

Parchment, Printing, and Hypermedia



Communication in World Order Transformation

R O N A L D J . D E I B E R T

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From the Parchment Codex to the Printing Press: The Sacred Word and the Rise and Fall of Medieval Theocracy

In 1212, Pope Innocent III—without a military force of his own—orchestrated a great coalition of western European princes designed to oust Otto IV of Brunswick as King of Germany and halt his bid for hegemony over Italy by installing Frederick II (Innocent's ward) in his place. Carrying out the Pope's bidding was Philip Augustus of France, who soundly defeated Otto's forces at the battle of Boivines in 1214. During the same period, Innocent became embroiled in a lengthy dispute with King John of England over the election of Stephen Langton, Innocent's appointment to the see of Canterbury. Although King John was initially hostile and recalcitrant, Innocent suspended church services throughout England and, turning again to Philip Augustus for help, threatened the invasion of England. Bowed under the awesome putative power of the Papacy, John not only conceded to the appointment of Langton as archbishop, but also recognized Innocent as his own feudal overlord.¹ The controversy resembled another instance 150 years earlier when a dispute between Pope Gregory VII and German King Henry IV over ecclesiastical appointments resulted in a Papal Bull of excommunication, which effectively freed Henry's subjects from their oath of fealty to him. The King's support rapidly diminished, and the once-powerful Henry was forced to seek absolution from Gregory—a humiliating defeat borne not of superior military force, but overwhelming moral authority.² The suasive power of successive popes in this respect is perhaps best evidenced by the ongoing series of military crusades called for

by the Church against other civilizations, which were then undertaken willingly by princes, knights, and commoners.¹

These illustrations all exemplify the power of the Roman Catholic Church over, and penetration into, secular authority during its zenith in the High Middle Ages. From the perspective of much of mainstream International Relations theorizing it is truly a remarkable anomaly that with no private army of its own, and initially no great material wealth, the small bishopric of Rome could eventually develop into "the most powerful feudal court in Europe, receiving oaths of allegiance from princes and kings, exacting taxes and interfering in affairs of state throughout Christendom. . . ." The Church was the one institution that straddled all of the competing, cross-cutting jurisdictions of medieval political authority, and though its effectiveness and dominance were more than once undermined by secular power or incompetent rule, from the eleventh to the thirteenth centuries it came close to unifying western Europe under a centralized "papal monarchy." What explains the Church's predominance? According to Curran, its power cannot be understood without reference to "its early dominance over institutional processes of ideological production that created and maintained support for its exercise of power."² To understand the papacy, then, we must also understand the mode of communication.

In this chapter, I provide a historical narrative of developments in communication technologies leading up to the development of the printing press in western Europe. The bulk of the chapter will be devoted to an examination of the way the Church's hegemony over the medieval world order was supported by the communications environment of the time. This examination will then set the stage for an overview of the development of printing and the change in that communications environment. The printing press did not arrive on the European scene like a flash in the dark, but was the product of slow, converging social pressures for more efficient communications. It represented a much wider ferment in western European society as a whole, partially in response to the spiritual decline and growing secularism of the Roman Catholic Church. The purpose of this chapter, then, is to situate the change in the mode of communication in its historical context—to underscore what I earlier called the "social embeddedness" of technological innovation. The consequences for world order transformation of this change in the communications environment will then be taken up in the ensuing two chapters.

The Sanctity of the Written Word

Language and communication are such integral components of human life that it is difficult to imagine a time without the abstract symbols regularly employed by humans to convey meaning. Yet if we look back 35,000 years to the evolutionary juncture when modern humans displaced Neanderthals, and assume that human beings have been able to communicate the spoken word in some capacity since then, we must then move forward to nearly 32,000 years to find the point at which a crude form of writing was first invented.⁶ Thus for most of its time on Earth the modern human species was characterized by primitive orality. Of course, human beings had been drawing pictures and scratching marks as memory aids for millennia prior to the invention of writing, but these pictographs and markings cannot be included as examples of true written scripts, which do not consist of mere pictures, of representations of things, but [are] representation[s] of an *utterance*, of words that someone says or is imagined to say.⁷ Most scripts have their origins in and probably evolved out of such graphic arts. They certainly depend on the same physical attributes: that is, the ability to manipulate tools with an opposable thumb and coordinated by the eye, ear, and brain.⁸ The difference lies in the degree to which the graphic system of writing "succeeds in duplicating the linguistic one, that is, in the extent, first, of word-to-sign (semantic) correspondence and, secondly, of phonetic correspondence."⁹

The first such written system that we know of was developed among the Sumerians in Mesopotamia beginning around 3500 B.C. Archaeological evidence suggests this writing system evolved out of the use of clay tokens, which were used to record payments and inventories of grain following the shift to agricultural production at the beginning of the Neolithic period.¹⁰ As society grew more complex and came more to depend on the clay tokens for facilitating transactions, the tokens themselves were dispensed with in favor of two-dimensional symbols that corresponded to the three-dimensional shapes of the tokens. This first undeciphered pictorial system from the city of Uruk IV is thought to have evolved gradually into the cuneiform (wedge-shaped) orthography used to write down the language of the Sumerians around 3100 B.C.—the earliest known system of writing.

There is a temptation in tracing the impetus for the development of writing to reduce it solely to the functional imperatives of economics or

urbanization, but it is important to bear in mind that the reproduction of writing—whatever its ultimate origins—has always been closely associated with a spiritual elite. Social anthropologists and historians have usually attributed this association to the fragility of texts or tablets, which seem to favor the privileging of a class of clerics who are charged with the preservation of sacred norms and rules.¹¹ An even more compelling explanation probably lies in the point of view of those who first developed writing—a capability that “could not be credited to mere mortals.”¹² It is not surprising, then, that most early civilizations acquainted with writing shrouded their origins in myths and legends, such as the Egyptian god Thoth—the creator of writing.¹³ Nor is it surprising that those charged with reproducing and interpreting the word should be revered. According to Gellner, “the mysterious power of writing in recording, transmitting, and freezing affirmations and commands soon endows it with an awe-inspiring prestige, and causes it to be fused with the authority of ritual specialists.”¹⁴ The priest or cleric, as custodian of the sacred text, is a mediator with the forces or Deity “beyond” and thus achieves an empowerment associated with the skill required to interpret the word—a general pattern found especially among religions of the Book, such as Islam, Judaism, and Christianity.¹⁵

Looking back from the perspective of our own time, when the word has been dissolved into an electronic code and copies are cheap and plentiful, it is difficult to appreciate fully the way the text itself could have value beyond the words it contains. Yet it is important that we approach the manuscript culture of medieval Europe from this perspective of the distant origins of the sacred word for it helps to shed light on the privileged status of the medieval clergy. Similar to the position of ancient scribes in other cultures, medieval Church clerics were the guardians of the word, and the “Word was God.” As a religion of the Book, the Roman Catholic Church carried over many of the same general attributes found in other such religions, including the veneration of the word and the reverence of those charged with its reproduction. One important pillar of Church authority, then, was the privileged position enjoyed by the literate clergy as guardians of the text in a largely illiterate society. As Anderson puts it, “The astonishing power of the papacy in its noonday is only comprehensible in terms of a trans-European Latin-writing clerisy, and a conception of the world, shared by virtually everyone, that the bilingual intelligentsia, by mediating between vernacular and Latin, mediated between earth and heaven.”¹⁶

