The sarcasm of his letters ridiculed the Jesuits' ferocity, and brought the whole enterprise of “case ethics” into lasting discredit.

Within the practice of medicine and law, the pragmatic demands of daily practice still carried weight, and the analysis of particular cases retained intellectual respectability. But, from now on, casuistry met the same comprehensive scorn from moral philosophers as rhetoric did from the logicians. After the 1650s, Henry More and the Cambridge Platonists made ethics a field for general abstract theory, divorced from concrete problems of moral practice; and, since then, modern philosophers have generally assumed that—like God and Freedom, or Mind and Matter—the Good and the Just conform to timeless and universal principles. They view as unphilosophical or dishonest those who focus on particular cases, or on types of cases limited by specific conditions. Let theologians weave casuistical nets; moral philosophers must work on a more general and abstract plane. As a result, philosophers again limited their own scope the careful examination of “particular practical cases” was ruled out of ethics by definition. Modern moral philosophy was concerned not with minute “case studies” or particular moral discriminations, but rather with the comprehensive general principles of ethical theory. In a phrase, general principles were in, particular cases were out.

From the Local to the General

Over the third issue—viz., the local—a similar contrast held good. The 16th century humanists found sources of material in ethnography, geography, and history, in none of which geometrical methods of analysis have much power. Ethnographers collect facts about such things as the judicial practices in various local jurisdictions, and anthropologists like Clifford Geertz then discuss them in such books as his *Local Knowledge*. Early in the *Discourse on Method*, by contrast, Descartes confesses that he had had a youthful fascination with ethnography and history, but he takes credit for having overcome it:

> History is like foreign travel. It broadens the mind, but it does not deepen it.

Ethnographers are unmoved by inconsistencies among the legal customs of different peoples, but philosophers have to bring to light the general principles that hold in a given field of study—or, preferably, in all fields. Descartes saw the curiosity that inspires historians and ethnographers as a pardonable human trait; he taught that philosophical understanding never comes from accumulating experience of particular individuals and specific cases. *The demands of rationalism impose on philosophy a need to seek out abstract, general ideas and principles, by which particulars can be connected together.*

Descartes' rejection again has historical parallels. Plato had seen different *malfunctioning* cities, like Tolstoy's “unhappy families”, as displaying specific pathologies. Political historians are free to study these differences, if that is their taste: by contrast, the philosopher's task is to seek out general principles of “political health” lying behind local idiosyncrasies, so as to throw light on the things that make a city healthy or *malfunctioning*. Aristotle took a broader view of political philosophy. Human life does not lend itself to abstract generalizations. The variety in political affairs is, in his view, an inescapable aspect of civic life, and, as such, it is also proper grist for the philosopher's mill. So matters remained up to the 17th century. When modern philosophers dismissed ethnography and history as irrelevant to truly “philosophical” inquiry, they excluded from their enterprise a whole realm of questions that had previously been recognized as legitimate topics of inquiry. From then on, abstract *assumptions were in, concrete diversity was out.*

From the Timely to the Timeless

Finally, like medieval theologians, Renaissance humanists gave equal weight to *concrete issues of legal, medical, or confessional practice*, and to abstract issues of theory. All problems in the practice of law and medicine are *timely*. They refer to specific moments in time—now or later, today not yesterday. In them, “time is of the essence”, and they are decided, in Aristotle's phrase, *pro tos xronon*, “as occasion requires”. A navigator's decision to change course 10° to starboard is as rational as the steps in a mathematical deduction; yet the rationality of this decision rests
Cosmopolis

not on formal computations alone, but on when it is effected. The relevant
sums may have been performed impeccably; but, if the resulting action is
unduly delayed, the decision will become "irrational."

