“BUT you have ordered everything according to measure, number and weight.” This line from the Wisdom of Solomon, a favorite quotation in the early seventeenth century, may be called the motto of all scientific effort since that time. But it was characteristic of the seventeenth century that the new passion for the quantitative analysis of all phenomena should express itself by a quotation from the Bible. Efforts to achieve scientific insight were believed to be undertaken “for the greater glory of God,” and yet, during the decisive fifty years after 1600, the place of science and religion changed radically. The mathematical and cosmological speculations of Galileo, Kepler, and Descartes laid the foundation for the new world view which with Newton and Leibniz later in the century was well launched on the triumphal career that was to culminate in our time. Characteristically, all three still acknowledged the superior authority of religion, if not of theology. Few writers saw fit to deny the existence of a personal God until Spinoza came to identify God and nature in a pantheistic system that in some respects anticipated the deistic “natural religion” of the next century.
“The Varieties of Religious Experience”

In 1610, roughly two generations after the Council of Trent, the forces of the Catholic Counter Reformation were everywhere on the advance. In many countries the rival factions of Calvinists and Lutherans appeared to be more concerned with combating each other than with resisting the ever-broadening advance of the Counter Reformation. What had begun in the sixteenth century as a movement to purify the doctrine and reform the practice of the Roman Catholic Church had, by the seventeenth century, divided Christendom into a number of hostile and apparently irreconcilable confessions. It would, however, be difficult to describe the residual basic disagreements between Catholics and Protestants, between Lutherans and Calvinists, that really divided Christendom in 1610. If questions of church government and ecclesiastical organization played a very important role, so did doctrinal issues, such as those of the Immaculate Conception, of predestination, and of the communion, which were hotly debated by intellectuals and simple folk alike, while the more tangible sources of immediate conflict in family, town, and court were more often provided by their ethical and political implications. When the great Grotius published his De veritate religionis Christianae (1627), in which he suggested that the views of all varieties of Christianity might be reconciled if a common basis of piety were stressed and doctrinal differences minimized, he was immediately acclaimed by a large number of thoughtful men throughout Europe who were weary of the endless arguments. But this was two years before the Edict of Restitution,\(^1\) the highwater

\(^1\) See below, pp. 86–87.
mark of the policy of conversion by force, sought to destroy the secular power of Protestantism in northern Europe. Despite the eventual triumph of something very much like Grotius' ideal of Christian unity, the history of the seventeenth century can only be written in terms of the conflicts—intellectual, military, and political—among dissident branches of Christianity.

On the Catholic side, the most influential and in many ways the most interesting group was the Jesuits. Forcefully led and devotedly concerned with the renewal of the Church of Rome as the universal order, the Society of Jesus had by 1610 achieved a position of extraordinary leadership within the rising tide of Counter Reformation effort. Now chiefly famed for diplomacy and statecraft, the Jesuits in the seventeenth century were far more interesting from a religious standpoint; their strictly political activities were incidental to their great efforts in the fields of education and the arts, especially architecture and the drama. These efforts were doctrinally rooted in the central tenets of the order contained in two writings of the founder Ignatius of Loyola: the General Examen and the celebrated Spiritual Exercises. The aim of the society as formulated by Loyola was "not only to seek with the aid of the Divine Grace the salvation of one's own soul, but with the aid of the same earnestly to labor for the salvation and perfection of one's neighbor." This concern with each human being gave the order its popular slant and its determination to use every available means to reach the heart and mind of even the lowliest man. Taken together with its devotion to the ideal of a universal church and its insistence upon the personal leadership of Christ, this Jesuit doctrine within the church can usefully be compared to the concept of divine
kingship over national communities in the secular realm: they exalted the position of the ruler (pope) in the interest of the mass of followers, while curbing all intermediate powers. As a result, the Jesuits were keenly interested in all the intellectual and artistic currents of sixteenth- and seventeenth-century Europe; not only science, but also humanism and classicism, music and the theater, painting, sculpture, and architecture all became means for their mission of working for "the greater glory of God." Instead of the antithesis between the religious and the secular, between Christian and pagan forms of thought, which had been the characteristic feature of the Renaissance, these opposites were resolved into a new unity, which found expression in the aggressive proselytizing of the new order.

In the course of the seventeenth century, the outlook of the Jesuit order became increasingly worldly, as its members turned more and more to political and commercial activity. Instead of permeating the world with religious enthusiasm, the Jesuits themselves surrendered to the world; they strove to become indispensable to other men and shaped the confessional to this purpose. This description of the Jesuit point of view was expounded and defended by members of the order in a series of works, some of which were even put on the Index. In their defense they relied chiefly upon the conception of sin as a voluntary deviation from divine rule, implying (as their enemies were quick to point out) that man was the more likely to sin the more aware he became of divine rules, while the ignorant or passionate might be considered free of blame. Many Catholics found this doctrine, to say nothing of the practices which it was intended to justify, completely unacceptable. In particular, the movement known as Jansenism, most brilliantly
represented by the French Catholic philosopher Blaise Pascal (1623–1662), was violently anti-Jesuit.

The originator of Jansenism was Cornelis Jansen (1585–1638), a Dutch scholar and bishop of Ypres. Jansen’s great work, *Augustinus* (published posthumously in 1640), contained a careful digest of the teachings of St. Augustine with emphasis upon the problems confronting the seventeenth century. In this, as in his other books, Jansen urged that religious experience, as contrasted with theological dogma, was the heart of religion; consequently, the “love of God” and faith in Him were more important than any ritual. While Jansen was a scholar, his followers established themselves as a religious movement, with its center at Port Royal, a Cistercian abbey a few miles southwest of Paris. When Pope Innocent X at the behest of the Jesuits and of the French government declared Jansen’s work heretical, he opened a dramatic and fateful debate. Blaise Pascal, who at the age of twenty-four had discovered God as He was revealed by the Jansenists, undertook a direct attack on the position of the Jesuits. In his *Provincial Letters* (1656–1657), a series of presumed discussions between Jesuits and Jansenists on a variety of theological subjects, he revealed the startling contrast between the radically ascetic attitude of Jansenist moral perfectionism and the worldly rationalism of the Jesuits as manifested in their defense of such actions as assassination of tyrants and usury (the taking of interest). This most telling incrimination caused an immediate sensation throughout France. In 1660 the convinced authoritarian Louis XIV, as one of his first independent acts, had the Jansenists condemned; the following year all suspects were forced to sign a solemn renunciation. Yet the Jesuits in France never fully recovered from the shattering
logic of Pascal’s attack; four generations later their order was actually suppressed.

Raging during the very years when the sectarians of the “inner light” battled for the freedom of religious conscience in Protestant England, the Jansenist controversy may be summed up in Pascal’s proposition that the church persuades by reason and that “the popes may be surprised.” But coupled with this deep mysticism in matters of inner experience was a radical assertion of scientific rationalism regarding outer, sensory experience. The testimony of the senses must be yielded to on points of fact, and reason—natural reason—must be regarded as the proper instrument for determining unrevealed truth, while only with regard to supernatural truth were Scripture and the church decisive. Quoting St. Augustine and St. Thomas, Pascal proclaimed that any other position “would render our religion contemptible.” Entering therewith upon the decisive issues of science and religion in his age, Pascal told the Jesuits that it was to equally little purpose that you obtained against Galileo a decree from Rome, condemning his opinion respecting the motion of the earth. It will never be proved by such arguments as this that the earth remains stationary; and if it can be demonstrated by sure observation that it is the earth and not the sun that revolves, the efforts and arguments of all mankind put together will not hinder our planet from revolving, nor hinder themselves from revolving along with her.3

Thus at the end of this subtle argument about freedom and determinism, about predestination and grace, the victory

2 See below, Chapter VI.
of science over authority was triumphantly adduced. One must beware of assuming that the most rational and penetrating minds are somehow immune to the appeal of radically irrational views. As the case of Pascal demonstrates, the very intellectual despair of such superintellectuals gives birth to mysticism.

The mystical doctrine of the “inner light,” which played such a significant role in the writings of Pascal, as it did in all of Jansenism, was the very center of the faith of the more radical Protestant sects of the sixteenth and seventeenth centuries. Their mysticism was not the peculiar possession of a select few, but the common heritage of all. If we define the word “mysticism” broadly to mean the certainty of conviction that one’s own soul has achieved its goal of reality in God, then we might say that, like the Jansenists and Pascal, the sectarians of the inner light believed that there was something mystical and awe-inspiring in every man. This sense of mystery gave them the exalted quality which so troubled and exasperated their more rational contemporaries—a quality superbly illustrated in the personality of John Bunyan (1628–1688), author of The Pilgrim’s Progress.

Both Luther and Calvin had been frightened by the anarchic consequences implicit in such radical doctrines and had sought to avoid these consequences by relying upon the prince (in Luther’s case) or upon a pattern of theocracy (in Calvin’s). Opposing all such authoritarianism, the mystic depended upon and lived by his direct communion with the Lord Almighty. The case of Jakob Böhme, a small shopkeeper of Silesia, may be taken as typical. In 1612 Böhme published a first account of his mystical visions
under the title *Aurora*, claiming direct divine light as his source. Man, he argued, being compounded of spirit, soul, and body, must have a rebirth before he is able to achieve the true knowledge of God. He taught that God is all and nothing—he is the world-generating being which, from the bottomless abyss, projects a variety of essential phenomena, such as love and visible variety. The inherent difficulty of communicating the essential mystical experience is nowhere better illustrated than in Pascal's famous memorial of the night of November 23, 1654, in which he cried out, “Certitude, certitude, feeling, joy, peace, God of Jesus Christ . . . grandeur of the human soul . . . joy, joy, joy, tears of joy.” Regardless of the poetical form in which the mystic clothed his experience, he would live in the fellowship which this experience created for him. It is one of the most characteristic features of this age that the worldly sense of power, manifest in such figures as Richelieu and Wallenstein, found its counterpart in a spiritual sense of power which animated Spanish Catholics as much as English “seekers,” Jakob Böhme as intensely as Pascal or Kepler.

