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Edward Grant

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## INTRODUCTION

**M**OST WHO STUDY THE POLITICAL, SOCIAL, INSTITUTIONAL, AND intellectual developments in Western Europe during the Middle Ages find it easy to believe that “Western civilization was created in medieval Europe.” George Holmes, the author of that sweeping statement, argues further that

[t]he forms of thought and action which we take for granted in modern Europe and America, which we have exported to other substantial portions of the globe, and from which indeed, we cannot escape, were implanted in the mentalities of our ancestors in the struggles of the medieval centuries.<sup>1</sup>

Just what was implanted in the peoples of the Middle Ages between approximately 1050 to 1500? Nothing less than a capacity for establishing the foundations of the nation state, parliaments, democracy, commerce, banking, higher education, and various literary forms, such as novels and history.<sup>2</sup> By the late Middle Ages, Europe had also produced numerous laborsaving technological innovations. The profound problems involved in reconciling church and state, and natural philosophy and Scripture were first seriously encountered in this same period. Indeed, it was during the Middle Ages that canon and civil law were reorganized and revitalized. Not only did these newly fashioned disciplines lay the foundations of Western legal systems, but from the canon law also came the concept of a corporation, which enabled various institutions in the West – commercial, educational, and religious – to organize and govern themselves in a manner that had never been done before.

1. George Holmes, ed., *The Oxford History of Medieval Europe* (Oxford: Oxford University Press, 1992), v. These are the opening words of the book in the “Editor’s Foreword.”
2. See *ibid.*, v–vi.

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## REASON AND SOCIETY

Why did Western Europe emerge in the tenth and eleventh centuries to begin the development of all these institutions and activities? We may never really know, but one factor that undoubtedly played a significant role was a new self-conscious emphasis on reason that is already apparent in the educational activities of the eleventh century and in the emerging theology that began at approximately the same time. The new emphasis on reason affected all the subject areas that formed the curriculum of the universities that came into being around 1200.

Concurrent with these developments was the application of reason to societal activities. In his splendid book, *Reason and Society in the Middle Ages*, Alexander Murray takes a very broad approach to reason and shows it operating in various aspects of society. In the first part, he treats of reason in economics, devoting separate chapters to money, avarice, and ambition, following with a significant chapter titled “Reason and Power.” In this chapter, Murray seeks to show that from the late eleventh century onward, there developed “the concept that the mind, quite apart from any pleasure or edification its exercise may afford, is an efficacious weapon in man’s battle with his environment.”<sup>3</sup> Technology, magic, and astrology were all used to do battle with the natural environment. By using one or more of these three tools, one could exercise power over nature. Murray also regards the study of history as an illustration of the use of reason because “history helped you avoid mistakes.”<sup>4</sup> The study and use of arithmetic in commerce and government was another powerful illustration of the application of reason.<sup>5</sup> In all this, and in subsequent treatment of the intellectual elite, the universities, and the nobility, Murray emphasizes that the use of reason was viewed as a means to power and upward mobility. He explicitly avoids academic discussions about faith and reason, explaining that “academic disputes were relatively esoteric; and our business is with reason on the broadest-possible social stage.”<sup>6</sup>

The broad manner in which Murray uses the term *reason* does not distinguish the ways in which the West used reason differently than it had ever been used before. After all, mathematics, especially arithmetic and algebra, was used extensively by the ancient Mesopotamians. The peoples of ancient Mesopotamia also kept extensive economic records on clay tablets, thus

3. Alexander Murray, *Reason and Society in the Middle Ages* (Oxford: Oxford University Press, 1978), III.

4. *Ibid.*, 131.

5. See *ibid.*, Part II, Chapters 6–8.

6. *Ibid.*, 6–7.

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recording commercial dealings. And yet there is no evidence that the Mesopotamian peoples self-consciously emphasized reason, although they were clearly using it. In late antiquity and in Islam, magic and astrology played significant roles. If these activities constitute an exercise of reason, then we might well conclude that these other societies also emphasized reason, perhaps as much as did the West. Murray has interpreted the use of reason so broadly that we find little to distinguish the medieval Latin West from Islam, the Byzantine Empire, and any other society in which magic, astrology, and mathematics were practiced and used, and where upward mobility may have been a factor. There is nothing distinctive about the use of reason in the societal activities that Murray distinguishes.