Questions about the timeliness of decisions and actions, uncertainties and
arguments, had been staple topics for earlier philosophy. For 16th-century
scholars, the very model of a "rational enterprise" was not Science but Law.
Jursidicuture brings to light, not merely the link between "practical
rationality" and "timeliness", but the significance of local diversity, the
relevance of particularity, and the rhetorical power of oral reasoning: by
comparison, all projects for a universal natural philosophy struck the
humanists as problematic. A hundred years later, the shoe was on the other
foot. For Descartes and his successors, timely questions were no concern
of philosophy; instead, their aim was to bring to light permanent structures
underlying all the changeable phenomena of nature.

From the start, then, transient human affairs took second place for
modern philosophers, and they sidestepped matters of practical relevance
and timeliness, as not being genuine "philosophical."

From the 1630s on, students of jurisprudence might continue to look to philosophy as a source of
intellectual methods; but within philosophy law and medicine played
only marginal parts. Philosophers had no interest in factors that held good
in different ways at different times. From Descartes’ time on, attention was
focused on timeless principles that held good at all times equally. The
permanent was in the transient was out.

These four changes of mind—from oral to written, local to general,
particular to universal, timely to timeless—were distinct, but taken in an
historical context, they had much in common, and their joint outcome
exceeded what any of them would have produced by itself. All of them
reflected a historical shift from practical philosophy, whose issues arose
out of clinical medicine, juridical procedure, moral casen analysis, or the
rhetorical force of oral reasoning, to a theoretical conception of philo-
sophy: the effects of this shift were so deep and long-lasting that the revival
of practical philosophy in our own day has taken many people by surprise.

It is no accident that diagnostics and due process, case ethics and
rhetoric, topics and polemics, were sidelined and called in question at the
same time. In practical disciplines, questions of rational adequacy are
always timely, concrete, not abstract, local, not general, particular not
universal. They are the concern of people whose work is centered in
practical and pastoral activities. 17th-century philosophers were, in John
Dewey and Richard Rorty both concluded that philosophy turned
into its "modern" dead end as a result of the work of René Descartes; yet
neither philosopher, oddly, troubled to ask why the Quest for Certainty
was so enticing a century or so earlier or later, but at just this time.
them, it was enough to diagnose the errors that Modern Philosophy fell victim to: why that affliction struck philosophy as and when it did, they did not think it necessary to ask. By ignoring such historical issues, however, their own arguments exemplify the continuing split between rhetoric and logic—a feature of the very position they claimed to reject. The question, "Why did educated people in the mid-17th century find the Quest for Certainty so attractive and convincing?" is itself a rhetorical question of the kind that Descartes ruled out of philosophy: a question about the audience for philosophy in that particular context. It asks why the Cartesian Error—if it was an error—carried special conviction with people from 1640 on, in a way it did not do in the High Middle Ages, and no longer does today.

That question can hardly be irrelevant to philosophy, especially now. If Wittgenstein is right, the philosopher's task is precisely to show why we are tempted into these intellectual "dead ends." If that task takes research into social and intellectual history, so be it. The claim that all truly philosophical problems must be stated in terms independent of any historical situation, and solved by methods equally free of all contextual references, is one of the rationalist claims typical of modern philosophy from 1640 to 1950, rather than of philosophy in either its medieval or its post-Wittgensteinian form. The central question of our own inquiry escapes that objection. It has to do, frankly, with the history of ideas: the fact that René Descartes might call it unphilosophical is beside the point. Rather, this fact illustrates once again the central phenomenon that concerns us here: viz., the 17th-century rejection of local, timely, practical issues, and substitution of a philosophical research program whose focus was exclusively general, timeless, and theoretical.

From Humanists to Rationalists

To sharpen up the point, let us put Montaigne and Descartes face to face. Written in the 1570s and 1580s, Michel de Montaigne's Essais present a fully fledged humanist philosophy. In his one philosophical essay, the Apology of Raymond Sebond, Montaigne makes out a powerful case for classical skepticism, as the way to escape a presumptuous dogmatism. His other essays explore different aspects of human experience: there, he draws on his first-hand recollections, the testimony of neighbors and friends, or the evidence he extracts from classical literature or from the narratives of contemporary historians and ethnographers.