Such mystic ardor was a far cry from the sane and moderate rationalism of Richard Hooker (1553–1600), whose *The Laws of Ecclesiastical Polity* was perhaps the most balanced statement of the Anglican religious position and the most judicious defense of the established Church of England. But in the three generations which elapsed between Hooker's treatise, which appeared in the early 1590's, and the consummately skillful summary of English constitutional traditions penned by his admirer John Locke (published in 1690 as *Two Treatises of Government*),
Anglicanism was violently torn between a caesaro-papist Lutheranism and a strongly puritanical Calvinism. Because of its later significance in the English revolution and the pioneering of the Pilgrim Fathers, the word “puritan” has been the subject of much confusion and abuse. It has no distinct theological meaning, but rather indicates a general attitude toward life which was found among Anglicans, Calvinists, and Sectarians alike. The most heatedly expressed controversy concerned problems of church government, but underneath these problems lay the explosive issues involved in predestination and free will. Calvinists generally, and Scottish Calvinists in particular, tended to push the predestinarian position to its radical extreme: there was no hope for anyone except those whom God had elected to be saved; all that men could do was to labor at their calling with all possible diligence and hope to catch a glimpse of the divine will through their efforts to contribute to God’s greater glory. As Hooker put it, the Calvinists “disparaged” reason, and though they believed in an elite of the elect in heaven they were no respecters of earthly pomp and circumstance. It was a fierce and somber doctrine.

The Anglicans, on the other hand, inclined to side with the Thomist tradition, which, in the Reformed movement, had been most eloquently represented by Philipp Melanchthon (1497–1560) and by Jacobus Arminius (1560–1609), founder of the Remonstrant school of Reformed religion. What lay at the heart of the Remonstrants’ position was their insistence upon freedom of the will and the consequent significance of manifesting one’s Christianity through practical ethics. Strongly Humanist in its implications,

* See below, Chapter VI.
such a doctrine was more readily compatible with the refinement and civilized urbanity of the upper classes in England and the Netherlands than was the fierce challenge of predestination.

Spearheading the Protestant forces which opposed the advancing phalanx of the Counter Reformation were the Calvinists, forever haunted by their bitter concern with predestination. There was, at the same time, a distinct relation between some aspects of Calvinism and the rising spirit of science. It is well known that modern natural science is based upon the belief that there is some rational pattern inherent in nature and that it is the task of man to discover this rationality, to discover the laws or regularities which govern nature. This approach, stemming from Hellenic as well as Judaeo-Christian cosmologies, was clearly in accord with the Calvinist conception of God. Although the doctrine of the Trinity was retained, Calvin’s God—one and decidedly only one—was predominantly a God of power, of majesty, and of will. This God, who created the universe according to inexorable and universal laws, had set before man the task of seeking to discover His laws and thereby of glorifying His power. These laws can be discovered only by a diligent observation of facts, combined with a determination to abstract from the details of observation in order to perceive regularities, regularities which may then be formulated as generalizations. “Generalization based upon observed matters of fact”—this key to the methodology of seventeenth-century science accorded well with Calvinist determinism and predestination. The piety in the face of nature’s majesty which is so characteristic a trait of many great scientists served as an emotional underpinning for the
scientists' scrupulous regard for factual evidence, because such evidence partook of that majesty.

"The New Science"

The century between the publication of Galileo Galilei's *Siderius nuncius* (1610) and *Letters on the Solar Spots* (1613) and Gottfried Wilhelm von Leibniz' *Monadology* (1714) was the most extraordinarily productive in the entire history of pure science. In mathematics, in astronomy, in physics, in chemistry, and in anatomy, physiology, and aspects of biology, man's knowledge advanced at a rate unparalleled before or since. In each of these fields the foundations were laid upon which the investigators of the next two centuries were to construct the familiar, but nonetheless awe-inspiring, edifice which we call "modern science." But what is important besides the particular contributions of any of the scientific giants of the seventeenth century, and the total increase in human knowledge for which they collectively deserve credit, is the development during this period of a certain outlook and of certain techniques which together constitute what is known as "scientific method." In this respect, the work of the seventeenth century represents nothing less than the culmination of a profound intellectual revolution, a revolution whose origins are to be found in the sixteenth century and whose effects are everywhere apparent in the twentieth.

The brilliant results of this outburst of scientific creativ-ity should not be allowed to obscure one's view of the for-midable obstacles that confronted the leading thinkers of the time, nor should the term "modern science" mislead one into the belief that these men were all agreed on the
broad implications of their work. In spite of the growing scientific spirit of the seventeenth century, some of the worst witch-hunts belong to this period as the belief in sorcery and witches continued to prevail. In England, Scotland, and New England, as well as in Germany, Spain, and elsewhere on the continent, witches were burned and hanged by the hundreds. An overestimation of man's power was, generally, responsible for these superstitions, which were based upon the mistaken attribution of troublesome effects—such as sickness, madness, and death—to human agents. Is it too fanciful to suggest that in this baroque age, with its fantastic feeling of power as well as of insecurity, the very mystery that surrounded the startling discoveries of the men of science contributed to such outrages? Might not the revelation by these scientists of facts and relations hitherto undreamed of have led to increased credulity as well as to skepticism? Certainly it is true that the line between science and superstition seemed far less clear in the seventeenth century than it does today. The mystical belief in the aliveness and relatedness of all things in the universe, which served as a foundation for the great astronomical achievements of the mathematician Johannes Kepler (1571–1630), allowed him also to believe in astrology. The case of alchemy is similar; even the great Newton believed in it. Only by the slow spread of the scientific spirit, coupled with general enlightenment and broadening tolerance, did this scourge of superstitious belief in sorcery and witchcraft gradually subside.

But there were other traditional beliefs of a hallowed kind, notably the theologically supported notion that the earth was the center of the universe, which did yield to the onslaught of scientific advance in this period. In 1609 the
Italian scientist Galileo Galilei (1564–1642) learned that two Dutchmen had built a new instrument for magnifying man's vision, the telescope. He immediately began to build a similar but more powerful one. No sooner had he succeeded than his doubts about the Copernican heliocentric system were dispelled and he became a strong public advocate of the ideas of that Polish astronomer. Galileo's enthusiasm was that of one who is primarily concerned with observed matter of fact. For years he had struggled with the problems of motion, formulating the law of the acceleration of falling bodies. Experiment and calculation, factual observation, and daring hypotheses of rational interpretation—these together constituted the new scientific outlook. Because the factual observation was primarily quantitative, the hypotheses were of a very special kind. Measuring, counting, and weighing were the crucial methods; the refinement of the instruments employed for these tasks became a central concern of the scientist. Anyone who failed to appreciate the importance of the new outlook was considered old fashioned, a scholastic, and even a devotee of superstition.

Under the impact of the efforts of men like Galileo and Kepler, superstition acquired its modern meaning—the human tendency to believe explanations which are demonstrably contrary to established matter of fact or for which no observational basis can be adduced. The fight for science and against superstition, which began in the sixteenth century, was symbolized in Galileo's famous (though apocryphal) remark: "And yet it moves." These words were supposedly uttered as the scientist left the chamber where the Holy Inquisition had queried him concerning his Copernican teachings, forcing him to recant and admit that
the earth did not move around the sun. "And yet it moves" became the battle cry of the antitraditionalist observer of the realities of nature who—in the interest of scientific truth—was ready to challenge everyone—pope, emperor, great council, and philosopher. Actually, this famous anecdote compresses into one brief incident what historically developed over sixteen years. As early as 1613 Galileo had raised the Copernican issue in his Letters on the Solar Spots, and three years later Pope Paul V ordered him not to hold or defend the proposition that the earth moved around the sun, a proposition that had been declared "heretical" by the theologians of the Holy Office. Sixteen years later, in apparent violation of this injunction, Galileo published his Dialogue on the Two Great World Systems (1632; Dialogo dei due massimi sistemi del mondo). Examined by the Inquisition under threat of torture, the scientist recanted his objectionable teachings and was condemned to protective custody. But it was during precisely these years of enforced confinement that he produced the ripest fruit of his research, The Two New Sciences (1638). This testament of one of the greatest geniuses of the new scientific spirit set forth the principles of the "new science," the mathematical formulation of the observed regularities of bodies in motion. If less flamboyant than the immortal—and fictitious—remark flung in the teeth of the defenders of superstition, this work was Galileo's real answer to his obscurantist accusers.

Among the many workers in the field of the "new science" there grew up after 1600 a sense of great mission.

See Giorgio de Santillana's fine edition, with significant introduction (Galileo, Dialogue on the Great World Systems, Salisbury trans. [Chicago, 1953]).
The feeling of European unity was nowhere more pronounced than among these crusaders for a new world view; their voluminous correspondence strikingly anticipates the intellectual “cosmopolitanism” of the next century. Yet, among themselves, these men were sharply divided, not only on specific scientific issues but also on the broad philosophical basis of their work. The antagonism between Galileo’s dedication to experiment and calculation and Kepler’s more highly speculative mathematical approach was symptomatic of the age’s preoccupation: should one try to ignore cosmological issues—“stay away from theology,” as the Holy Father demanded of Galileo—or should one try to develop a new cosmology which would be compatible both with the new discoveries and with Christian theology?