Consider, for example, the status of language during the early to High Middle Ages. At this time language and words were not generally conceived of as arbitrary and thus interchangeable signs (as they are today), but rather channels to ontological truth—emanations of reality rather than representations of it.¹⁷ The spoken and the written word were considered to be continuous with nature, a belief reflected in the view that the meanings of words were tied to the things signified. This “Adamic” view of language sought knowledge through finding the divinely ordained, natural homology between words and things that was set down following Creation by Adam.¹⁸ Michel Foucault describes how according to the Adamic view:

There is no difference between the visible marks that God has stamped upon the surface of the earth, so that we may know its inner secrets, and the legible words that the Scriptures . . . have set down in the books preserved for us by tradition. The relation of these texts is of the same nature as the relation to things: in both cases there are signs that must be discovered.¹⁹

Accordingly, texts were considered sacred fonts of wisdom from a pure past and an Other World—a belief that often manifested itself in worship of the medium itself, to which was attributed metaphysical, quasi-magical powers. Marc Drogin explains:

Since God or the gods invented the alphabet—everyone believed it to be divine inspiration—the letters were holy. Since it was letters that formed words, the words were equally holy. In a time when what was holy was born of the miraculous and when the fine line between miracle and magic was difficult to discern, the three terms could be easily interchanged. Letters and words were miraculous in origin and therefore were the stuff of magic.²⁰

Drogin notes how it was not uncommon to find the mingling of words or texts in medicinal instructions, such as the herbal mixture called the holy solve in which the person preparing the mix is directed to write in it with a spoon: “Matthew, Mark, Luke, and John.”²¹ An eleventh-century manuscript advises patients prone to fever to wear strips of parchment around their necks on which is to be written “In the name of Our Lord, who was crucified

under Pilate, FLEE YE FEVERS."²² The mysterious powers attributed to the text help to explain the crusaders' odd practice of wearing a parchment scroll beneath their coats of mail, or having prayers and odd letter combinations inscribed on their weapons. Rituals such as these make sense only if the person performing them is acculturated into the belief that the word or text has a connection to the Divine. The exceptions to this rule are equally instructive for in the very defiance of the sanctity of the word, they reveal the scope and depth of the norm. For example, in 1022 a group of heretics were burned in Orleans for referring to the clergy's knowledge as human fabrications "written on the skins of animals," as opposed to what the heretics believed was the "law written in the inner man by the Holy Spirit."²³

Although the Roman Catholic Church's sharing of this general tendency found among other religions of the Book does offer some insight into the power and status of the medieval clergy, it does not explain how the Church arrived at this position from its "obscure beginnings as a small persecuted community in the capital of the Roman Empire,"²⁴ nor how the Church's fortunes were related to a specific technology of communication. For a comprehensive explanation along these lines, we must trace the vagaries of the mode of the communication following the collapse of the Roman Empire in the fifth century. As will be shown below, the Church's rise to prominence was contingent on a combination of fortuitous circumstances in which we could include the peculiarities of the mode of communication. A variety of other historical contingencies not so fortuitous from the Church's perspective then contributed to its demise.

The Rise and Fall of Medieval Theocracy

The internal disintegration of the Roman Empire in the fourth and fifth centuries, compounded by successive waves of "barbarian" invasions, left much of western Europe outside the bounds of Roman administration.²⁵ In its heyday, the Roman Empire governed itself through the administration of a literate bureaucracy among whom communications rested significantly on light-weight papyrus rolls, easily transportable on a highly efficient network of roads.²⁶ With the Empire's demise, much of western Europe returned to a state of primitive orality and personalized forms of rule characteristic of

the Germanic invaders.²⁷ In the city of Rome, the collapse of Imperial authority created a void into which the only plausible alternative was the bishopric of the Catholic Church, an alternative that was facilitated by the work of successive Christian emperors, who endowed the Church with special privileges and helped to outlaw paganism. Though many popes were weak and ineffectual through this period, the first who seemed to have perceived the opportunity for the bishopric of Rome was Pope Leo I (r. 440-461; also known as St. Leo the Great). By negotiating with the invading Huns and Vandals for the safety of the city of Rome, and by asserting the so-called Petrine Doctrine (which sought to link the Roman see directly to St. Peter) Leo vastly increased the prestige of the papacy throughout western Christendom. As Cantor explains, "half-consciously the pope worked to make the Roman episcopate the successor to the Roman state in the West."²⁸

Leo's prominent ideological work was complemented by the growth of a literate monastic network that gradually spread through western Europe. Throughout the period of Imperial disintegration, many aristocrats converted to Christianity, carrying over to the Church their literary education and respect for the preservation of the written word characteristic of late antiquity.²⁹ To be sure, while the Church would soon count among its ranks nearly all literate individuals in Europe, literacy as a whole was limited to a small group. The norm for western Europeans, for whom much of life was violent and chaotic, was the spoken word.³⁰ Even many Church priests were confined to the bounds of primitive orality, unable to comprehend the Latin phrases they regularly parroted for their parishioners. But the veneration and preservation of the word that was carried over by former Roman aristocrats gradually became fused with the practices of monasticism, making the Church an island of literacy in an otherwise oral culture. In Cantor's words:

The Latin church was preserved from extinction, and European civilization with it, by the two ecclesiastical institutions that alone had the strength and efficiency to withstand the impress of surrounding barbarism: the regular clergy (that is, the monks) and the papacy.³¹

The molding of Christian monasticism around the preservation and veneration of the written word was first given doctrinal formulation in the works

of St. Benedict and Cassiodorus in the early Middle Ages, where the idea of the monasticist scriptorium was outlined and book copying was portrayed as a sacred act.³² Doctrines flowing from these two figures instilled the close connection between the ability to read and the religious life of the monk, as well as the cultural and spiritual importance of the conservation and transmission of the written word. "This meant that the monastery needed to have the means—a library, a school, a scriptorium—that quite naturally made it an exclusive and culturally privileged place."³³ One reason why the monasteries thrived in the early Middle Ages was precisely this exclusion from the disorder of life outside. Ironically, their self-imposed isolation also acted as a magnet for those drawn to learning, for "the Benedictine monastery alone, during the early Middle Ages, had the continuity, the dedication, the library, and the substantial supply of teachers to serve as an effective educational institution."³⁴

Another reason why the monastic network thrived in the early Middle Ages relates to a choice of media in the early history of the Catholic Church. The Roman Empire had developed a relatively efficient postal system and bureaucracy based mostly on the use of the light-weight, but fragile, papyrus rolls.³⁵ Archaeological evidence of the earliest Christian Bible codices from Egypt reveal that the Christian community was nearly alone in favoring parchment over the papyrus roll.³⁶ Early Church fathers and missionaries preferred the parchment codex because it was both more suitable for easy reference than the cumbersome scroll and it was more durable under poor traveling conditions—an especially important feature for traveling preachers. Some historians believe that Christians remained wedded to the parchment codex because they were a persecuted sect without access to the papyrus leaves used by official Rome.³⁷ In any event, parchment, rather than papyrus, was the medium of choice for the Christian religion, and it remained so into the Middle Ages as a result of both institutional inertia and functional complementarity. If only out of the sheer force of habit, in other words, the Christian community formed an institutional bond with parchment—a fortuitous choice as circumstances would later reveal.