In this volume, I shall largely confine my study of reason to medieval intellectual life as it developed within the universities. In emphasizing the curriculum of the medieval universities, I shall focus on the disciplines of natural philosophy, logic, and theology and their interrelations, which inevitably involved faith and reason. Murray omitted discussions of these subjects because they were too esoteric and would draw attention away from the use of reason on “the broadest-possible social stage.” And yet, I shall attempt to show that it was in the esoteric domain of university scholasticism that reason was most highly developed and perhaps ultimately most influential. Indeed, it was permanently institutionalized in the universities of Europe. Reason was interwoven with the very fabric of a European-wide medieval curriculum and thus played its most significant role in preparing the way for the establishment of a deep-rooted scientific temperament<sup>7</sup> that was an indispensable prerequisite for the emergence of early modern science. Reason in the university context was not intended for the acquisition of power over others, or to improve the material well-being of the general populace. Its primary purpose was to elucidate the natural and supernatural worlds. In all the history of human civilization, reason had never been accorded such a central role, one that involved so many people over such a wide area for such an extended period. To explicate how reason functioned in the university environment and how it was related to revelation and faith, and, to a much lesser extent, how it was related to observation and sense perception, is the major objective of my study.

## PERCEPTIONS OF HISTORICAL EPOCHS

The urge to cut history into tidy, manageable segments and to characterize each segment by a memorable catch-phrase has been with us for some time,

7. Because I find the phrase “scientific temperament” descriptive of an important aspect of the medieval approach to the world, I shall use it a number of times in this study.

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and will probably remain with us into the foreseeable future. Two widely used phrases that purport to capture the essence of two historical epochs are “The Age of Faith” for the Middle Ages and “The Age of Reason” for the seventeenth and eighteenth centuries. If these are apt descriptive phrases, we may properly infer that in moving from the Middle Ages to the seventeenth and eighteenth centuries, we have shifted from faith to reason, that we have somehow emerged from an age of uncritical belief, and even ignorance, to one of knowledge based on the use of reason.

There is an element of truth in these pithy descriptive phrases. The Middle Ages did stress faith, and the seventeenth and eighteenth centuries did lay emphasis on reason and reasoned discourse. But a single feature, however prominent, cannot characterize an historical epoch. In every period of history, many things develop and evolve concurrently. Although faith was a powerful force in the Middle Ages, so was reason. In this study, my aim is to describe and interpret the role that reason played in the medieval effort to understand the physical and spiritual worlds.

We are many things simultaneously. Indeed, the dominance of science and technology in our own age might tempt one to infer that ours is a pre-eminently rational age. Closer inspection reveals how rash such an inference would be. Think of all the irrationalities that pervade our society, many of them masquerading under the very science that epitomizes rationality. New Age religions abound and alternative medical treatments promise to accomplish what traditional medicine fails to achieve and cannot promise. Indeed, the ultimate health claim is immortality, a state of existence that is promised to all who join People Forever (headquartered in Scottsdale, Arizona). The claim of this aptly named organization is to have discovered the secret of immortality. According to one of its spokespersons, the human species “has the ability to perpetually renew itself” by “tapping into the intelligence of the cells themselves.” People Forever claims that it has members in 16 countries with a mailing list of 10,000 and a monthly magazine. Although three of its members had died when a reporter wrote about the group, and one of the group confessed that they could not guarantee immortality, another member insisted that “the minute you decide you want to live forever, everything else falls into place.”<sup>8</sup> Indeed, in this year of 2000, six years after the article about the group appeared in 1994, the group is still around. From their website, where the last dated entry I found is 1998, we can see that their leader, or one of their leaders, Mr.

8. From an Associated Press article in the *Herald-Times* of Bloomington, Indiana, on July 24, 1994.

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Charles Paul Brown, published a book titled *Together Forever: An Invitation to Physical Immortality*.<sup>9</sup> Moreover, “every Wednesday night, Charles and a growing body of cellularly-connected individuals gather in Scottsdale, Arizona to share the adventure of infinite immortal life.”<sup>10</sup> Apparently, audiotapes of “Charles’ expressions at the weekly gatherings are available for \$10 per set.”

Whatever else they may be, we can safely assume that the organizers of this movement are not irrational – the dream of immortality has perhaps made them comfortable, if not downright rich. But what about the deluded individuals who join People Forever hoping, and expecting, to achieve physical immortality? Do they mark an advance over medieval gullibility and superstition? It does not appear so. In behalf of the denizens of the Middle Ages, we might mention that they too were seized with a great desire for immortality. But they achieved it the old-fashioned way: by first dying, a method not susceptible to counterinstances.