John Donne (1573–1631), the metaphysical poet who throughout his life was deeply troubled by the “new philosophy” which “calls all in doubt,” suggested the characteristically Protestant inclination toward the second alternative: “Methinks the new astronomy is thus applicable well, that we which are a little earth should rather move towards God, than that He which is fulfilling, and can come no wither, should move towards us.” 6 This striking attempt to adapt the Copernican universe to the Christian religion would have been acclaimed by Kepler, who entertained similar ideas. Annoyed by Kepler’s talk of “sentient souls” and “celestial harmonics,” Galileo overlooked the fact that Kepler’s De harmonice mundi (1619) also contained the third law of celestial motion, a law which established a connection between planetary periods and distances. On the other hand, Kepler’s insistence on pursuing the

will-o’-the-wisp of a “prime mover” (which he finally located in the sun) led him to ignore the most significant of Galileo's formulations, notably his law of acceleration. Thus two new basic lines of inquiry were kept apart by the philosophic antagonism of their most eminent exponents, and it remained for Sir Isaac Newton (1642–1727) to combine the two in his formulation of the law of gravitation as the key to the new cosmos, a formulation constructed out of the elements Kepler and Galileo had provided two generations earlier.

The Experimental Method: Bacon, Harvey, Boyle

Among the men who undertook to expound what they believed to be the philosophical implications of the new sciences, none is today more famous than the English lord chancellor, Francis Bacon (1561–1626). Although not himself a scientist of any distinction, Bacon was greatly excited by the immense strides which science had taken during his lifetime and dazzled by its potentialities for the future. A true son of his age, he believed that the chief glory of science lay in the fact that it increased the power of man; in his Novum organum (1620) he wrote, “Now the true and lawful goal of the sciences is none other than this: that human life be endowed with new discoveries and power.” But in order for the sciences to attain this goal, it was, in Bacon’s view, absolutely necessary that they follow the proper path; thus scientific method becomes crucially important. “The cause and root of nearly all evils in the sciences is this—that while we falsely extol and admire the powers of the human mind we neglect to seek for its true helps,” he argued. “Neither the naked hand nor the understanding left to itself can effect much. It is by instruments
and helps that the work is done, which are as much wanted for the understanding as for the hand.” By “instruments” Bacon does not here mean primarily such devices as the telescope and the microscope, the slide rule and the logarithmic tables, all of which were developed during the seventeenth century. Rather, he refers to something that seemed to him much more fundamental; as the title of his *Novum organum* indicates, the “new instrument” is to be a system of rules provided for the guidance of the human mind in its search for truth. Taken together, these rules define the inductive, or empiricist, method.

Reduced to its essentials, Bacon’s argument holds that the scientist must rid himself of all preconceptions and must turn, with a completely open mind, to a diligent study of the evidence presented by his senses. In practice, this profound suspicion of all prejudices, and indeed of all hypotheses as well, tended to lead to the mere amassing of factual data. Thus, when Bacon wished to discover the nature of heat, his method led him to compile lists of hot objects, of cold objects, and of objects of varying degrees of heat, in the hope of discovering some characteristic always present in hot objects and absent in cold. By contrast, his enthusiasm for experimentation was not informed by any clear grasp of what experimentation involves. Bacon explained the failure of the Greeks to develop any real science as the consequence of their mistaken notion “that the dignity of the human mind is impaired with long and close intercourse with experiments and particulars, subject to sense and bound in matter.” Unquestionably Bacon’s emphasis on the importance of “stubborn facts” and on the importance of the painstaking collection of concrete observational data served as a needed corrective for the excesses of sheer
speculation in which some of his contemporaries engaged. But induction and experimentation represented only one side of the new science of men like Galileo and Newton; the other was mathematical calculation, and of this vital aspect Bacon showed scant appreciation.

Despite Bacon's great reputation, the weakness of his position was apparent to many of his contemporaries, and perhaps most notably to William Harvey (1578–1657), who observed wryly that "he writes philosophy [i.e., sciences] like a chancellor." Harvey was one of the greatest pioneers in experimental science, and his discovery of the circulation of the blood (described in his *Exercitatio anatomica de motu cordis et sanguinis*, 1628) was an outstanding example of how to record accurate observations, implement them with skilful experimentation and computation, and thus develop sound hypotheses based upon observed facts. His work, like Galileo's, was neither mere induction nor mere deduction, but a sound combination and blend of both. He shared Bacon's conviction that the evidence of the senses must always be preferred to received opinion and proposed "both to learn and to teach anatomy, not from books but from dissections, not from the positions of philosophers but from the fabric of nature." But, unlike Bacon, he recognized the importance of speculative reason in the formation of hypotheses. Harvey's description of his great discovery stands as a monument to the techniques of the new science, combining as it does elements of induction and deduction, as well as a reliance upon quantitative observation:

But what remains to be said upon the quantity and source of the blood which thus passes is of so novel and unheard-of character, that I not only fear injury to myself from the envy of a
few, but I tremble lest I have mankind at large for my enemies. ... Still the die is cast, and my trust is in my love of truth, and the candour that inheres in cultivated minds. And sooth to say, when I surveyed my mass of evidence, whether derived from vivisections, and my various reflections on them, or from the ventricles of the heart, ... or from the arrangement and intimate structure of the valves in particular ... with many things besides, I frequently and seriously betought me, and I long revolved in my mind, what might be the quantity of blood which was transmitted, in how short a time its passage might be effected, and the like. ... [And] I began to think whether there might not be A MOTION, AS IT WERE, IN A CIRCLE. Now this I afterwards found to be true; and I finally saw that the blood ... was distributed to the body at large, and its several parts. ... Which motion we may be allowed to call circular.⁷

Fruitful though it might be in the hands of a man with the imagination and insight of William Harvey, in the seventeenth century the experimental method was on the whole most appropriate as an instrument of destruction. As Pascal noted, one stubborn fact has the power to destroy any general proposition, no matter how securely grounded that proposition has previously been. But since the very essence of this experimental method is its healthy skepticism of all theories, it has often been a positive inhibition upon the creativity of its users. The case of the distinguished chemist Robert Boyle (1627–1691), formulator of the law of pressure in gasses, is perhaps the best example of this aspect of the inductive method. An ardent follower of Bacon, Boyle deliberately avoided reading the Novum organum for many years, fearing that he might otherwise

be "seduced" by his master's interpretations and fail to rely solely upon the evidence of his own senses. One can almost hear the lord chancellor's voice in Boyle's statement that "it has long seemed to me none of the least impediments of the real advancement of true natural philosophy that men have been so forward to write systems of it." Determined to escape this pitfall, Boyle struggled against his own strong inclination to accept the corpuscular view of the material universe. But in the long run even so orthodox a Baconian proved unable to operate successfully without some hypotheses to guide his experimentation, some "system" to give meaning to the concrete data which he had gathered; in the end, with many reservations and much hedging, Boyle espoused the corpuscular theory. Nevertheless, it is noteworthy that his most famous work, The Sceptical Chymist (1661), was significant primarily because it disavowed the Aristotelian theory of the four elements, thus preparing the way for the development of a truly creative science of chemistry during the next centuries.

*The Deductive Method: Descartes, Hobbes, Spinoza*

While Bacon and his followers stressed the inductive, experimental component of the new science, other men in the seventeenth century chose to emphasize its deductive, mathematical aspect. Although the most obvious difference between these two "schools" was one of practice, their views of the nature of the scientific method were also fundamentally at variance. We have already noted Boyle's criticism of the philosophers who had been too "forward" in writing systems; the contrast is indeed striking if one compares with this the criticism of Galileo's method put forward by the great French mathematician and philoso-
pher, René Descartes (1596–1650): “He does not stop to examine all that is relevant to each point,” Descartes wrote, “which shows that he has not examined them in order, and that he has merely sought reasons for particular effects, without having considered the first causes of nature; and thus he has built without a foundation.” What Boyle condemned as “system” was precisely the same thing that Descartes praised as “foundation”—namely, a comprehensive description and explanation of the universe, constructed by human reason on the basis of certain accepted first principles. In Bacon’s view, such an intellectual system can only be constructed slowly (if at all) and as a result of the gradual accumulation of a vast body of data derived from experimentation and sensory experience. For Descartes the situation is completely reversed: one cannot know what use to make of the evidence presented by his senses, nor can he hope to experiment with any direction and purpose, unless he begins with a clear and distinct understanding of the nature of the universe. How, then, is one to arrive at such an understanding?

Like Bacon, Descartes took as his starting point a thoroughgoing skepticism of all received theories and dogmas; he saw no reason to accept these theories unless he could prove their validity to his own satisfaction. It is worth while to note the considerable intellectual arrogance implied by such a position, a position characteristic of most of the great intellectual figures of the age. Surely, these men possessed supreme self-assurance and unbounded confidence in their own intellectual powers; nowhere is this self-assurance more vivid than in Descartes’ attempt to con-

8 From letter to Father Mersenne (March, 1638); see Correspondance, ed. by C. Adam and G. Milhaud (Paris, 1941), III, 76.
struct the universe by sheer intellectual effort. Like an acrobat who scornfully removes all safety nets before performing his most daring feat, Descartes declared his determination to take nothing for granted, to doubt everything. But he then discovered, as he tells us in his *Discourse on Method* (1637), that it was impossible to doubt one thing—the very act of doubting. On this basis, he posited his famous proposition: *"Cogito ergo sum"*—I think, therefore I am. Having thus established his own existence as a doubting, thinking being, Descartes proceeded to deduce from this single certainty both the existence of God and the existence and nature of the physical universe. Briefly, he reasoned that the existence of a thinking being necessarily implied the existence of an infinite being, which is pure thought and which must be immortal and omnipotent, i.e., God. Thus:

When I turned back to my idea of a perfect Being, on the other hand, I discovered that existence was included in that idea in the same way that the idea of a triangle contains the equality of its angles to two right angles or that the idea of a sphere includes the equidistance of all its parts from its center. Perhaps, in fact, the existence of the perfect Being is even more evident. Consequently, it is at least as certain that God, who is this perfect Being, exists, as any theorem of geometry could possibly be.⁹

Similarly, since man is conscious of an external world, and since this consciousness can come neither from man's own mind nor from God, the external world must in fact exist. It is a world of matter, as distinguished from both the self

and God, which are spirit, and consequently it can only be grasped by the human mind through the categories of space, time, and cause. Thus, in the Cartesian system the only sure knowledge of the material universe is mathematical knowledge; the evidence of the senses can never be trusted.