According to medium theory, communications environments have distributional consequences insofar as they empower specific social forces; the relationship between parchment and monasticism is a clear illustration in this respect. As Innis notes, "Parchment as a medium was suited to the spread of monasticism from Egypt throughout western Europe."³⁸ Parchment, or

membranae, was manufactured from the hides of animals, a variation on leather making.³⁹ Unlike papyrus, which was grown almost exclusively in the Egyptian Nile delta region, parchment was especially suited to the decentralized agrarian-rural monastic network that spread through western Europe after the collapse of the Roman Empire. Individual monasteries could remain self-sufficient, manufacturing parchment from the skins of their own livestock or those from the surrounding farms. Sheep, cows, goats, rabbits, and squirrels all provided the skins for various qualities of parchment. Goose quills were used for pens, while ink was supplied out of a combination of gall nuts, organic salts of iron, and lampblack. All of these materials were in abundance in the woods and valleys of western Europe in the early Middle Ages.⁴⁰ Furthering the papal-monastic interests was the near-total disappearance of papyrus from western Europe at this time. The pre-fifth-century Roman Empire was able to sustain the importation and production of papyrus rolls by its links to the eastern Mediterranean and beyond. Following the collapse of the Empire and the accompanying rise of Islam in Egypt and elsewhere, however, papyrus exports to the West significantly diminished, leaving parchment the sole remaining medium of written communications.⁴¹ Parchment—in a sense by default—became the dominant medium of written communications. Coincidentally, it was also the medium produced by Roman Catholic monastic orders.

We can see, then, how the mode of communication "favored" the interests of the Roman Catholic Church. Parchment and the papal-monastic network formed a symbiotic relationship in the communications environment of the early Middle Ages: monasteries were largely self-contained islands of literacy and centers of knowledge reproduction in an oral-agrarian environment. Parchment was the medium of choice of the early Church fathers. It was sustained as such through institutional inertia and functional compatibility with missionary/monastic life. It was produced from materials that were in abundance in western Europe, and it had no serious rival. Secular literacy had virtually disappeared in most of western Europe leaving the clergy as the sole custodians and suppliers of written information. From these converging circumstances surrounding the communications environment of the time, then, the Roman Catholic papal-monastic network began to flourish and spread throughout Western Europe. Its monopoly over the reproduction of written information was to have significant consequences for the prevailing cosmology of the medieval world order.

Structural Characteristics of the Church's Hegemony in the High Middle Ages

Given the Church's early monopoly over written communications, it is no surprise that knowledge reproduction was distorted—"pagan writing was neglected and Christian writing emphasized."³² Cantor points out that Benedictine monasteries took a functional, Augustinian approach to copying classical texts, using them in a secondary derivative sense, and passing over those that contradicted the Gospels or had little relevance to Christian doctrine.³³ Likewise, Miccoli notes how monks were instilled into a ritual that emphasized "a deep assimilation of God's word through a constant and repeated rereading of Scripture (*meditatio* and *rumunatio*)."³⁴ In principle, ancient pagan works had no autonomy in the official Church cosmology, but were tolerated for instrumental reasons—that is, "as they contributed to the linguistic and literary formation of the monks."³⁵ Of course, it was precisely because of the toleration of pagan authors—even in a subordinate sense—that many important classical works were transmitted. Ironically, other classical works were passed on to posterity quite by accident: when parchment was in short supply, monks would often re-copy the Gospels over pagan works, and it is through this recopying process that many ancient texts were rediscovered.³⁶ But the fact remains that "between the sixth century and the middle of the eighth century, virtually all classical texts ceased to be copied."³⁷ As suggested above, this selective reproduction was not so much a matter of deliberate censorship as it was a combination of indifference and priority. At the very least, it was a product of the heavy demand placed on scribes to copy the scriptures alone. Important in this respect is the relatively expensive and laborious manuscript copying process, which may have been a seasonal activity in parts of Europe.³⁸ Nonetheless, the monastic reproduction process was clearly biased toward the Holy Word, and as a result it both reaffirmed and reinforced a reading of history that emphasized the destiny of the Church in that historical process, to the exclusion of other possible interpretations. In Miccoli's words:

when monasticism reduced all other reality to its own image and its own religions and cultural schemata in the aim of handing them to an explanation and exaltation of the choice and the experience of monastic life, it discovered the subterranean ideological, political, and

social roots of its own origins that provided further support to its affirmation in history.³⁹

While it would most certainly be wrong to portray the Church as a quasi-totalitarian organization—a medieval "Big Brother"—the monopoly over the written word did confer special advantages. At the very least, the guarding and sifting of organized knowledge kept a loose discursive boundary on cosmological speculation, especially in the early Middle Ages. We must not forget in this respect that monasteries were, for most of the Middle Ages, the sole educational outlet instructing, "at a conservative estimate 90 percent of the literate men between 600 and 1100 . . ."⁴⁰ Duby makes the important point that no distinction was made between culture and propaganda during the Middle Ages since "to educate was to convert."⁴¹ Those who did not get formal education attended mass. Curran asserts that the "proportion of the adult population in Europe regularly attending mass during the central Middle Ages was almost certainly higher than the proportion of adults in contemporary Europe regularly reading a newspaper."⁴² And the papal curia exercised a tight control over the content of the mass through set liturgies, reinforcing a macro-micro coordination of Church doctrine throughout western Europe.⁴³

This hegemony over cultural and ideological production was buttressed by the maintenance of huge Papal archives which provided important political and legal leverage; forgeries, like the infamous Donation of Constantine, were used by the Papacy to provide legitimacy to assertions of Church authority over, and independence from, secular rule.⁴⁴ This particular document first emerged during the eighth century, and was used throughout the Middle Ages as evidence of a supposed grant from the Roman Emperor Constantine to Pope Sylvester I conceding supreme authority to the Pope over Italy and the rest of the western Church.⁴⁵ The Donation of Constantine was hardly an exception: forgeries were prominent ways of establishing privileges, especially monastic charters. For example, following the Norman Conquest of England forgeries among the local Black monks rose dramatically.⁴⁶ In addition, the Church's monopoly over the reproduction of legal documents provided an important tangible base to which justifications of its place in the social and political hierarchy could be referred. In the communications environment of the Middle Ages, few if any other groups had access to such a formal resource.