Once accustomed to Montaigne's personal style and idiom, many late-20th-century readers find him more congenial than his successors in the 17th century. Reading what Michel de Montaigne and Francis Bacon have to say about a hundred topics from human experience—for example, the claims of friendship, cannibalism, nudity, or the conventions of dress—we find their language as familiar to us as it was to their original readers between 1580 and the early 1600s. Neither Montaigne nor Bacon harps on the theological rights and wrongs of his views: the Apology is the only essay which even skirts near to theology. Both of them discuss life as they find it, and write about it in a nondogmatic spirit.

It is not (to repeat) that either author was "irreligious". Montaigne was a practicing Catholic, and Bacon went to Anglican service as often as convention demanded. Still less did they belong to any anti-religious party. They were men of their times, and lived like men of their times; but, given the nature of those times, they did not find it dispensable, either to be forever invoking the name of God, or to voice a continual anxiety about their personal salvation. In this, Augustine's Confessions contrast with Montaigne's Essays. Montaigne passes over comments on his own everyday behavior; on his unhealthy habit of eating greedily, but he bites his tongue and even his fingers. But he does not bare or beat his breast, as though this habit required him publicly to confess his Sins. Quite the reverse: his aim was to set aside pretense and attitudinizing, self-accusation: or ostentation self-reproach, and to provide an unvarnished picture of his experience of life, and attitudes of mind.

Montaigne's point of view contrasts sharply, also, with that of René Descartes or Isaac Newton. The intellectual modesty of the humanists made them think of Bacon and Montaigne to adopt a cool, nonjudgmental tone that makes them congenial to us, and to put a distance between their religious affiliation and their philosophical or literary reflections on experience. By contrast, the 17th-century founders of modern science and philosophy had theological commitments which shaped their whole enterprise. Repeatedly, Descartes and Newton express concern about the religious orthodoxy of their ideas; we understand the force of their scientific speculations fully, only if we take those commitments into account. Yet it is not that Montaigne's and Descartes' interests were so far apart that they ended at cross purposes, "passing like ships in the dark." On the contrary, in his final essay, Of Experience, Montaigne confronted head-on the chief philosophical problems that Descartes was to address fifty years later, and he drew reasons from his own experience to reject in advance the conclusions that Descartes argued for in general, abstract terms in the Meditations.

Montaigne is scornful about attempts to separate mental activities from bodily changes: "He who wants to detach his soul, let him do it.... when
Cosmopolis

his body is ill, to free it from the contagion; at other times, on the contrary, let the soul assist and favor the body and not refuse to take part in its natural pleasures." Elsewhere, he writes:

Since it is the privilege of the mind to rescue itself from old age, I advise mine to do so as strongly as I can. Let it grow green, let it flourish meanwhile, if it can, like mistletoe on a dead tree. But I fear it is a traitor. It has such a right brotherly bond with the body that it abandons me at every turn to follow the body in its need. I take it aside and flatter it, I work on it, all for nothing. In vain I try to turn it aside from this bond, I offer it Seneca and Caullus, and the ladies and the royal dances; if its companion has the colic, it seems to have it too. Even the activities that are peculiarly its own cannot then be aroused; they evidently smack of a cold in the head. There is no sprightliness in [the mind's] productions if there is none in the body at the same time.

He is especially hard on philosophers who use the contrasts between Mind and Body to justify despising bodily experience. Philosophers are drawn to dualism, he suggests, only when they are uncomfortable with their own corporeal natures.

Philosophy is very childish, to my mind, when she gets up on her hind legs and preaches to us that it is a barbarous alliance to marry the divine with the earthly, the reasonable with the unreasonable, the severe with the indulgent, the honorable with the dishonorable; that sensual pleasure is a brutish thing unworthy of being enjoyed by the wise man.