If (to use Francis Bacon's image) the experimental scientist is like an ant, assiduously gathering grains of evidence in order to construct his world, then the deductive scientist is like a spider, spinning webs of deduction out of his own rational being. In this spiderlike rationalistic process, mathematics, and particularly the techniques of geometry, played a crucial role. It should come as no surprise that Descartes was himself among the most distinguished mathematicians of his age. His discovery of analytic geometry (with Pierre de Fermat, between 1630 and 1640) and Pascal's work on probability theory were the most decisive developments prior to Newton's and Leibniz' work on the differential and integral calculus later in the century. Descartes' approach to geometry (and to mathematics in general) may be called dynamic, in contrast to the static approach of classical Greek mathematicians. He observed geometrical figures in the process of becoming, so to speak, rather than contemplating them as fixed verities. And from his work in mathematics he derived habits of mind, and deductive techniques, which he then applied to all scientific and philosophical problems. This effort to deal scientifically with the first causes of nature, to apply mathematics to the universe, led to the proud rationalism of Descartes' assertion, in his *Principia philosophiae* (1644), that "there is no phenomenon in nature which has not been dealt with in
this treatise.” Descartes’ exaggerated sense of the power of the mind was in its very emphasis typically and dramatically baroque.

The same extreme reliance upon logical deduction from “self-evident” first principles is to be found in the philosophizing of Thomas Hobbes and of Baruch Spinoza, respectively the authors of a politics and of an ethics *more geometrico* (in the manner of geometry). Hobbes did not consider himself a follower of Descartes. Unappreciative of Descartes’ mathematics (which he presumably did not understand), and sharply hostile to Cartesian metaphysics, Hobbes proceeded to make a radical effort to interpret man and the state as mechanisms. It is curious that a man of his acumen should have considered himself working in the tradition of Galileo and Kepler when he wrote *De cive* (1642), *De homine* (1658), and *Leviathan* (1651), followed by *De corpore* in 1655. He assumed throughout these works that matter and motion are the principles by which all events may be explained, stating in the *Leviathan*: “Seeing life is but a motion of limbs, the beginning whereof is in some principal part within; why may we not say that all Automata (engines that move themselves by springs and wheels as doth a watch) have an artificial life?” In this respect Hobbes obviously went far beyond Descartes. If Descartes had spoken of the body as a “machine,” Hobbes completely rejected Descartes’ sharp distinction between body and soul and insisted that psychology must be studied as a branch of physics (mechanics) and that it was grounded upon mechanical principles. Hobbes consequently was a radical determinist, believing that all man’s employment of the will, so-called, is the result of his per-
conceptions, which in turn result from the impact of external causes.

The principles of mechanics are the principles from which all is derived. Although Hobbes was aware of the limits of the deductive method, he also distrusted mere observation and induction in the manner of Bacon. Thought, he believed, must be combined with observed fact to produce scientific insight. The laws of motion constitute the general laws of nature, and since all change consists in motion, therefore “all happens in nature mechanically.” By this metaphysical proposition Hobbes subverted the very essence of the scientific work of such men as Galileo and Harvey. But having made this extraordinary assumption, he proceeded to work out a deductive “proof” of the mechanistic premise, as well as of the axiom of inertia. Basing his argument on the same mechanistic premise, Hobbes held that all thought was simply calculation. Furthermore, defining calculation as adding and subtracting, he maintained that all things when transformed into thought could be so added and subtracted. “Reason,” we learn from the Leviathan, “is nothing but reckoning, that is adding and subtracting, of the consequences of general names agreed upon for the marking and signifying of our thoughts.”

In presenting such a proposition, Hobbes made himself the highly representative, although perhaps exaggerated, expression of his age. But, like Bacon and Spinoza, his mathematical ineptitude prevented him from appreciating the philosophical limits of any mathematics of the infinite. Unlike Kepler, Descartes, and Pascal, whose mathematical genius made them realize the strictly formal nature of the mathematical insight and led them to recognize the remain-
ing substantive problems of existence, Hobbes greatly overestimated the value and the applicability of mathematical insights. Nor did he really understand the value of experimentation. Introspection, implemented by an unproven major premise that all men are like Thomas Hobbes, was the basis of his psychology and the politics derived from it. What resulted from such an approach we have discussed in Chapter I. The most extreme pantheistic position was developed later in the century by the Dutch lens grinder, Baruch Spinoza.

Both Spinoza and Hobbes were hotly attacked by their contemporaries as atheists. When plague and fire swept through London in 1664 and 1665, superstition once again raised its head. In 1663 Descartes’ writings had been put on the Index, and in 1664, like the witch-hunters on a lower level, divines and parliamentarians combined to silence the impious voice of Hobbes.

It was not an innovation that organized, rational religion should fight the deviations into mysticism and naturalism; not only in the Middle Ages but throughout the sixteenth and earlier seventeenth centuries the struggle had gone on, and it was not restricted to any one particular church. If the Anglican divines were after Hobbes, the Lutheran pastors persecuted Kepler and Böhme, the Calvinist orthodoxy exiled Grotius, the Jews ousted Spinoza from their congregation, while the Holy See pursued Galileo and the Jesuits attacked Pascal, Descartes, and the nuns of Port Royal and their learned guests. But these proceedings have often puzzled men of later ages. Not only did Spinoza seem to Goethe to have been the man “drunk with God,” but surely Kepler, Pascal, Böhme, and Descartes were, each in a different key, strongly religious men animated by a
deep sense of awe for what the philosopher Kant was to describe as the two most profound sources of wonder, “the starred heavens above and the moral law within.”

The passionate concern of the age with nature and its secrets, and its persistent doubting of all human authority, was fed by what seems to us now a faith of extraordinary depth and intensity—a faith in God’s power to order the universe and a corresponding faith in man’s power to understand this order and in the light of his understanding to master nature and to order anew man’s life on earth. Mysticism, pantheism, and naturalism were all logical outgrowths of elements in the older Christian orthodoxy, both Catholic and Reformed. When Bacon wrote in his *Advancement of Learning* (1605) that he would separate metaphysics from the “first philosophy” and treat it as part of natural science, he added that he would subdivide the inquiry into causes “according to the received and sound division of causes; the one part which is physic inquires and handles the material and efficient causes; and the other which is metaphysic and handles the formal and final causes.”

Descartes’ thinking ran along similar lines, although he was troubled lest one meddle with matters beyond one’s understanding. “Finally we shall not seek for the reason of natural things from the end which God or nature has set before Him in their creation; for we should not take so much upon ourselves as to believe that God could take us into his counsels.” For, in Descartes’ opinion, God’s will is the basis for the entire world and all the permanent laws governing it, laws which reason may discover. As one commentator has said, “The supreme truth, the basic axiom, is that God exists.” Pascal, animated by an intensely per-
sonal experience of God, found this Cartesian God little more than an empty abstraction; though a first mover, this God was dangerously close to being a pantheistic deity which becomes submerged in nature.

It remained for Spinoza, using the severely deductive method of geometry, to formulate such an all-engulfing pantheism. In his *Short Treatise on God, Man and His Well-Being* (probably composed in 1659–1660), Spinoza based his argument on the propositions that: (a) God exists, (b) God is a being of whom all or infinite attributes are predicated, of which every one is infinitely perfect of its kind, and (c) God is the cause of all things, and from this total causation were derived the doctrines of his providence and predestination. A completely deterministic universe resulted in which “the big fish devour the little fish by natural right”:

For as God has a right to everything, and God’s right is nothing else, but his very power, as far as the latter is considered to be absolutely free; it follows from this, that every natural thing has by nature as much right, as it has power to exist and operate; since the natural power of every natural thing, whereby it exists and operates, is nothing else but the power of God, which is absolutely free.  

It was Spinoza’s glory that he pursued to the bitter end the implications of the Cartesian philosophy and its mathematical and physical antecedents. Only in our own time have the practical implications of such a conception come fully into view. The God whose quintessence is power, who is the cause of all events in a nature which is itself a congeries of power relations, is a curious expression of the dual trend

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toward mysticism and skepticism which pervaded religion, philosophy, and science during an age whose poets included Donne as well as Shakespeare, Calderón, and Milton. In that age the world-view of the modern man took definite shape and organized itself for the conquest of mankind. Whether this was a glorious achievement or a disastrous betrayal of human destiny seems more controversial today than at any time in the intervening three hundred years.

The Rational Universe: Newton and Leibniz

In the spring of 1687 a weighty, highly technical treatise was published in London; its title was Philosophiae naturalis principia mathematica, its author Isaac Newton (1642–1727), professor of mathematics at Cambridge University. In this book Newton described in mathematical terms the laws which govern the motion of every body in the universe—from the falling apple and the tides on earth to the planet in its orbit. Many parts of the Newtonian system had been anticipated by earlier scientists, notably by Kepler, Galileo, and Christian Huygens (1629–1695), as well as by three Englishmen, members of the Royal Society who had worked on the problem of gravitation—the astronomer royal, Edmund Halley (1656–1742), Robert Hooke (1635–1703), and Sir Christopher Wren (1632–1723). But in the Principia, for the first time, their isolated explanations of phenomena in astronomy and terrestrial mechanics were made part of a mathematically precise, coherent, and elegant theoretical synthesis. In the words of a modern historian, the Newtonian synthesis “represented the culmination of the scientific revolution and established the basis of modern science.” Perhaps even more important than Newton’s contribution to man’s understanding of the universe, how-
ever, was the fact that he finally established and popularized the canons of the modern scientific method. In this connection it is worth while to note a famous passage from the third book of the *Principia*:

Rule I. We are to admit no more causes of natural things than such as are both true and sufficient to explain their appearances. . . .