Also noteworthy are past efforts by the now-defunct Soviet Union and the United States to use psychic power to achieve state and military objectives. Indeed, such powers are not reserved for governments alone. For a few dollars, you can dial your favorite psychic and learn all about your future, or, if you prefer, read your horoscope in a daily newspaper. The indubitable fact that what we know today about the world and its operations dwarfs what was known about it during the Middle Ages, might lead us to believe that this enormous disparity in knowledge would also produce an analogous disparity in the use of, and reliance on, reason. If we confine our comparison to the literate in both periods, we moderns of the twenty-first century ought to be eminently more rational than our counterparts in the Middle Ages. But this is hardly obvious, and is very likely untrue. Sheer magnitude or quantity of information cannot in itself guarantee a more rational society. The Age of Information that has engulfed us is, alas, not synonymous with knowledge and wisdom. While science itself requires a rational methodology, the success of science is no guarantee that those who live in a society in which science is dominant and pervasive will usually act rationally. Untold mischief has been done, and will continue to be done, under the good name of *science*.

9. The URL address in which excerpts from Mr. Brown’s book appear is: <http://www3.pair.com/genesis/charlespaulbrown/excerpts/index.html>. A check of library catalogs shows that the book does exist under this title. It was published in Scottsdale, Arizona, in 1990 by the Eternal Flame Foundation. On the Web site, the title of the book is erroneously given as *Together Forever: An Invitation to Be Physically Immortal*.

10. Cited from a different, though no longer existing, hyperlink that ended with [/gatherings/index.html](#).

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## THE DARK SIDE OF REASON

Many aspects of human behavior carried out in the name of reason and science are irrational, although not devastating. Nevertheless, we must recognize that reason has an ominous, dark side. During the Middle Ages, much else went on that was less lofty and noble than reason, sometimes even masquerading as reason. Superstition, religious persecution, brutality, and ignorance were reason's constant companions. Many, if not most, of the medieval authors who will be cited here for their emphasis on reason in one context or another may have been far from rationalistic in many other aspects of their lives. It is rare that one attribute – reason, or superstition, or brutality, or whatever – dominates our behavior to the exclusion of all others.

If nothing else persuades us that those who lived in the Middle Ages were no less rational than we moderns, and were perhaps even more rational, we should recall the grotesque atrocities carried out in the twentieth century by the likes of Adolf Hitler, Josef Stalin, Pol Pot, and a host of lesser murderers. During the Middle Ages, heretics were considered dangerous to the faith and, therefore, in the absence of a tradition of tolerance, often persecuted. Few in the Middle Ages would have judged the torture and execution of heretics and witches as unreasonable. The twentieth century was no stranger to such behavior. All too often, it witnessed the coexistence of reason and irrational persecution. Even as they tortured and murdered millions and millions, Adolf Hitler and Josef Stalin ruled over governments that relied heavily on science, and, therefore, on the reason that made it all possible. The dark side of reason will, unfortunately, always be with us. The misapplication of reason to gain knowledge, to resolve problems, or to control our lives better seems an unavoidable aspect of human society. We cannot forget the perverse medical experiments that were performed on innocent victims by Nazi and Japanese doctors during World War II, nor indeed the infamous Tuskegee syphilis experiments in the United States carried out on African Americans from 1932 to 1972.

The dark side of reason, which often draws upon ignorance, fear, prejudice, and hatred, is an all-too-common feature of the human condition. Because of this perennial dark side, there is no effective means of measuring and comparing the rationality of one age against the rationality of another. But it is worth mentioning that witchcraft persecutions intensified in the seventeenth century and magic played a greater role in the sixteenth century than it ever did in the late Middle Ages, during the thirteenth and fourteenth centuries. The Middle Ages had its brutal atrocities and egregious stupidities. It also had the Inquisition. By comparison to their mod-

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ern counterparts, however, the murderous irrationalities of the Middle Ages seem less flagrant. Those who lived during the Middle Ages simply lacked the capacity to kill and destroy on the scale of modern societies.

If this were a study of human society as a whole, the dark side of reason would have to play a significant role. But this is a book about the positive side of reason, rather than its ominous aspects, and I shall, therefore, say no more about the societal impact of the darker recesses of the human intellect.