The Church's influence over ideology did not rest with matters purely cosmological. Because the aristocracy throughout much of the Middle Ages were generally illiterate, they depended on the interposition of clergy to help carry out various administrative functions. This comfortable interlocutor position meant that the Church was able to intervene, if only indirectly, in secular, as well as ecclesiastical, matters. As Bloch points out, "the princes were obliged to rely on the clerical element among their servants for services that the rest of their entourage would have been incapable of rendering."⁵⁷ Thus William of Normandy turned to the monks after his conquest of England "to organize a wiser and more prudent administration of the crown's holdings."⁵⁸ More so than other members of society, church clerics and monks had a reputation for "an introspective wisdom and a power of analysis, a capacity for detached realism" that made them attractive for secular administrative functions—a capacity related, no doubt, to their ability to read and write.⁵⁹ By the twelfth century it was not uncommon to find Benedictine monks employed as royal chancellors, state advisers, and chief ministers for secular rulers—a considerable shift from their origins as members of self-contained, isolated islands of literacy in the ninth century.⁶⁰ Of course, intervention along these lines had important political consequences. According to Marc Bloch:

It is important to realize that the decisions of the powerful of this world were sometimes suggested and always expressed by men who, whatever their national or class allegiances, none the less belonged by their whole training to a society by nature universalist and founded on spiritual things. Beyond question they helped to maintain, above the confusion of petty local strife, a concern for certain wider issues. When required . . . to give written form to acts of policy, they felt impelled to justify them officially by reasons drawn from their own moral code.⁶¹

Gradually, the Church came to rely more and more on written administration and formal documentation to underpin its authority. By the mid-twelfth century, under Alexander III, the administrative and judicial activity of the papal curia expanded and became more specialized—a reflection of the way the written word permeated all Church activity.⁶² Correspondences issued from Rome increased dramatically during this period. Church doctrines—formulated at the official Lateran Councils—were issued in formal

proclamations, such as the *Decretum*, and accepted authoritatively throughout much of western Christendom.⁶³

While written communications were the backbone of the papal-monastic information network, the Church disseminated its message to the local populations through a medieval multimedia experience designed to accommodate mass illiteracy. As Le Goff points out:

Latin Christianity made an important choice in the Carolingian epoch. It chose images, rejecting the nonfigurative art of the Jews and the Moslems and the iconoclasm of Greek Byzantine Christianity and firmly establishing medieval Christian anthropomorphism.⁶⁴

The Church consciously employed the image to convey the Christian message to the illiterate masses in a way that was deeply symbolic. Probably the best-known medieval dictum on art is Gregory the Great's pronouncement that pictures are the "books of the illiterate."⁶⁵ This was a time prior to the emergence of imitation and perspective characteristic of "realism"—a time in which the didactic and ideological purposes of forms in paintings and sculptures far outweighed in significance their aesthetic value. Visual art "was not so much an expression of the visible world, as of the spoken word in a still predominantly oral society."⁶⁶ The images reproduced in outwardly visible signs the social and cosmological hierarchy of the times.⁶⁷ For example, colors had a symbolic content as part of a hierarchical value system in which red and blue were marks of power and status, while yellow was the color of evil and deceit.⁶⁸ Though imagery was found on the margins of manuscripts, most of the population encountered them on the walls and stained glass of local cathedrals, which invariably featured the macabre tortures of hell alongside the visual narratives of Christ's teachings. The cathedrals themselves, in their very form, were significant in a symbolic sense as well: "the construction of churches towering over their pastoral flock symbolized the looming presence of God over all aspects of life."⁶⁹ This multimedia experience did a great deal to shape the character of the medieval *mentalité*, which did not share the cognitive boundaries so characteristic of modernity between the "real" and the "imaginary," or the "natural" and the "metaphysical."⁷⁰

Although my theoretical lens has been focused on the constraints imposed and the opportunities created by the communications environment,

other factors were responsible for the Church's rise to hegemony. Most important in this respect is the appeal of the message regardless of the medium: we should not lose sight of the fact that Christianity offered a coherent and compelling narrative of justice that both explained the disorder of the times and offered a promise of salvation in an Other World.⁷¹ This coherent moral vision strongly resonated in the chaotic environment of the early Middle Ages in Europe, where disorder and brutality were the norm for most people. The Church was also particularly adept at tailoring its message to suit the vagaries of local communities, especially in the early Middle Ages when myths and rituals of pagan sects were made compatible with the teachings of Christ. Under the astute stewardship of Pope Gregory I (the Great), the Church purposefully assumed a quasi-magical hue to conform to the pagan rituals of the Germanic and Frankish peoples.⁷² As Curran points out, "the whole paraphernalia of ecclesiastical sorcery and ritual was of crucial importance in mediating an ecclesiastical construction of reality that underpinned papal hegemony."⁷³ Each regular routine of daily life was informed by elaborate and mystical church rituals, such as baptism, confirmation, marriage, and burial. The Church actively encouraged the veneration of saints with miracle powers—a superstition strongly reminiscent of the pagan worship of various natural gods.⁷⁴ And each of these adaptations was a mixture of "cosmic-universal and the mundane-particular" so that "however vast Christendom might be, and was sensed to be, it manifested itself *variously* to particular Swabian or Andalusian communities as replications of themselves."⁷⁵

While it is true that a coherent and persuasive message, coupled with astute leadership, helped contribute to the Church's success, it was the hospitable communications environment that was critical in underpinning the papal-monastic network as "the dominant institution in Europe's information system."⁷⁶ The early choice of the Church fathers to adopt parchment turned out to be a fortuitous one that favored the spread of the papal-monastic network throughout western Europe. The absence of widespread literacy, the decline of papyrus as an alternative medium of written communications, plus a material environment whose properties favored the production of parchment, were all significant elements in the success of the early Church. Its monopoly over written documentation would, in turn, provide an important source of leverage over secular rulers both in terms of justifying the Church's place in medieval cosmology, and, more concretely, in terms of supplying administrative personnel for secular rulers. Once the

communications environment changed, however, the Church was placed at a severe disadvantage.