Rule II. Therefore to the same natural effects we must, as far as possible, assign the same causes. . . .

Rule III. The qualities of bodies, which admit neither intensification nor remission of degrees, and which are found to belong to all bodies within the reach of our experiments, are to be esteemed the universal qualities of all bodies whatsoever.

For since the qualities of bodies are only known to us by experiments, we are to hold for universal all such as universally agree with experiments. . . . We are certainly not to relinquish the evidence of experiments for the sake of dreams and vain fictions of our own devising; nor are we to recede from the analogy of Nature, which is wont to be simple, and always consonant to itself.\(^{11}\)

Although experimentation and the evidence of the senses were central in Newton’s method, as evidenced especially in his work in optics, he also discovered a mathematical method of describing and measuring motion—the so-called “calculus,” which applied algebra to motion as Descartes had applied it to geometry. Like Galileo, Newton wedded the experimental and the deductive method, creating an intellectual instrument of unprecedented scope and power.

Newton's system, like those of most truly great intellectual figures, represented both an end and a beginning. On the one hand, as we have seen, it came as a fitting climax to two centuries of intense scientific endeavor. On the other hand, it set the stage for the major religious, philosophic, and scientific developments of the next centuries. Indeed, it is almost impossible to overemphasize the influence of Newton and his work, an influence that still persists in our own day despite the fact that Newtonian physics has recently been superseded. Although the picture of an orderly, rational universe governed by immutable laws had inspired scientists long before Newton's time, the popular acceptance of such a picture is due largely to his reputation.

When Alexander Pope wrote the famous couplet

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

he was simply expressing the almost universal opinion of his age. Thus the significance of the *Principia* was not confined to the world of pure science; on the contrary, Newton stood as a symbol of the rationality of the universe and of the power of man to discover its laws. The supposed "lesson" of Newtonian science was applied promiscuously to every area of human activity. Building upon very real advances in statistical knowledge, the Englishman Sir William Petty (1623–1687) undertook to develop a *Political Arithmetick*; in the preface to this book, written in 1683, he described his proposed method:

For instead of using only comparative and superlative words, and intellectual Arguments, I have taken the course (as a Specimen of the Political Arithmetick I have long aimed at) to express my self in Terms of Number, Weight, or Measure; to
use only Arguments of Sense, and to consider only such Causes, as have visible Foundations in Nature; leaving those that depend upon the mutable Minds, Opinions, Appetites, and Passions of particular Men, to the Consideration of Others.\footnote{12}

A detailed account of the ramifications of the Newtonian world-view belongs properly to a history of the eighteenth century.\footnote{13} But the story of the age of power would be incomplete without the towering figure of Gottfried Wilhelm von Leibniz (1646–1716). The last European thinker who mastered the whole of knowledge, this puzzling and extraordinary philosopher dealt at one time or another with mathematics, the natural sciences, theology, history, politics, jurisprudence, and philology. At the same time, he was a statesman and diplomat who pursued the goal of universal peace. As a philosopher, he was not systematic; he never wrote a “great work,” and to this very day his philosophy must be pieced together from a profusion of fragments and occasional essays. Of these, two are especially well known: the \textit{Theodicy} (1710) and the \textit{Monadology} (1714), written for Prince Eugene of Savoy. In the \textit{Theodicy}, Leibniz defended the view that it is a consequence of the supreme perfection of the Sovereign of the Universe, that the kingdom of God be the most perfect of all possible states or governments, and that consequently the little evil there is, is required for the consummation of the immense good which is there found.

\footnote{12} The reader might note the way in which Petty echoes the passage from the Wisdom of Solomon quoted at the opening of this chapter.

\footnote{13} See Frank E. Manuel, \textit{The Age of Reason} (Ithaca, N.Y., 1951), ch. ii.
a view made famous by the merciless satire to which it was subjected in Voltaire's *Candide*. In the *Monadology*, Leibniz argued that all substance is composed of particles which he called "monads"; these particles, which are in essence energy, are neither material nor spiritual:

In God there is *Power*, which is the source of all, also *Knowledge*, whose content is the variety of the ideas, and finally *Will*, which makes changes or products according to the principle of the best. These characteristics correspond to what in the created Monads forms the ground or basis, to the faculty of Perception and to the faculty of Appetition. But in God these attributes are absolutely infinite or perfect.\(^{14}\)

Leibniz shares with Newton the distinction of having discovered (quite independently) the calculus, and it has recently been noted that he anticipated many of the principles of modern mathematical logic. But it is in his central concern with power and in his combination of rationalistic and empirical techniques that he is most representative of his age. At the same time, his theoretical and moral program was such as to make him, according to Ernst Cassirer, "the true originator and founder of the philosophy of the Enlightenment."

These philosophical trends correspond to the evolution in theology. Here the men known as "deists" sought to establish the relation of God to the rational, mechanistic universe revealed by the new natural science. Harking back to the efforts at reconciliation made by Lord Herbert of Cherbury (1583–1648; especially in his *De veritate*, 1624) and by Hugo Grotius, the deist position found its most celebrated exponent in John Locke. It was not really a re-

religious movement, but rather an attempt to adjust traditional religious belief to the growing secular spirit and rational speculation. Strictly speaking, deism is the position that natural theology and rational morality are the essence of religion. Stripping away such “superfluous” details as miracles, prophecy, revelation, and ritual, the deist conceives of God as a distant but benevolent prime mover, who created the world-machine and who then conveniently stepped out of the picture, leaving man to order his life by the light of his natural reason. How deeply this trend was embedded in the main philosophical developments of the time may be gauged by reflecting upon Pascal’s bitter comment on Descartes: “I cannot forgive Descartes. In all his philosophy he would have been quite willing to dispense with God. But he had to make Him give a fillip to set the world in motion; beyond this, he had no further need of God.” However unjust to Descartes’ undoubted theism, this is the reaction of an intensely religious mind to the secularizing propensity of the age of power.

CHAPTER IV

The Thirty Years’ War

IT HAS been the fashion to minimize the religious aspect of the great wars which between 1618 and 1648 raged over the territory of the Holy Roman Empire of the German Nation in the heart of Europe. Not only the calculating statecraft of Cardinals Richelieu and Mazarin but even the explicit statements of Urban VIII (pope, 1623–1644) gave support to such a view in a later age which had come to look upon religion and politics as separate fields of thought and action. Liberal historians were to find it difficult to perceive that for baroque man the most intensely political issues were precisely those raised by religion. Gone was the neopaganism of the Renaissance, with its preoccupation with worldly self-fulfillment. Once again, and for the last time, life was seen as meaningful in religious, even theological, terms; the greater insight into power which the Renaissance had brought served merely to deepen the political passion brought to the struggle over religious faiths.

Later ages, incapable of feeling the religious passions which stirred baroque humanity and much impressed with the solidified national states which the seventeenth century bequeathed to posterity, were prone to magnify the dy-
nastic and often Machiavellian policies adopted by rulers who professed to be deeply religious and therefore to deny the religious character of these wars. But it is precisely this capacity to regard the statesman as the champion of religion, to live and act the drama of man's dual dependence upon faith and power, that constituted the quintessence of the baroque. The Jesuits, sponsors of the baroque style in architecture, advised Catholic rulers concerning their dual duties; what the Catholics did elicited a corresponding pattern of thought and action in the Protestant world. The somber and passionate driving force behind so much unscrupulousness was religious pathos in all its depth.

The Origins

Since what is commonly called the Thirty Years' War was in fact a series of wars lasting from the revolt of Bohemia in 1618 to the Peace of Westphalia in 1648, it is in some respects misleading to speak of "the origins" of these wars as though they all stemmed from a common source. In fact, as we shall see, each of the four distinct wars which mark this era had its own origins. Nevertheless, the term Thirty Years' War is not without meaning; distinct though they were, all these wars did reflect the pattern of European politics and religion in the first half of the seventeenth century. It is of this common background that we must speak before discussing the wars themselves.

At the beginning of the seventeenth century the division of Europe into opposing camps animated by religious belief was not, in itself, sufficiently clear-cut or profound to lead to a general conflagration. True, each side had its extremists—the militant orders of the Jesuits and Capuchins among the Catholics, the Calvinists among the Protestants—but
the animosities within each camp were almost as great as those between them, and as yet few men were prepared to contemplate a holy war designed simply to exterminate heretics. Indeed, dynastic politics, “reason of state,” often completely obscured the lines of religious division, as in the case of the Catholic Henry IV of France (1553–1610), who simultaneously collaborated with the pope and the Dutch Republic to advance the interests of the House of Bourbon, and who was about to make war on the Hapsburg emperor Rudolf II (1552–1612) in league with the Protestant princes of Germany when his life was cut short by the assassin François Ravaillac. Nevertheless, the uneasy balance between the forces of the Reformation and those of the Counter Reformation made the peace of Europe increasingly precarious, while domestic conflicts in England, France, the Netherlands, and the territories of the Holy Roman Empire demonstrated anew the power of religion to move men to passionate action. In these sultry years a great European war of religion was an ever-present possibility; only two things were needed to make it a reality: a further structuring of existing antagonisms and an issue which would crystallize opinion on both sides. Both were provided during the fateful decade 1608–1618, within the territories of the tottering Holy Roman Empire.