What reason might a modern philosopher have to scorn the flesh? Facing this question, we may look at the personality differences between the Renaissance humanists and the rationalist thinkers who succeeded them. Once again, there is a striking difference between Montaigne and Descartes. The ladies of the French Court—so we are told—kept one of Montaigne’s later essays in their boudoirs (the one with the curious title, On some verses of Virgil) and read it for pleasure. This essay reflects on his sexual experience, and deplores the habit of social prudery.

What has the sexual act, so natural, so necessary, and so just, done to mankind, for us not to dare talk about it without shame and for us to exclude it from serious and decent conversation? We boldly pronounce the words “kill,” “rob,” “betray”; and this one we do not dare pronounce, except between our teeth. Does this mean that the

What is the Problem About Modernity?

less we breathe of it in words, the more we have the right to swell our thoughts with it?

For himself, he says, “I have ordered myself to dare to say all that I dare to do, and I dislike even thoughts that are unpublishable.”

He is open about his enjoyment of sexual relations (“Never was a man more impertinently genial in his approaches”) though they are most agreeable, he insists, when love-making is an expression of real affection. He reflects on the embarrassments of impotence. In later years, he says—he died in his fifties—it is harder, faced with an unforeseen chance to make love to a beautiful woman, to make sure that he has a satisfactory erection:

He who can avoid, the morning after, without dying of shame, the disdain of those fair eyes that have witnessed his limpness and impotence; [“Her silent looks made eloquent reproach”—OVID] has never felt the satisfaction and pride of having conquered them and put circles around them by the vigorous exercise of a busy and active night.

Far from blaming this failing on his body, however, he acknowledges that the weakness springs from ambiguity of desire as much as from physical frailty, and readily accepts personal responsibility for the fact that his body seems on occasion to let him down.

Each one of my parts makes me myself just as much as every other one. And no other makes me more properly a man than this one.

Some will find it frivolous to interpret Montaigne’s attitude to sex as throwing light on his philosophy: they may even find his reflections morally offensive, and accuse him of being excessively preoccupied with the topic. In reply, we may note that, in length, the Virgil essay is only one-twentieth (5 percent) of the Essays: in the other 95 percent, he reflects on other experiences with the same candor and hatred of pretension. We may turn the question back on the objectors, and ask, “What has René Descartes to say about these topics? Could he have adopted as relaxed an attitude to his sexual experience as Montaigne?” That question answers itself. By the time of Descartes, the habits of social prudery that Montaigne deplored were back in the saddle. The Court ladies would hardly have treated the works of Descartes as pillow books: far from sexuality being a topic about which he wrote explicitly, we can reconstruct his attitudes only by inference: by decoding words in his texts as euphemisms for sexual topics, and by seeing if the course of his life gives us a clue to those attitudes.
Cosmopolis

Looking for euphemisms, we may start with the word "passions", particularly in Descartes' last major book, written for Queen Christina of Sweden, the Treatise on the Passions. Clearly, in his view, we need not take responsibility for our emotions. Feelings are not something we do. They are what our bodies do to us. Mental life comprised for Descartes, above all, rational calculation, intuitive ideas, intellectual deliberations, and sensory inputs: we can accept responsibility for the validity of our calculations, but not the emotions that disturb or confuse our inferences. Taken at its face value, then, Descartes' position implies that a philosopher can disclaim all responsibility for his articulations, unless he has a good reason for deciding to have one.