## THE APPROACH TO REASON IN THIS STUDY

Without the rigorous use of reason to interpret the natural phenomena of our physical world, Western society could not have developed science to its present level. Indeed, our society cannot survive without science and the reasoning that makes it possible. Even the problems science causes can only be remedied by science itself. But *when*, *how*, and *why* did Western civilization place reason at the center of intellectual life and thereby make possible the development of modern science? The answer to the “when” part of this query is straightforward: the late Middle Ages, from around 1100 to 1500.

In a book that is well known to scholars of eighteenth-century intellectual history, Carl Becker showed rare insight into the nature of medieval thought when he characterized it as highly rationalistic. “I know,” he explained, “it is the custom to call the thirteenth century an age of faith, and to contrast it with the eighteenth century, which is thought to be pre-eminently the age of reason.”<sup>11</sup> Becker explains that “since eighteenth-century writers employed reason to discredit Christian dogma, a ‘rationalist’ in common parlance came to mean an ‘unbeliever,’ one who denied the truth of Christianity. In this sense Voltaire was a rationalist, St. Thomas a man of faith.” But Becker explains that Voltaire and Thomas did share something rather important, namely, “the profound conviction that their beliefs could be reasonably demonstrated.” Because of this shared conviction, “in a very real sense, it may be said of the eighteenth century that it was an age of faith as well as of reason, and of the thirteenth century that it was an age of reason as well as of faith.”<sup>12</sup> Much of this study is an effort to provide evidential support for Becker’s perceptive insights by demonstrating that medieval university scholars and teachers, spread over four centuries or

11. Carl L. Becker, *The Heavenly City of the Eighteenth-Century Philosophers* (New Haven: Yale University Press, 1952), 8.

12. *Ibid.*

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more, placed a heavy reliance on reason. Moreover, in the history of civilization, they were the first to do so self-consciously on a grand scale.

In the modern incarnation of Western civilization, a new attitude emerged toward reason and rationality. By the “modern incarnation of Western civilization” I mean the new society that emerged from the transformation of the Roman Empire in Western Europe during the turbulent centuries of the barbarian invasions – from approximately the sixth to tenth centuries.<sup>13</sup> By the late eleventh century an energetic new society and civilization had come into existence and the momentous events that will be mentioned and discussed in this study were under way. A major feature of the new European society was an extraordinary emphasis on the use of reason to understand the world and to solve problems, both practical and theoretical. Although the scope of reason would be greater in the seventeenth and eighteenth centuries, the period traditionally described as the Age of Reason, I shall argue that that age began in the late Middle Ages, which deserves to be regarded as the unqualified starting point for what would become a growing and evolving emphasis on reason as the arbiter of disputes and disagreements. The differences that seem to distinguish the use of reason in the seventeenth and eighteenth centuries from its use in the late Middle Ages derive largely from major changes in European history – the Protestant Reformation and the Scientific Revolution,<sup>14</sup> to name two of the most significant. The range of uses to which reason could be applied undoubtedly expanded in the later period, but it could do so only because the ground had been solidly prepared in the preceding centuries. Reason was not a newly emphasized activity that burst forth in the so-called Age of Reason in contrast to its relative absence in the late Middle Ages. I shall argue that the Age of Reason is hardly imaginable without the central role that reason played in the late Middle Ages. If revolutionary rational

13. Historians of the Roman Empire no longer speak of a “decline and fall” of that empire in the West, to allude to Edward Gibbon’s famous title, but about a transformation into something else. The Roman Empire in the East, the Byzantine Empire, was remarkably strong and resilient, continuing on until 1453, when it was captured by the Turks and became part of the Ottoman Empire. See Glen W. Bowersock, “The Vanishing Paradigm of the Fall of Rome,” in *Bulletin of the American Academy of Arts and Sciences* 49 (May 1996), 29–43.

14. In recent years, the concept of a Scientific Revolution in the seventeenth century has been challenged. But whatever term, or terms, we may use to embrace the dramatic changes that occurred in science in that century, there could be no doubt that something significant occurred. For lack of a better term to describe those changes, I have retained the expression Scientific Revolution.



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thoughts were expressed in the Age of Reason, they were made possible only because of the long medieval tradition that established the use of reason as one of the most important of human activities.