The first decisive step toward the wars of 1618–1648 was the formation of rival alliance systems—the Protestant Union and the Catholic League—by the Protestant and the Catholic estates of the empire in 1608 and 1609. Though not formally concluded until 1609, the Catholic League had been long advocated by its foremost protagonist, the distinguished statesman and military leader, Duke Maximilian of Bavaria (1573–1651), as the only method for stem-
ming the tide of Protestant progress throughout Germany. His appeals were primarily directed toward the princes of the church whose position was patently threatened by the continuous extension of Protestantism. As duke of Bavaria, Maximilian was faced with the problem of how to buttress and defend the Catholic position in Germany without sacrificing his sovereignty to imperial pretensions; the League, from which Austria was excluded, was his instrument for effecting this purpose. It provided him with a broad foundation for Catholic leadership and created a counterpoise to the power of Hapsburg. In this crucial position, Maximilian characteristically avoided various grandiose but risky schemes and was content to build slowly and steadily so as to be prepared for any eventual conflict. As director of the League and commander of its forces, he occupied the foremost place among the Catholic princes in Germany apart from the Hapsburgs.

No such clear-cut leadership and direction proved possible among the Protestants. Indeed, their religious convictions as well as their practical interests were diversified to the point of serious conflict. Hence the establishment of the Union was the product of common fears rather than common aims, and its eventual employment for effective action remained more doubtful. Lutherans and Calvinists fought each other with much venom, the former being passive and conservative, the latter active and progressive. As might have been expected, the main pressure in favor of the Union came from the Calvinist princes of south Germany, at first the elector palatine (Frederick IV, 1574–1610) and later the elector of Brandenburg (John Sigismund, 1572–1619). In the actual negotiation of the agreement, however, certain south German Lutheran princes played a leading
part. They had been deeply stirred by the vigorous proceedings, in 1607, of Maximilian of Bavaria against a small south German town, Donauwörth, and had come to feel that Protestant interests in Germany would thereafter have to be defended by force of arms. The Protestants decided to establish a common treasury and to set up an armed force, under the leadership of the elector palatine. Consequently, in 1610, the Protestants of Germany faced the Catholics as one armed camp against the other.

Each group allied with foreign powers, the League with Spain and the Union with France and England, and the stage was set for a European conflagration. But it took ten more years until the spark was set to this tinderbox. Nor did the conflict originally break out between members of the two camps; both were drawn into a conflict between crown and estates, between Catholicism and Protestantism, in Bohemia. Amid all the complex detail of the internal politics of the several Hapsburg realms, two forces stood out in bold relief: the conservative Catholic policy of the House of Hapsburg and the progressive Protestant efforts of the several estates. There were of course more than a few Catholics in the estates' assemblies, but the Protestants were dominant and continued to gain adherents, except where checked by the determined efforts of their prince. The House of Hapsburg had farmed out, so to speak, the several subdivisions of its far-flung possessions to younger sons, called archdukes. In some of these constituent parts, the power and privileges of the estates, usually composed of lords, knights, and burgesses, had become much more considerable than in others; this was especially true in Hungary and Bohemia. In the latter, the states had secured the Letter of Majesty (Sovereignty) in 1609—a formal agreement
limiting the sovereignty of the prince and eliminating the famous rule of "Cujus regio, ejus religio" which provided that a man must confess the religion of the established authorities in the territory in which he lived. According to this new agreement, complete religious equality and freedom were to prevail in Bohemia. Though the provisions were broadly drawn, they left plenty of openings for further controversy, as we shall see. Here as elsewhere it is difficult to say whether the religious conflict brought about the demand for political rights on behalf of the estates, or whether the surge toward political participation enhanced the appeal of the new religion. Undoubtedly a close connection existed; yet the constitutional division of power between princes and estates had existed for a long time. Only when the new religion had appeared did the problem of supremacy present itself. Since the monarchical exponents of Catholicism were united in the House of Hapsburg, it was natural that the estates of the several realms should seek to combine to further their claims. Hence the estates of Bohemia, Silesia, Moravia, Hungary, and Upper and Lower Austria formed a series of leagues which in turn sought to collaborate with the Protestant estates of the empire, more particularly as represented by the Protestant Union. These negotiations, never quite conclusive, had a threatening portent. Through such an alliance, the civil war which began in 1618 in Bohemia spread to the whole decaying structure of the empire.

Ever since the Golden Bull of 1365 had been issued by Charles IV, king of Bohemia and Holy Roman emperor,

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1 The origins of "cujus regio, ejus religio" are obscure. It is commonly (though wrongly) believed to have been formulated by the Diet of Augsburg in 1555; its intimate, though to modern eyes startling, tying of religion and government had been the basis of the empire's tenuous peace.
Bohemia had remained a vital part of the empire. During the two and one-half centuries that had elapsed by 1617, Bohemia had been one of the richest of the Hapsburg possessions north of the Alps and Pyrenees. The Bohemian people, both Czech- and German-speaking elements, enjoyed considerable freedom, especially in matters of religion. Yet, in spite of the predominantly Protestant sentiment of the country, the Hapsburg rulers Rudolf II and Matthias (1557–1619) had favored Catholics for the chief offices of state, and the more ardent elements in the Catholic group were anxious to press for further advance against the Protestant position. For example, at Braunau, a Catholic prelate had on a questionable pretext seized a Protestant church and attempted to compel Protestants to attend Catholic services.

The crisis which was finally to plunge Europe into the devastating thirty years of war arose over the issue of the succession to the Bohemian throne. In 1617, although the childless Matthias was still alive, both Catholics and Protestants began to cast about for likely candidates for his Bohemian throne. Among the Protestants, Lutheran opinion inclined toward the elector of Saxony (John George, 1585–1656), while the Calvinist and Hussite factions definitely preferred the young elector palatine, Frederick V (1596–1632). The Hapsburgs, on the other hand, had settled upon Ferdinand of Styria (1578–1637) as the most appropriate successor; chosen largely because he had children, Ferdinand had a record of ardent Catholic sympathies. A pupil of the Jesuits, he had made every effort to restore Catholicism in Styria, while at the same time reducing the position of the estates to the minimum. Such a man was likely to be more unwelcome in Bohemia than either Rudolf or Matthias. Nevertheless, when Matthias precipitated the
issue by calling for the selection of a king-elect on June 17, 1617, the large majority of Protestants in the estates, under weak and divided leadership, timidly voted for Ferdinand. They then insisted upon Ferdinand's guaranteeing the Letter of Majesty, which he did, not because he intended to keep it but for "reasons of state." Thus the stage was set for a violent clash between estates and king.

On August 28, 1619, after long negotiations, Ferdinand was unanimously elected to succeed Matthias as Holy Roman emperor, as he had succeeded him on the Bohemian throne two years earlier. Several days before, however, on August 19, the confederated estates of Bohemia, Silesia, Moravia, and Lusatia had declared him deposed. The events which led up to this dramatic culmination were essentially three: there were the religious incidents already alluded to, which provided the background; there were arbitrary acts of the government infringing the Letter of Majesty by unilateral action; and there were the several moves by which the estates countered the royal actions, more especially the celebrated defenestration of Prague the year before (May 23, 1618), when two unpopular councilors were bodily thrown from a window of the emperor's castle to a moat sixty feet below. Throwing imperial councilors out of a window, even though they lived to tell the tale, constituted open defiance and revolution, and it was so interpreted by all—by the immediate participants, by the Bohemian people, and by Europe at large. The Thirty Years' War had begun.

The Bohemian War

The Bohemian revolutionaries, having deposed Ferdinand, proceeded to set up a provisional government. To Count Henry Mathew of Thurn, the spirited but conceited leader
of the radical elements, was given the command of the Bohemian forces; Ernst Mansfeld, captain of mercenary troops, illegitimate scion of a princely house, and self-made count, had been transferred to the service of the Bohemians by Charles Emmanuel of Savoy on the promptings of Christian of Anhalt, who may well be considered the directing genius of the revolutionary movement. An ardent Calvinist and a somewhat unprincipled practitioner of "reason of state," Anhalt was the key counselor of the young elector palatine. Unfortunately the weaknesses of the one compounded those of the other. The elector, a charming, decent prince but a weak and unmilitary man, had won the hand of Elizabeth, the daughter of James I of England, in 1613. It was upon this fact alone that Anhalt built many unsound hopes. More persuasive than sound, and much inclined to construct elaborate projects on speculative assumptions rather than on known facts, Anhalt consistently underestimated the inertia, envy, and mutual jealousy of most men and overestimated their attachment to ideal causes, more especially the cause of Protestantism. Handicapped by his youth and inexperience, the elector palatine was not the man to deal with so dynamic a personality as Anhalt. Hence the Palatine party, despite the devotion of their immediate adherents, failed recurrently at decisive moments.

Anhalt, unwarned by the failure of his earlier project of having Frederick elected king of Bohemia instead of Ferdinand, chose to revive this scheme when the revolutionary estates were casting about for a new king. When the elector of Saxony refused their overtures, the estates did in fact elect Frederick, who, after some hesitation, accepted. It is ironic in the light of later happenings to read his Declaration: "Moreover we considered that if we came to reject this rightful calling, the effusion of much blood and the
wasting of many lands must have been laid to our account.”² If Frederick had been tough, if he had taken the gamble for what it was worth and had demanded that the electing estates make sure of the kingdom which they were offering, while he himself secured the defenses of the Palatinate, he might possibly have succeeded in staking out a claim of lasting value. Instead he went to Prague as if the kingdom were secure, only to find himself unsupported by the estates in the vital matter of ways and means for the maintenance of an army able to defend the kingdom against the combined forces of the Hapsburgs and the Catholic League. For the League of Catholic princes, ably led by Maximilian of Bavaria, had the dual interest of monarchical legitimacy and the extension of Catholic Christianity to unite them against the Bohemian revolutionaries.