Counter-Hegemonic Forces and the Decline of the Church

No sooner had the Church reached its pinnacle of power in the High Middle Ages than counter-hegemonic forces began to surface that would eventually undermine its authority.⁷⁷ Many of these forces emerged precisely in reaction to the Church's monopoly over written information. By the thirteenth and fourteenth centuries, the papacy had become so permeated with and dependent on the written word that its institutions grew more legalistic and bureaucratic, with the papal curia evolving into a complex, top-heavy, administrative organ. Throughout the High Middle Ages, successive popes and Church prelates were likely to be just as informed by canon law and practical affairs as they were in spiritual matters.⁷⁸ Such a formalist-legalist infrastructure had the unfortunate consequence of gradually distancing many of the Church administrators from the spirit of popular devotion that had helped make Christianity a success in the first place. As Cantor relates:

The lawyer-popes of the twelfth and thirteenth centuries were far more successful in fulfilling the administrative than the spiritual responsibilities of their office. Their juristic education and bureaucratic experience did not tell them how to cope with the emotional religiosity and heretical inclinations of the urban communities.⁷⁹

Underlining the pervasiveness of the written word, Barraclough notes that the "papal curia had the atmosphere of a law-court or business-office."⁸⁰ Within the Church many lower-level clergy grew skeptical of the formal ecclesiastical hierarchy, believing that Rome had less and less affinity to the teachings of the Gospels or the standards of apostolic poverty.⁸¹ The most apparent sign of this smoldering dissatisfaction was the sudden ignition of popular heresies in various periods and regions. Many of these heresies defined themselves in fundamentalist, back-to-basics terms, hostile to the abstract, legalistic machinery that now characterized the Roman Catholic Church.⁸² Beginning in the eleventh century, hermit-saints preaching ascetic tendencies and withdrawal from the spiritual degradation of worldly life made their appearance.⁸³ These heretical movements were the first in a

haberdashers, grocers, chandlers. A whole new species of trades was created which depended on paper: carriers, box-makers, playing-card makers, bill-posters and related trades.⁹⁷

The Printing Press

Of course, these very same converging social pressures for more efficient communications focused energy not only on the material on which the written word was produced, but also on the *technique* of reproduction. As Schottenloher put it, "The actual shining hour for paper, however, came only with the discovery of printing, when printing found in paper its most powerful ally."⁹⁸ An example of the widespread pressures in the fifteenth century for a method of manuscript reproduction can be found among the many multiple claims to the invention of the printing press. For instance, many Dutch believe that their countryman Laurens Janszoon Coster should be given credit for experimenting with movable wooden character types in the 1430s.⁹⁹ In France, documents from Avignon reveal that between 1444 and 1446 contracts were issued to Procopius Waldvogel to teach the art of "artificial writing."¹⁰⁰ Whether accurate or not, however, the most widely attributed inventor of the printing press in Europe is the Mainz goldsmith Johann Gensfleisch zur Laden, or Gutenberg. The source of this judgment is a number of cryptic documents surrounding a series of lawsuits that date to 1439 in Strasbourg. The documents reveal that Gutenberg and his creditors were involved in a legal tussle over a number of Gutenberg's inventions, one of which was a new art that involved the use of a press, some pieces (*Stucke*), some forms (*Formen*) made of lead, and things related to the action of the press (*der zu dem Trucken gehoret*).¹⁰¹

As Dudley points out, Gutenberg's invention was actually a synthesis of the punch the goldsmiths used for striking inscriptions into metal, the wine-press (which had come to Germany from the Romans), and the perfection of an ink that would adhere to metal type.¹⁰² Although paper had come to Europe from China through the Arabs, and although the Chinese and Koreans had been employing a similar method of printing with movable characters since the tenth century, the evidence suggests that the development of the European printing press was an autonomous development.¹⁰³

The first printed works did not immediately change the appearance and form of medieval manuscripts; in fact, the early printers went to great lengths to produce precise imitations. So closely do some of the early printed works resemble manuscripts that they are virtually indistinguishable to the untrained eye. Febvre and Martin note that "The 42-line Bible for example was printed in a letter-type which faithfully reproduced the handwriting of the Rhenish missals."¹⁰⁴ Before 1500 the majority of printed works—about 70 percent—were in Latin, with about 45 percent of them being religious in content.¹⁰⁵ What was revolutionary about the new invention was the truly profound impact it had on the quantities that could be produced and distributed and the time it took to produce them.

About 20 million books were printed *before* 1500 in Europe among a population at the time of about 100 million.¹⁰⁶ This number of books, produced in the first fifty years of printing, eclipsed the entire estimated product of the previous thousand years.¹⁰⁷ Febvre and Martin estimate that 150 million to 200 million were then produced in the next hundred years.¹⁰⁸ In relative terms, the output of printed material was not just a change in kind, but a true revolution in communications. Of course the ability to reproduce large volumes of material with such ease meant that printed works were also significantly cheaper to produce than manuscripts. For example, in 1483 the Ripoli Press charged three florins per quinterno for setting up and printing Ficino's translation of Plato's *Dialogues*. Eisenstein estimates that a scribe might have charged one florin per quintino for duplicating the same work. However, while the Ripoli Press would have printed 1,025 copies, the scribe would have turned out only one.¹⁰⁹

Although the technology itself was revolutionary, what fueled the spread of the printed word, as Anderson points out, was its convergence with the early printers' commercial ethos and an available market across Europe hungry for printed material.¹¹⁰ Following the initial activities in Mainz of Gutenberg and his partners, Fust and Schoeffer, printing centers were established in a number of cities throughout western Europe to exploit the new market. Mentelin printed a Bible in Strasbourg in 1459. By 1475, printing workshops had been established throughout the Rhineland, and in Paris, Lyons, and Seville.¹¹¹ By 1480, printing centers had sprouted through all of Western Europe, from Oxford and London to Krakow and Budapest, from Lubeck and Rostock to Naples and Cosenza—in all to 110 towns stretching across western Europe.¹¹² By 1500, the number of towns with printing centers

had risen to 236.¹¹³ By the sixteenth century, western Europe had entered a new communications environment at the center of which were cheap, mass-produced printed documents emanating from the many printing presses stretched across the land.

In this chapter, I have traced the development of communication technologies through the Middle Ages leading up to the invention of the printing press in the mid-fifteenth century. I have argued that the rise of the Church in the early Middle Ages was contingent on the communications environment of the time. Its spiritual attachment to literacy and the reproduction of the written word, its use of parchment as a medium of communication, and the specific material and ecological circumstances of western European all helped produce a hospitable environment for the Church's rise to hegemony in the Middle Ages. While the Roman Catholic Church had maintained a monopoly over written communications up to the twelfth century, from that point onward a gradual change in the communications environment began to occur, as evidenced by the growth of secular literacy and the use and reproduction of written documents outside of the formal papal-monastic network. In this respect, the invention of printing actually represents the culmination of slowly accumulating social pressures. In other words, the invention of printing was not a sudden "out-of-nowhere" development, but was an outgrowth of converging social pressures for more efficient communications. In conjunction with the broader social and economic conditions of the time, however, once printing began to spread through Western Europe, it revolutionized the communications environment with significant consequences for society and politics. In the next two chapters, I examine the ways in which the emergence of this new communications environment played a part in the transformation of the medieval world order.