Reason, however, is not a medieval invention. Indeed, it is an activity that is manifested in every civilization and in every culture. Humans could not survive without it. What differentiates Western civilization from other societies and cultures that used reason is the self-consciousness with which it was used, and the scope, intensity, and duration of its application.

The achievements of Western society were made possible because of the intellectual gifts it received from the pagan Greeks, the Byzantine Christian Greeks, and the civilization of Islam. Although reason was valued in these civilizations, it was consciously esteemed by a relatively small number of scholars who were never sufficiently influential to give reason the intellectual standing that it would receive in the medieval West. The West did what no other society had previously done: It institutionalized reason in its universities, which were themselves an invention of the West.

But what is reason? How should it be understood for the purpose of this inquiry? One cannot approach the use of reason in the Middle Ages without simultaneously thinking of its opposite activity, revelation. Strictly speaking, revelation, that is, the articles of faith, is not subject to reason. Revelation is true because it embraces truths that are believed to come directly from God, or from His revealed word in Holy Scripture. Such truths – the Trinity, Incarnation, Redemption, and Eucharist – are beyond the comprehension of human reason. Where reason applies logical analysis to problems about the physical world and to aspects of the spiritual world, the same kinds of analyses are of no avail when applied to articles of faith. Reason, Christians argued, could neither prove nor disprove such revealed truths. Nevertheless, as we shall see, Christian scholars, usually theologians or theologian-natural philosophers, often tried to present reasoned analyses of revealed truths. They did so ostensibly better to understand, or to demonstrate, what they already believed on faith. We shall see that the use of reason in medieval theology and natural philosophy was pervasive and wide-ranging. Indeed, medieval scholars often seem besotted with reason. But there was one boundary line that reason could not cross. Medieval intellectuals, whether logicians, theologians, or natural philosophers, could not arrive at conclusions that were contrary to revealed truth – that was heresy. Not until the seventeenth century, and then far more pervasively in the eighteenth century, was reason applied to revelation without restriction or qualification.

So far as my study is concerned, that is the major difference in the way scholars used reason in the Middle Ages as compared to the way they used it

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in the Age of Reason. While it is a significant difference, it should not obscure the more fundamental truth that reason, and reasoned argumentation, lay at the heart of medieval intellectual life. Reason was the weapon of choice at medieval universities. Its systematic application to all the disciplines taught at the university gives us a sound basis for claiming that the academic use of reason on a broad, even vast, scale was a medieval invention.

With the exception of revealed truth, reason in the Middle Ages could be used to analyze virtually anything without fear of repression. By relating reason to revelation, however, we only learn about the bounds within which reason had to operate. From that, unfortunately, we do not learn what reason is. Since my objective is to describe how reason was viewed by medieval scholars, the role they assigned to it, and how they actually used it, it will be useful to characterize briefly the medieval attitude toward reason. During the late Middle Ages, reason in its traditional sense was regarded as “a faculty or capacity whose province is theoretical knowledge or inquiry; more broadly, the faculty concerned with ascertaining truth of any kind.”<sup>15</sup> The medieval understanding of theoretical knowledge was derived from Aristotle, and it embraced metaphysics, or theology as it was also called, natural philosophy, or physics, and mathematics. Overarching all these disciplines was logic, which was regarded by Aristotle and his medieval followers as the indispensable instrument for demonstrating theoretical knowledge.<sup>16</sup> During the Middle Ages, reason was “contrasted sometimes with experience, sometimes with emotion and desire, sometimes with faith.”<sup>17</sup> In this study, I shall contrast reason with experience and faith, but ignore emotion and desire.

Although logic, reason’s most precise expression, was the supreme tool for the application of reason to theoretical knowledge, reason was regarded as much broader than formal logic. Reason in the Middle Ages was not tied to any particular theory of knowledge. Nominalists, realists, empiricists, and partisans of other theories of knowledge in the history of philosophy have regarded themselves as consciously applying reason to the resolution of philosophical problems. A modern philosopher has presented a good sense of what the broader aspects of reason and rationality imply for all philosophers, including those of the Middle Ages. “Rational inquiry,” he has declared,

15. From A. R. M. (Alfred R. Mele), “theoretical reason,” in *The Cambridge Dictionary of Philosophy*, 796.

16. In the course of this study, I shall deal with all of these except mathematics.

17. A. R. M., “theoretical reason,” 796. Although A. R. M. does not mention the Middle Ages, what he says serves to illuminate the role of reason in that period.