The imperial election in 1619 produced a double debacle in which Ferdinand II was informed of the loss of his Bohemian crown almost simultaneously with his election to the imperial throne, and Frederick learned that his vote as elector palatine had been cast for Ferdinand just as he was seizing the new emperor’s Bohemian throne. By this comedy of errors Ferdinand had become emperor at the moment his Protestant enemies were on the point of gaining the decisive vote in the Electoral College and Frederick had, by proxy, acknowledged Ferdinand emperor at the same time that he was seizing his crown in Bohemia. This catastrophic confusion was decisive in the sense that it alarmed all Europe and thus set the stage for the long bloody struggle which was to follow; yet the Bohemian campaign itself was short. After some indecisive operations in 1618 and 1619, the ac-

² Quoted by C. V. Wedgwood in The Thirty Years' War (New Haven, 1939), p. 67.
tual declaration of war—the imperial demand to Frederick to quit Bohemia by June 1, 1620—was followed by one Protestant setback after another, culminating in the complete rout of the Bohemian forces at the battle of the White Mountain (November 8, 1620). Frederick, when apprised of this disaster, decided to abandon Prague and retreat. Having failed in his attempts to rally Silesia or Lusatia to his cause, the “Winter King,” as Frederick was now called in mocking reference to the brevity of his effective reign, started on a tour of the courts of Europe in the vain hope of persuading them to support his Bohemian venture. In the process of maintaining his claim upon the Bohemian crown, he lost in the end even his German principality of the Palatinate.

The Catholics, with the momentum of their victories and the full backing of the imperial authority, began to liquidate their enemies. In Bohemia the revolutionaries suffered penalties of prison and death, followed by confiscations of their property on such a vast scale that it is believed half of all important landholdings changed hands. Not only in Bohemia, but in the Palatinate and elsewhere, the Jesuit Order then moved in, taking over schools and universities, proscribing Protestant clergy and teachers, and forcing the people to attend Catholic services. Finally, in 1623, a general settlement was made. It was not truly a peace, any more than the later treaties of Lübeck (1629) and Prague (1635). Maximilian of Bavaria was given the electoral vote previously exercised by Frederick, and four years later he received the Upper Palatinate and the Lower Palatinate, east of the Rhine; the Lutheran elector of Saxony obtained control over Lusatia for his aid in subduing Bohemia. By these acts, the two most important princes of the realm suggested
that theirs was a policy of personal aggrandizement, even as they headed their respective coalitions of Catholic and Protestant princes. Of these, the Bavarian move was to prove the more obviously disastrous, since it blocked the road to peace and kept the determined adherents of the elector palatine at work seeking support for a restoration of Frederick. Thus the very terms that ended the Bohemian war virtually guaranteed that the peace of Europe would not long endure.

The Danish Phase

While the House of Hapsburg and its allies settled down to the task of reconverting to Catholicism the lands they had conquered, the Protestants inside Germany, and more especially the supporters of the elector palatine, Frederick, cast about for some new source of support with which to challenge the outcome of the Bohemian war. James I of England having failed the Protestant cause, and the Dutch being heavily committed against Spain after the lapse of the armistice between those two powers (1621), the anti-Hapsburg diplomats turned to the Scandinavian kingdoms of Denmark and Sweden, where two able and ambitious rulers, both of whom, although of native descent, were related by their German mothers and wives to Germany, had come to the throne in recent years: Christian IV (1577–1648) in Denmark, and Gustavus II Adolphus (1594–1632) in Sweden. Each was to enter the Thirty Years’ War, but not at the same time. Their marked rivalry, which had already flared up into open war (1611–1613), stood in the way of a joint enterprise. In addition, and perhaps even more importantly, Gustavus II Adolphus was at this point
occupied in a protracted conflict with the kingdom of Poland, whose crown he claimed.

Christian of Denmark, whose possessions in Holstein made him a prince of the German empire and who had become head of the military forces of the Lower Saxon District of the empire, maintained that he took up arms against the emperor because of the latter's unconstitutional actions toward the elector palatine. For Christian the religious issue was clearly less important than the struggle for political power, although for the people at large religion remained a vital issue, as, indeed, it did for Ferdinand.

Christian's intervention in the war was, like the Bohemian phase, a story of almost unrelieved Protestant defeats. The imperial forces, taking advantage of their vastly superior resources, were able to avoid decisive engagements during the summers of 1624 and 1625 and to allow their mercenary troops to live off the land. Then, as Catholic prospects brightened in 1625, the emperor received vast new support from an unexpected source: Albrecht von Wallenstein (1583–1634), soon to be made duke of Friedland, undertook to put an army of 24,000 into the field, to arm and equip them, and to come to the support of Johan Tserclaes Tilly (1559–1632), the League's general. Wallenstein's appearance altered Christian's position materially and caused him in the spring of 1626 to dispatch part of his forces under Mansfeld to Silesia, in the hope of diverting Wallenstein to the defense of the Hapsburg dominions proper. The strategy failed as Wallenstein split his forces and defeated Mansfeld at Dessau (April 25, 1626), while Christian was routed by Tilly (at Lutter am Barenberge in August 1626). Having crushed the Protestant forces in the
east and having driven Christian back to his duchy of Holstein, Wallenstein raised an even larger army, said to have numbered 70,000 men, and set forth once again to annihilate the Danish king and secure control of the Baltic for the empire. After an eminently successful campaign, Wallenstein’s army was halted by the resistance of the free city of Stralsund in Pomerania during the summer of 1627. This act of resistance provided enough of a counterpoise to permit a settlement with Christian.

After several months of negotiation, a peace was concluded at Lübeck on May 22, 1629. Christian not only received back Jutland, Schleswig, and his part of Holstein, but escaped the expected indemnity. In return for these material concessions he renounced all claims to German territory as well as the directorship of the Lower Saxon District. It was because of new and greater dangers, especially those threatening from Sweden, which in the meantime had come to terms with Poland, that Wallenstein had urged, and the emperor accepted, these surprisingly moderate terms.

The Edict of Restitution

Even before peace was concluded with Denmark, Ferdinand II had taken a step much at variance with Wallenstein’s concept of imperial absolutism but dear to the heart of the emperor and expressing his religious convictions. On March 8, 1629, he issued the Edict of Restitution. The Edict, without sanction or discussion by the diet or Reichstag of the empire, as required under the constitution in all matters of major legislation, proclaimed all alienation of church lands since 1552 null and void, called for their restitution to the rightful proprietors, authorized the latter after such restitution to expel all who would not confess accord-
The Thirty Years' War

The preference of the ruler of the territory, and, with the exception of the Lutherans of the Augsburg Confession (1530), outlawed all Protestant confessions and especially the Calvinists. For the enforcement of the Edict, imperial commissioners were authorized; against their decisions there was no appeal. In concrete terms, this meant not only the re-establishment of archbishoprics, bishoprics, and monasteries in territories by then largely Protestant, but also the expulsion of tens of thousands of peaceful and industrious citizens.

Ferdinand, by this arbitrary and nonconstitutional act, had overreached himself. As events were soon to show, his attempt to undo the development of three generations was the high-water mark of imperial power and Catholic reaction. The Edict convinced even the most pacifically inclined Protestant princes that the house of Hapsburg meant to destroy the ancient constitution of the empire and the "liberties" of the German people, institutionalized as they were in the rights and privileges of princes, of knights and burghers, of electors and free cities, in short, of all the estates of the empire save his own. They realized that, if the balance was to be redressed, even foreign intervention must be countenanced in order to cope with so formidable a threat. Sweden and France, Gustavus II Adolphus and Richelieu, stood ready to take advantage of the situation.

The Edict of Restitution and the war between the House of Hapsburg and France over the succession to the duchy of Mantua (1627–1631) set the stage for the electoral gathering at Regensburg as it assembled in early July 1630. The results of this meeting, perhaps a reflection of the skillful diplomacy of Richelieu and his emissary Father Joseph, proved highly favorable to the French policy of sowing dis-
cord between the emperor and his electors: Wallenstein was dismissed from his post as imperial general; Ferdinand was unsuccessful in his attempt to obtain the election of his son to the imperial throne; and a further breach was caused over the Edict of Restitution, as Brandenburg and Saxony refused to adhere to it, but agreed only on a further meeting to discuss it.

That Ferdinand should have assented to the dismissal of Wallenstein, and that a majority of his council should have favored such a step, shows them to have been basically unaware of the trend of the times. In Ferdinand's case, it was partly weakness, partly perhaps a desire to reassert his imperial authority over his victorious but willful general, and partly a dissatisfaction with Wallenstein's indifference toward the religious cause; he had opposed the Edict of Restitution and had enforced it only where it fitted into his broader political strategy. In a historical hour, Ferdinand opted for religion and mediaeval conceptions of government, while Louis XIII at the very same time resisted all pressures along similar lines and retained Richelieu—who like Wallenstein was prepared to subordinate all, including religious considerations, to the requirements of royal absolutism. Implicit in these decisions was a struggle between the French idea of the state and its raison d'État and the mediaeval constitutionalism of the empire, in which the cardinal and his monkish emissary, taking full advantage of their opponents' inner divisions, faced the emperor and his electors. These constitutional issues, however, were soon obscured by the startling successes on the battlefield of a new and brilliant commander, King Gustavus II Adolphus of Sweden.
The Swedish Challenge

Gustavus II Adolphus had already been king of Sweden for nineteen of his thirty-five years when he landed in Germany on July 4, 1630. Most of that period he had spent in protracted wars in which he had defeated his neighbors Denmark, Russia, and Poland. Descendant of the native line of Vasa kings, Gustavus represented in modern garb the hoary idea of the Germanic warrior king, ruling and leading his people in battle by right of the intrinsic authority derived from a supreme capacity for leadership. Yet Gustavus II Adolphus was a genuine pathfinder of the modern national state. Hostile to the aristocracy, who quite recently had hoped to convert Sweden into a "republic" ruled by the nobles as Poland was, this sturdy champion of the Protestant cause had carried forward the work of establishing a centralized administrative state and a productive industrial society and had succeeded in professionalizing his army to an extent astonishing for the period. By bringing his army into the German war, Gustavus II Adolphus provided a genuine counterpoise to the Spanish professionals supplied to the Catholic side by the senior branch of the House of Hapsburg.