3 Print and the Medieval to Modern World Order Transformation: Distributional Changes

Changes in the mode of communication have far-reaching, fundamental implications for the social and political infrastructure of an era and for the trajectory of social evolution. In chapter 1 I outlined two conceptually distinct effects that arise from a change in the mode of communication: distributional changes and changes to social epistemology. In this chapter, I concentrate only on the former.

Distributional changes are changes in the relative power of social forces as a consequence of the change in the mode of communication. Because modes of communication transmit and store information in unique ways, social forces whose interests match a communications environment will be favored while those whose interests do not will be placed at a disadvantage. Social forces survive differentially, in other words, according to their "fitness" with the new media environment—a process that is both open-ended and contingent. Thus, medium theory offers neither an explanation of the genesis of particular social forces, nor why they were animated by particular interests as opposed to others. Its purpose is to explain why those forces flourished or withered at a particular historical juncture.

Distributional changes undercut some social forces while they advance the interests of others. In this chapter, I examine the way distributional changes associated with the development of printing played a part in the medieval-to-modern world order transformation in Europe. I begin by examining the way the change in the mode of communication helped to

- Implications, Reconsiderations, Provocations* (Oxford: Oxford University Press, 1992).
86. Sanderson, "Evolutionary Materialism," p. 53.
 87. Keohane, "International Institutions," pp. 379–96.
 88. Cox, "Social Forces, States, and World Order," p. 210.
 89. Gellner, *Plough, Sword, and Book*, p. 12.
 90. For similar views of the ahistorical tendencies of neorealism and neoliberalism see Emanuel Adler, "Cognitive Evolution: A Dynamic Approach for the Study of International Relations and Their Progress," in Emanuel Adler and Beverly Crawford, eds., *Progress in Postwar International Relations* (New York: Columbia University Press, 1993), pp. 43–88; Wendt, "Anarchy," pp. 391–396; and Richard K. Ashley, "Three Modes of Economism," *International Studies Quarterly* 27 (1983). Cf. Waltz, *Theory of International Politics*.
 91. Adler, "Cognitive Evolution," p. 43.
 92. *Ibid.*, p. 44.
 93. See Gilpin, *War and Change in World Politics*.
 94. Wendt, "Anarchy," p. 392.
 95. For an overview of the "relative vs. absolute gains" debate, see Robert Powell, "Anarchy in International Relations Theory: The Neorealist-Neoliberal Debate," *International Organization* 48 (Spring 1994): 313–344; and David A. Baldwin, ed., *Neorealism and Neoliberalism: The Contemporary Debate* (New York: Columbia University Press, 1993).
 96. Adler, "Cognitive Evolution," p. 43.
 97. My use of the term "historicism" follows that of Robert Cox, who draws from Giambattista Vico in seeing history as an open-ended evolutionary process. See Cox, "Social Forces, States, and World Order," p. 213. In this sense, it is defined in complete opposition to Karl Popper's use of the term in *The Poverty of Historicism* (Boston: Beacon, 1957) to single out theories that see history in law-like terms.
 98. See Cox, "Social Forces, States, and World Order"; Robert Cox, "Multilateralism and World Order," *Review of International Studies* 18 (1992): 161–180; and Cox, "Towards a Post-Hegemonic Conceptualization of World Order."
 99. See Deudney, *Pax Atomica*; and Daniel Deudney, *Global Geopolitics: Materialist World Order Theories of the Industrial Era, 1850–1950* (Ph.D. Dissertation, Princeton University, 1989).
 100. Wendt, "Anarchy"; Kratochwil, *Rules, Norms, and Decisions*; and Nicholas Onuf, *World of Our Making* (Columbia: University of South Carolina Press, 1989).
 101. Carmen Luke, *Pedagogy, Printing, and Protestantism: The Discourse on Childhood* (New York: SUNY Press, 1989), p. 29.
 102. Ruggie, "Territoriality," p. 152.

103. Adler, "Cognitive Evolution," p. 47; and Ernst Haas, "Words Can Hurt You: Or Who Said What to Whom about Regimes," in Stephen D. Krasner, ed., *International Regimes* (Ithaca: Cornell University Press, 1983).
 104. In a footnote ("Anarchy," p. 398, fn. 27), Wendt concedes that some constructivist approaches may be "oversocialized" when dealing with "presocial but non-determining human needs," but he goes no further in elaborating if and when other "material" factors beyond neurophysiological adaptations, like climate and population for example, would enter into the picture.
 105. See, for example, Michael Mann, *The Sources of Social Power*. Vol. 1 (Cambridge: Cambridge University Press, 1986), pp. 500 onwards; Donald E. Polkinghorne, *Narrative Knowing and the Human Sciences* (New York: SUNY Press, 1988); and Janice Thomson, *Mercenaries, Pirates and Sovereigns: State-Building and Extraterritorial Violence in Early Modern Europe* (Princeton: Princeton University Press, 1994), p. 5.
 106. Polkinghorne, *Narrative Knowing and the Human Sciences*, p. 20; See also John Gerard Ruggie, "Peace in Our Time? Causality, Social Facts, and Narrative Knowing," *Proceedings of the American Society of International Law* (1995).
 107. For discussion, see Philip Tetlock and Aaron Belkin, eds., *Counterfactual Thought Experiments in World Politics: Logical, Methodological, and Psychological Perspectives* (Princeton: Princeton University Press, 1996).
2. *From the Parchment Codex to the Printing Press: The Sacred Word and the Rise and Fall of Medieval Theocracy*
1. See Cantor, *The Civilization of the Middle Ages*, pp. 422–423.
 2. See *Ibid.*, pp. 266–276; See also Gerd Tellenbach, *Church, State, and Christian Society at the Time of the Investiture Controversy* (Oxford: Basil Blackwell, 1959); and Uta-Renate Blumenthal, *The Investiture Controversy: Church and Monarchy from the Ninth to the Twelfth Century* (Philadelphia: University of Philadelphia Press, 1988).
 3. On the Crusades, see Jonathan Riley-Smith, *The First Crusade and the Idea of Crusading* (London: Athlone, 1986). For discussion of the Crusades in the context of International Relations theory debates, see Rodney Bruce Hall, "The Medieval 'State' and the Social Construction of Sovereign Identity." (Paper presented at the International Studies Association 36th Annual Convention, Chicago: February 21–25, 1995).
 4. James Curran, "Communications, Power and Social Order," in Michael Gurevitch, et al., eds., *Culture, Society and the Media* (London: Routledge Press, 1982), p. 203.
 5. *Ibid.*, p. 204.