Nothing in Descartes' published treatises on philosophy approaches Montaigne's candor or ease, and the story of his life suggests that he felt some embarrassment over sexuality. He reportedly took his housekeeper as a lover, and she in due course bore him a daughter. The child's early death grieved him deeply, but he continued to refer to the mother as a "servant" and the little girl as his "niece." His choice of words is curious. Cardinals were supposed to be celibate, and so had "niques" or "nephews"; but did Descartes need to be so reticent? Was he moved by puritanism, or snobbery? Was the housekeeper's standing too humble for a member of an upwardly mobile family on its way to the noblesse de la robe? Or was his reason less deus ex machina? At our distance we have no way of knowing, but this is clear. Montaigne "dared to say all that he dared to do", but in his private life Descartes acted as he did in his professional life where— he noted self-revealingly—

Montaigne and Descartes may have differed in personality, but their intellectual opposition went further. For Montaigne, part of our humanity is to accept responsibility for our bodies, our feelings and the effects of the things we do, given those bodies and feelings, and we must do so, even if we cannot always keep these things under control. Elsewhere, he talks about farting, repeating from St. Augustine the story of the man who, by controlling his bowels, could fart in time with music. The example is, as a reader finds it, either amusing or risqué, but Montaigne uses it to make a serious point—viz., that there is no use laying down a hard and fast line to divide bodily processes ("material") from voluntary activities ("mental"), since there is no way to be sure in advance of experience just which of our bodily functions we can or cannot bring under deliberate self-control. Montaigne lives in the world of Rabelais: neither writer is constrained by "respectability", but, by Descartes' time, we are halfway to George Bernard Shaw's Pygmalion, in which Eliza Doolittle's father complains at having to wear a suit and behave in ways that an honest working man is not obliged to do. The social issue hides an intellectual point. There is more to the issue of Mind and Body than appears on the surface: how we handle it is not just a matter of theory: since the stales involve "self-command", it raises moral or social issues. The changes in intellectual attitude and philosophical theory from 1580 to 1640 thus go hand in hand with wider changes in attitude to acceptable and unacceptable conduct. By the 1640s, the rationalists do not just limit rationality to the senses and the intellect—what psychologists now call "cognition": they also reflect the first inroads of the "respectability" that was so influential over the next two-and-a-half centuries.

Is this comment relevant to the history of science or philosophy? Do we not handle intellectual problems independently of social attitudes, and vice versa? In separating rationality and logic from rhetoric and the emotions, we are unwittingly committed to the basic agenda of modern philosophy. Epistemology involves not just intellectual, but also moral issues. Abstract concepts and formal arguments intuitive ideas and propositions are not the only grist for a philosopher's mill; rather, he can attend to the whole of human experience, in varied, concrete detail. These are the lessons we learn from the humanists, and they are a long way from a rationalism that sets emotion apart from reason, and plunges us into moral apathy. Treating the feelings as mere effects of causal processes takes them out of our hands, and relieves us of responsibility: all we are rationally responsible for (it seems) is thinking correctly.

Both Montaigne and Descartes were strong individualists. Both men saw the first step in the getting of wisdom as living in self-examination. Descartes' Discourse on Method and Meditations, as much as Montaigne's Essais, were meant to serve as a model of clear-headed self-reporting. But their individualism takes them in different directions. In Descartes, there is already a flavor of "solipsism"—the sense that every individual, as a psychological subject, is (so to say) trapped inside his own head, while the scope of his reflections is limited to sensory inputs and other data that reach his mind and make him the individual he is. Fifty years earlier, Montaigne also wrote as an individual, but always assumed that his own experience was typical of human experience generally, if there were no special reason to think otherwise in some particular case. There was thus no hint of solipsism in Montaigne's reading of experience. He did not hesitate to rely on other people's reports, but developed his own account of friendships, cliques, or whatever, in ways that move freely in a world composed of many distinct, independent persons.

The early 17th century thus saw a narrowing of scope for freedom of discussion and imagination that operated on a social plane, with the onset
of a new insistence on "respectability" in thought or behavior, and also on a personal plane. There, it took the form of an alienation quite familiar to the late 20th century, which expressed itself as solipsism in intellectual manners, and as narcissism in emotional life. For Montaigne, "life experience" is the practical experience that each human individual accumulates through dealing with many coequal others: for Descartes, "(mind) experience" is raw material from which each individual builds a cognitive map of the intelligible world "in the head." In the 1580s, it did not occur to Michel de Montaigne that he was "locked into his brain." The multiplicity of people in the world, with idiosyncratic viewpoints and life stories, was not a threat. Everyone recognized that each individual's fate was, ultimately, personal—as the madrigalist put it, "Only we die in earnest, that's no jest!"—but people still dealt with each other equally, as separate individuals. Their thoughts were not yet banished, even for theoretical purposes, within the prison walls of Descartes' solipsistic Mind, or Newton's inner sensuum.