Aided by substantial support from the French, Gustavus met with immediate success; within six months he had won control of most of Pomerania and was threatening Brandenburg. These victories merely whetted the appetite of the Swedish king, who believed himself divinely appointed to smash the power of Hapsburg and the antichrist forever.

* See below, Chapter VII.
and he had no hesitation in concluding at Bärwalde (January 13, 1631) a five-year treaty with Richelieu's ambassador, providing for the advance of an army of 36,000 Swedes into Germany to rescue the German estates and their "liberties." These German liberties had been a French concern for almost a hundred years; in keeping with the adage "divide and conquer," the French were happy to provide Gustavus with a subsidy of 400,000 thalers in support of the cause. This strong French backing, plus the shock and indignation caused in Protestant Europe by the destruction of the city of Magdeburg (May 20, 1631), won for Gustavus the support of virtually every Protestant prince in the empire. Ever a believer in the decisive battle, he sought and found the forces of the enemy commanded by Tilly in the broad plain north of Leipzig and won a decisive victory at Breitenfeld (September 7, 1631).

Filled with multifarious—military, political, and administrative—activities as was Gustavus II Adolphus' year of triumph between the battles of Breitenfeld and Lützen, three only were of major importance. The first was his project for a Protestant confederation (*corpus Evangeli- corum*) under Swedish leadership, and the second, on the failure of the first, was his proposal for a general peace. This too having failed, Gustavus found himself faced, in the spring of 1632, by the superior forces of the newly reinstated Wallenstein. To break Wallenstein's armed camp and general strategy of attrition became the king's third objective. Honoring his agreement with John George of Saxony, Gustavus pursued Wallenstein, who had invaded Saxony in the hope of forcing the elector to abandon the Protestant cause, and had made the egregious error of splitting his forces for better wintering. After a fierce struggle
near Lützen, southwest of Leipzig, on November 6, 1632, he utterly routed the imperial armies, but the king himself lost his life upon the battlefield. The magnificent campaign, which in so many ways resembled the meteoric conquests of Alexander the Great, thus came to a dramatic close.

The fact that the Swedish armies did not dissolve on the battlefield on which their king fell demonstrated that unlike his rival Christian of Denmark, Gustavus Adolphus was no lone wolf. He left not only very able military lieutenants, but also the sagacious chancellor Axel Oxenstierna, who had worked with and under him. Largely as a result of the loyalty and determination of Oxenstierna, the Protestant cause was upheld in the face of repeated defeats long after its leader's death.

The months between the death of Gustavus and the battle of Nördlingen (September 1634) were dominated by the intrigues of Wallenstein, who conducted secret (indeed, impenetrable) negotiations with the Saxons, the Swedes, and the French. Whatever his aim may have been, Wallenstein succeeded only in estranging himself from the imperial court; in February 1634, having been condemned for treason in a secret imperial conclave, he was murdered. Wallenstein's very contradictions, contrasts, and tensions reflected his true nature. Somber and highly dynamic, in keeping with the style of his age, he elicited universally those intense emotions of admiration and hostility which only such a truly representative figure is capable of arousing. Indeed, how else could one imagine Wallenstein departing this earth than by an exit as tragic and dramatic as a great state murder? Combining mediaeval faith and superstition with a Renaissance sense of power and artistic performance, baroque man was forever walking upon a stage:
European history was a theater and the beauty of a performance was enhanced by a dramatic exit for its hero. Results were incidental.

Wallenstein's death once more raised hopes of a general peace, but instead Protestants and Swedes suffered an overwhelming defeat in the battle of Nördlingen. Thus the Swedish phase of the Thirty Years' War came to an end almost exactly three years after Gustavus II Adolphus' victory at Breitenfeld had seemed to open the prospect for a victory of Protestantism. The five battles of the White Mountain, Lutter am Barenberge, Breitenfeld, Lützen, and Nördlingen were the turning points of the great war; after Nördlingen many a bloody engagement was fought, but none again altered the direction of events as these had done. The inner weakness of the cause of the Counter Reformation is dramatically revealed in its failure—in spite of losing only two of these great encounters—to win the war in the end, and that failure can be explained only in terms of the forces of the modern state which were predominantly on the other side.

French Intervention and the Peace of Westphalia

The abortive Treaty of Prague (1635), which from the outside looked more like a defensive alliance among the German estates than a treaty of peace, increased the Swedish and French determination to reduce the Hapsburg power further and to secure extensive compensations for their sanguinary and financial efforts up to that time. Richelieu in particular believed that the time had come to launch the final assault upon Hapsburg power and, if not utterly to destroy it, in any case to reduce it to the point where it could no longer threaten the imperial ambitions of
France. From the time of the first French intervention in
1631, the Thirty Years’ War had become less and less re-
ligious in character, and when Richelieu in 1635 finally ac-
knowledged his policy with a formal declaration of war
upon the Austrian Hapsburgs, “reason of state” and power
politics had completely superseded spiritual concerns. In
early battles with Spanish forces attacking from their base
in the Netherlands, the French suffered a series of defeats;
but gradually the tide of war changed. In due course, the
internal weakness of Spain, highlighted by the successful
revolt of Portugal in 1640, was revealed in a crushing defeat
by the French at Rocroy (1643), which ended the legend
of the invincibility of the Spanish infantry. Spain lost
almost 15,000 men and never recovered from the disaster.

The preliminaries of a peace which had actually been
under negotiation since about 1641 finally took definite
shape with the emperor’s authorization after Rocroy. At
about the same time, two new rulers, Queen Christina of
Sweden (1626–1689) and Pope Innocent X (1644–1655),
lent support to the cause of peace, while the Dutch, having
decided that France was a greater threat than Spain, wel-
comed the start of negotiations. In fact, the very real ob-
estacles to peace derived not from any continuing will to
fight on the part of the participants but from the innate
complexity of the situation. Since some of the German es-
estates were on their side, both France and Sweden insisted
that they were at war with the Hapsburgs, rather than the
empire. For their part, the estates insisted upon participa-
tion in the negotiations, not only to protect their territorial
rights, but also to settle the constitutional and other internal
issues which the war had originated; under the constitution
of the empire these were issues of immediate concern to
them. In the face of these complications, it became necessary to divide the problem into two parts and physically to separate the relevant negotiations so that the treaty between the Austrian Hapsburgs with their allies and France was drawn up at Münster, while at Osnabrück, some miles away, the Swedes negotiated with the empire and its estates. If this procedure made negotiation possible, it also made it slow and clumsy. In addition two other factors contributed to the great length of time required to complete the agreements. One was the fact that a number of powers that may or may not have participated in the fighting but were not directly concerned in the treaty, such as Spain, the United Provinces, Portugal and Venice, Denmark and Poland, were nevertheless brought into the negotiations. The other, and perhaps more serious difficulty, resulted from failure to arrange for a cessation of hostilities while the congresses met. For five years the parties wrangled, maneuvered, and shifted at Münster and Osnabrück, living in plenty while the surrounding countryside starved and while terrible destruction was wrought upon the helpless mass of the people, not only in Germany, but in Italy, France, and elsewhere.

The main political and territorial provisions of the treaty, now generally known as the Peace of Westphalia of 1648, were as follows: each German principality was declared a sovereign member of the body known as the empire and hence could declare war and make peace at its own discretion; Switzerland and the United Provinces, formerly bound to the empire by a shadowy dependence, were accorded the status of full sovereignty; France was ceded Alsace, and her forcible acquisition of the bishoprics of Metz, Toul, and Verdun was confirmed; Sweden acquired
the western parts of Pomerania and secured control of the mouths of the three great German rivers (the Weser, the Elbe, and the Oder); Brandenburg, starting on its career of expansion, added most of eastern Pomerania and three bishoprics to its possessions; within the empire, Calvinists were given equal status with Lutherans. The treaty, since its terms precluded objections by the church, was inevitably condemned by Pope Innocent X; but even though this ban was never lifted, the treaty became and remained a symbol of the emergence of the modern state and of the system of many such states, facing each other as strictly secular sovereigns. The protracted struggle of the Counter Reformation to recapture the unity of Christendom by force of arms had ended in failure.

From every point of view, the Thirty Years’ War was an unmitigated catastrophe for Germany, while at the same time it utterly failed to achieve its original religious objectives. The actual physical destruction, even after allowing generously for the inaccuracy of earlier figures, cannot but stagger the imagination. In Württemberg, to choose an extreme case, the number of men capable of bearing arms had dropped from 65,400 to 14,800 in twenty-nine years (1623–1652), and more than half of all buildings had been destroyed (318 castles, 36,100 houses in the cities). In long-range terms, however, the institutional confusion caused by the perpetuation of a vast array of principalities large and small was perhaps even worse. It could only serve to prevent the growth of a suitable government and constitution and the development of a healthy national spirit. In terms of the religious objectives, the high hopes of Ferdinand II and his Counter Reformation associates were finished, as were the Calvinists’ projects for a predominantly Protestant
empire. The formula “Cujus regio, ejus religio” was reaffirmed, and, in a negative sense, religion triumphed over politics in the struggle for control of the emerging national states. The Peace of Westphalia produced in each kingdom, duchy, and principality of the empire a version of the modern state but in no case was it a full vigorous manifestation of the creative implications of the age. Too often it was a crippled, barebones “state,” a mere apparatus—a bureaucracy serving princely aspirations for aggrandizement and power. The nation remained outside. For the next two centuries the future belonged to the successful national states that were being created in France, England, and elsewhere.