6. On the connection between physiological changes in the vocal tract that permit the spoken word and the so-called "Great Leap Forward" in human evolution, see Jared Diamond, "The Great Leap Forward," *Discover* (1990), pp. 66–76.
7. Ong, *Orality and Literacy*, p. 84.
8. Goody, *The Interface Between the Written and the Oral*, p. 3.
9. *Ibid.*, p. 18.
10. See Denise Schmandt-Besserat, "The Earliest Precursor of Writing," *Scientific American* 283, no. 6 (1978): 50–59; See also, Bruce Bower, "The Write Stuff: researchers debate the origins and effects of literacy," *Science News* (March 6, 1993): 152–154.
11. See especially, Goody, *The Logic of Writing*.
12. Marc Drogin, *Biblioclasm: The Mythical Origins, Magic Powers, and Perishability of the Written Word* (Maryland: Rowman and Littlefield, 1989), p. 11.
13. See Harold Innis, "Media in Ancient Empires," in David Crowley and Paul Heyer, eds., *Communication in History: Technology, Culture, Society*, 2nd ed. (New York: Longmans, 1995).
14. Gellner, *Plough, Sword, and Book*, p. 71.
15. Goody, *The Logic of Writing*, pp. 16–17.
16. Anderson, *Imagined Communities*, pp. 15–16.
17. Anderson, *Imagined Communities*, p. 14. This belief was more the case during the early Middle Ages, gradually becoming a contested site from the twelfth century onward with the spread of lay literacy, and as evidenced by the debate between nominalists and realists of the time. Nominalists held that only particular physical items constitute reality, while realists believed that universals have a reality which is prior to and apart from the physical. For a more thorough treatment of these issues, see Brian Stock, *Listening for the Text: On the Uses of the Past* (Baltimore: Johns Hopkins University Press, 1990); and Roy Harris and Talbot J. Taylor, eds., *Landmarks in Linguistic Thought: The Western Tradition from Socrates to Saussure* (New York: Routledge Press, 1989), p. xv.
18. "And out of the ground the Lord God formed every beast of the field, and every fowl of the air; and brought them unto Adam to see what he would call them: and whatsoever Adam called every living creature, that was the name thereof. And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field. . . ." (Genesis II, 19–20)
For discussion, see Heyer, *Communications and History*, p. 146–148; See also Cantor, who notes how a common belief that the "road to knowledge lay through the origin of words" can be found in the title of the influential *Etymologies*, written by the early-seventh-century bishop of Seville, Isidore. Cantor, *The Civilization of the Middle Ages*, p. 83.
19. Michel Foucault, *The Order of Things*, p. 33.

20. Drogin, *Biblioclasm*, p. 33.
21. *Ibid.*, p. 38.
22. *Ibid.*
23. Taken from M. T. Clanchy, *From Memory to Written Record: England 1066–1307*, 2nd Edition (Oxford: Blackwell Publishers, 1993), p. 262.
24. Barraclough, *The Medieval Papacy*, p. 9.
25. See Le Goff, *Medieval Civilization*, pp. 3–36.
26. See Innis, *Empire and Communication*, pp. 83–112; See also, Susan Raven, "The Road to Empire," *Geographical Magazine* (June 1993): 21–24.
27. Le Goff, *Medieval Civilization*, p. 120.
28. Cantor, *The Civilization of the Middle Ages*, p. 64.
29. For discussion, see Rosamond McKitterick, *The Carolingians and the Written Word* (Cambridge: Cambridge University Press, 1989), pp. 167–168.
30. For discussions on the difficulties establishing literacy rates in the early Middle Ages, see *Ibid.*; and Stock, *Listening for the Text*.
31. Cantor, *The Civilization of the Middle Ages*, p. 146.
32. See Innis, *Empire and Communications*, pp. 118–119.
33. Giovanni Miccoli, "Monks," in Jacques Le Goff, ed., *Medieval Callings* [Translated by Lydia G. Cochrane] (Chicago: The University of Chicago Press, 1987), p. 43.
34. Cantor, *The Civilization of the Middle Ages*, p. 153.
35. See Innis, *Empire and Communications*, p. 85–112; and Raven, "Road to Empire."
36. See Leila Avrin, *Scribes, Script and Books: The Book Arts from Antiquity to Renaissance* (Chicago: American Library Association, 1991), pp. 173–175. See also Jack Finegan, *Encountering New Testament Manuscripts: a working introduction to textual criticism*, (Grand Rapids, Michigan: Eerdmans, 1974). On p. 29, Finegan writes: "As to the relative frequency of use of the roll and of the codex, in an enumeration of 476 second-century non-Christian literary papyrus manuscripts from Egypt, 465 or more than 97 percent are in the form of the roll; but eight Christian biblical papyri known from the same century are all in the form of the codex. Likewise in the entire period extending to shortly after the end of the fourth century, out of 111 biblical manuscripts or fragments from Egypt, 99 are codices. That the codex increased in use in comparison with the use of the roll is natural in view of the many obvious advantages of the leaf book, not the least of which is that it is more feasible to write on both sides of a leaf, and hence such a book is cheaper. But the statistics just given indicate a particular and very early preference for the codex form on the part of Christians. This also is natural in view of the advantages of the codex with respect to matters of particular interest to the Christians. For example, the single Gospel according to Luke would probably have filled an average papyrus

roll of approximately thirty feet in length, and Paul's ten collected church letters (including Philemon) would probably have occupied two ordinary rolls, but all Four Gospels or all of the Letters of Paul could readily be brought together in a single codex book. Likewise it is much more difficult to turn quickly to a specific passage in a roll, and much easier to do so in a codex."

I located this quotation at Timothy Seid's "Interpreting Ancient Manuscripts Web," found online at <http://www.stg.brown.edu/projects/mss/codex.html>.

37. Ibid.
38. Innis, *The Bias of Communication*, p. 49. I have added the italics for emphasis.
39. Avrin, *Scribes, Script and Books*, p. 210.
40. McKitterick, *The Carolingians and the Written Word*, pp. 138–139.
41. See Innis, *Empire and Communications*, p. 117.
42. Innis, *The Bias of Communications*, p. 48.
43. Cantor, *The Civilization of the Middle Ages*, p. 153.
44. Miccoli, "Monks," p. 68.
45. Ibid. See also Le Goff, *Medieval Civilization*, p. 114: "Thus in the library at Cluny a monk who wanted to consult a manuscript by an ancient author had to scratch his ear with a finger in the style of a dog scratching itself with a paw. 'for the pagan is justly compared with this animal.' " And on page 115: "Ancient thought only survived in the middle ages in a fragmented form. It was pushed out of shape and humiliated by Christian thought."
46. Karl Schottenloher, *Books and the Western World: A Cultural History*. [Translated by William D. Boyd and Inngard H. Wolfe] (London: McFarland & Company, 1968), p. 31.
47. Avrin, *Scribes, Script and Books*, p. 209.
48. Clanchy, *From Memory to Written Record*, p. 125; See also, McKitterick, *The Carolingians and the Written Word*, pp. 136–157.
49. Miccoli, "Monks," p. 39.
50. Cantor, *The Civilization of the Middle Ages*, p. 153.
51. Georges, Duby, "The Diffusion of Cultural Patterns in Feudal Society," *Past and Present* 39 (April 1968): 4.
52. Curran, "Communications, Power and Social Order," p. 202.
53. See especially, Sophia Menache, *The Vox Dei: Communication in the Middle Ages* (New York: Oxford University Press, 1990), pp. 51–78.
54. See Brian Stock, *The Implications of Literacy: Written Languages and Models of Interpretation in the Eleventh and Twelfth Centuries* (Princeton: Princeton University Press, 1983), pp. 35, 60–61.
55. Geoffrey Barraclough, *The Medieval Papacy* (London: Thames and Hudson, 1968), p. 40.
56. Clanchy, *From Memory to Written Record*, p. 318.