The contrast, between the practical modesty and the intellectual freedom of Renaissance humanism, and the theoretical ambitions and intellectual constraints of 17th-century rationalism, plays a central part in our revised narrative of the origins of Modernity. By taking the origin of Modernity back to the 1500s, we are freed from the emphasis on Galileo's and Descartes' unique rationality, which was a feature of the standard account in the 1920s and '30s. The opening gambit of modern philosophy becomes, not the decontextualized rationalism of Descartes' Discourse and Meditations, but Montaigne's restatement of classical skepticism in the Apology, with all its anticipations of Wittgenstein. It is Montaigne, not Descartes, who plays White: Descartes' arguments are Black's reply to this move. Montaigne claimed in the Apology that "unless some one thing is found of which we are completely certain, we can be certain about nothing": he believed that there is no general truth about which certainty is possible, and concluded that we can claim certainty about nothing. Both Descartes and Pascal were fascinated by Montaigne. As a young man, Descartes studied the Essays at La Flèche: the College library had a fine copy, with annotations some scholars think are his own first reactions. As Black, Descartes answered Montaigne's gambit by setting himself the task of locating the "one thing" for which certainty is needed. He found this in the cogito—arguing, "I have mental experiences, so I know my own existence for certain." In spite of all the skeptical limits of human finitude, it seemed to him, about that at least we could be completely certain.

What is the Problem About Modernity?

By carrying Modernity back to a time before Galileo and Descartes, and giving the Renaissance humanists credit for originality—even "Modernity"—we open up all kinds of new possibilities. Above all, we can set aside any last lingering impression that such writers as Erasmus, Shakespeare, and Montaigne were still (in a sense) "late medieval," since they lived and worked before the breakthrough to the "modern" world, which began with the creation of the exact sciences. The 16th-century humanists were the founders of the modern humanities just as surely as the 17th-century natural philosophers were founders of modern science and philosophy: for instance, the ways of describing human cultures implicit in Book VI of Aristotle's Ethics, and reintroduced in our day by Clifford Geertz as "thick description", were already put to use in Montaigne's omnivorous ethnography. Indeed, the contrast between humanism and rationalism—between the accumulation of concrete details of practical experience, and the analysis of an abstract core of theoretical concepts—is a ringing pre-echo of the debate on The Two Cultures provoked by C. P. Snow's Rede Lecture at the University of Cambridge.

On its first appearance, Snow's argument read like a discussion of social and educational institutions in 20th-century Britain, but his thesis had overtones from intellectual history. From the time of Benjamin Jonson at Oxford, the administrative elite of Britain sharpened its teeth (or claws) on texts in the "more humane" forms of literature, literae humaniores, in the silver Latin of the Oxford syllabus. The university training given to engineers, doctors, and other technical experts, by contrast, focused instead on the exact sciences. The two groups looked for their formation professionelle to different historical backgrounds. Higher civil servants were trained on Plato or Thucydides, later on Shakespeare or Namier, and knew little of the intellectual techniques that engineers and physicians inherited from the more exact traditions of Isaac Newton and Claude Bernard. If the "Two Cultures" are still estranged, then, this is no local peculiarity of 20th-century Britain: it is a reminder that Modernity had two distinct starting points, a humanistic one grounded in classical literature, and a scientific one rooted in 17th-century natural philosophy.

What has yet to be explained is why these two traditions were not seen from the beginning as complementary, rather than in competition. Whatever was gained by Galileo, Descartes, and Newton's excursions into natural philosophy, something was also lost through the abandonment of Erasmus and Rabelais, Shakespeare and Montaigne. It is not just that the rich vigor of Shakespeare overshadowed all the tortuous imagery of the metaphysical poets, or the prosaic longueur of Dryden or Pope. Quite as much, it is that the humane attitudes of openness, relaxation, and balance...
ness which were still permissible in the time of Rabelais and Montaigne, were driven underground not long after 1600. By the standards of intellectual history, the change we are concerned with here was uncommonly rapid. Completed in the 1580s, Michel de Montaigne’s *Essais* were still best-sellers in the early 17th century; finished in the 1630s, René Descartes’ *Discourse in Method* and *Meditations* soon dominated philosophical debate. If we are to give a revised account of the step from the first, humanist phase of Modernity to the second, rationalist phase, we shall thus be dealing with a mere fifty years.

The question “Why did this transition take place just when it did?” thus brings in its train the further question “Why did it happen so fast?” The crucial thing to look at is not Montaigne and Descartes as individual writers or human beings: it is the climate of opinion that let readers be skeptically tolerant of uncertainty, ambiguity, and diversity of opinion in the 1580s and 1590s, but turned so far around that by the 1640s or 1650s, a skeptical tolerance was no longer viewed as respectable. Shifting our focus to this climate of opinion, we may ask what happened between 1590 and 1640 to turn the clock back, and why by the mid-17th century most writers were more dogmatic than the 16th-century humanists had ever been. Why did people in the 1640s no longer regard Montaigne’s tolerance as compatible with sincere religious belief? In particular, why did they spend so much energy, from then on, trying to give their beliefs “provably certain” foundations? In the 1580s and 1590s, skeptical acceptance of ambiguity and a readiness to live with uncertainty were still viable intellectual policies; by 1640, this was no longer the case. Intellectual options opened up by Erasmus and Rabelais, Montaigne and Bacon, were set aside, and for a remarkably long time these options were taken seriously only by consciously “heterodox” thinkers.

The rationalists hoped to elevate questions of epistemology, natural philosophy, and metaphysics out of reach of contextual analysis, but their attempt to decontextualize philosophy and natural science had its own social and historical context, which demands examination here. The call for “certain foundations” to our beliefs has lost its original appeal in the 20th century, if only because more was at stake in the rationalist Quest for Certainty than is acknowledged in standard histories of science and philosophy, or than is at stake today in philosophy, now that we find ourselves back where the humanists left us. To see how this change came about, let us now return to the situation in which all these things took place, and ask: if European attitudes underwent such a drastic transformation between 1590 and 1640, what happened to precipitate that change?”

CHAPTER TWO

The 17th-Century Counter-Renaissance

*Henry of Navarre and the Crisis of Belief*

We must not underestimate the size of this task. It is not always obvious how deeply our current ways of thinking, notably about science and philosophy, are still shaped by the assumptions of the rationalists. Suppose, for instance, that we turn to the entry in the standard French reference book, *La Grande Encyclopédie*, on “Descartes, René”, written by Louis Liard and Paul Taupenot. This entry begins as follows:

For a biography of Descartes, almost all you need is two dates and two place names: his birth, on March 31, 1596, at La Haye, in Touraine, and his death at Stockholm, on February 11, 1650. His life is above all that of an intellect [esprit], his true life story is the history of his thoughts; the outward events of his existence have interest only for the light they can throw on the inner events of his genius.

In thinking about Descartes, the authors tell us, we can abstract from their historical context not just the various philosophical positions he discusses, but also his entire intellectual development. René Descartes’ father used to call him mon petit philosophe. His mother died while he was an infant, and from his early years he was a deeply reflective child. So, the authors assure us, we can totally grasp the development of his ideas, if we simply reconstruct the inner events of his genius, and we do not need to refer to the outward events of his life, since these did not essentially influence the history of his thoughts. That was a purely internal process.