57. Bloch, *Feudal Society*, p. 80.
58. Miccoli, "Monks," p. 57.
59. Ibid., p. 58.
60. Cantor, *The Civilization of the Middle Ages*, p. 154.
61. Bloch, *Feudal Society*, p. 80.
62. Barraclough, *The Medieval Papacy*, p. 100.
63. Ibid., p. 103. On the increase in correspondences at this time, see Spruyt, *The Sovereign State and Its Competitors*, p. 50.
64. Jacques Le Goff, "Introduction," in Le Goff, ed., *Medieval Callings*, p. 5.
65. Michael Camille, "Seeing and Reading: Some Visual Implications of Medieval Literacy and Illiteracy," *Art History* 8, no. 1 (March 1985): 26.
66. Camille, "Seeing and Reading," p. 27.
67. Le Goff, *The Medieval Imagination*, p. 6.
68. Le Goff, "Introduction," p. 32.
69. Curran, "Communications, Power and Social Order," p. 207.
70. See especially, Jacques Le Goff, *The Medieval Imagination*. Interestingly, there are affinities between the imagined realm of the medieval mentality and the "virtual realities" of an emerging postmodern consciousness today. See, for discussion, Ronald J. Deibert, "Virtual Realities: neo-medievalism as therapeutic redescription," (Paper presented at the International Studies Association annual conference, Chicago, 1995).
71. See Richard Matthew, "Justice, Order and Change in World Politics" (Paper Prepared for the ISA Annual Convention, March 28–April 1, 1994, Washington, DC).
72. See Cantor, *The Civilization of the Middle Ages*, p. 118.
73. Curran, "Communications, Power and Social Order," p. 206.
74. Ibid.
75. Anderson, *Imagined Communities*, p. 23.
76. Leonard M. Dudley, *The Word and the Sword: How Technologies of Information and Violence Have Shaped our World* (Cambridge: Basil Blackwell, 1991), pp. 146–147.
77. As Menache relates: "The development of the Church in the Central Middle Ages embodies an essential paradox: the ecclesiastical order reached its maximal influence at a time when Western society gradually evolved from corporate frameworks into more developed socioeconomic systems which by their very nature opposed the Church's monopoly." Menache, *The Vox Dei*, p. 78.
78. Barraclough, *The Medieval Papacy*, p. 122.
79. Cantor, *The Civilization of the Middle Ages*, pp. 314–315.
80. Barraclough, *The Medieval Papacy*, p. 128.
81. Ibid.
82. Ibid., p. 154; See also Menache, *The Vox Dei*, pp. 213–273.

83. Cantor, *The Civilization of the Middle Ages*, pp. 376–377; See also Menache, *The Vox Dei*, pp. 216–225.
84. Marcel Thomas, "Manuscripts," in Lucien Febvre and Henri-Jean Martin, *The Coming of the Book: The Impact of Printing 1450–1800*. [Translated by David Gerard, Edited by Geoffrey Nowell-Smith and David Wootten] (London: NLB, 1976), p. 15.
85. *Ibid.*, p. 19; For an overview of the growth of universities, see Alan B. Cobban, *The Medieval Universities, Their Development and Organization* (London: Methuen, 1975).
86. Thomas, "Manuscripts," pp. 19–22.
87. *Ibid.*, p. 22.
88. Cantor, *The Civilization of the Middle Ages*, pp. 308–318, 395, 398–399.
89. See Robert Dodgshon, *The European Past: Social Evolution and Spatial Order* (London: Macmillan), p. 145; and Clanchy, *From Memory to the Written Word*, pp. 42–43.
90. Febvre and Martin, *The Coming of the Book*, p. 29.
91. Febvre and Martin, *ibid.*, p. 26.
92. Avrin, *Scribes, Script and Books*, p. 285.
93. *Ibid.*, p. 287.
94. Eugene Rice Jr., *The Foundations of Early Modern Europe, 1460–1559* (New York: Norton, 1970), p. 3.
95. Avrin, *Scribes, Script and Books*, p. 292.
96. See Febvre and Martin, *The Coming of the Book*, pp. 29–39.
97. *Ibid.*, pp. 39–40.
98. Schottenloher, *Books and the Western World*, p. 50.
99. See Dudley, *The Word and the Sword*, p. 150.
100. Febvre and Martin, *The Coming of the Book*, p. 52.
101. *Ibid.*, pp. 51–53.
102. Dudley, *The Word and the Sword*, p. 150.
103. See Febvre and Martin, *The Coming of the Book*, pp. 71–76.
104. Febvre and Martin, *The Coming of the Book*, p. 77.
105. *Ibid.*, p. 249.
106. *Ibid.*, pp. 248–249.
107. Stephen Saxby, *The Age of Information: The past development and future significance of computing and communications* (London: Macmillan, 1990), p. 1.
108. Febvre and Martin, *The Coming of the Book*, p. 262.
109. This comparison is recounted by Eisenstein in *The Printing Press*, p. 46.
110. Anderson, *Imagined Communities*, pp. 37–38.
111. *Ibid.*, p. 167.
112. *Ibid.*, pp. 167–185.
113. Luke, *Pedagogy, Printing, and Protestantism*, p. 58.

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1. For analysis of heresies in the Middle Ages, see Gordon Leff, *Heresy in the Middle Ages: The Relation of Heterodoxy to Dissent* (New York: Barnes and Noble, 1967); R. I. Moore, *The Origins of European Dissent* (London: Allen Lane, 1977); and Edward Peters, *Heresy and Authority in Medieval Europe* (Philadelphia: University of Pennsylvania Press, 1980).
2. See Barraclough, *The Medieval Papacy*, pp. 164–187.
3. On the "Black Death" plague, see William H. McNeill, *Plagues and Peoples* (New York: Anchor Press, 1976); Robert S. Gottfried, *The Black Death: Nature and Disaster in Medieval Europe* (New York: Free Press, 1983); Tuchman, *A Distant Mirror*, pp. 92–125; and Ruggie, "Territoriality," pp. 153–154.
4. Anderson, *Imagined Communities*, p. 39.
5. See Le Goff, *Medieval Civilization*, p. 148.
6. Febvre and Martin, *The Coming of the Book*, p. 288.
7. On the Inquisition, see Bernard Hamilton, *The Medieval Inquisition* (London: E. Arnold, 1981).
8. Eisenstein, *The Printing Press*, pp. 303–304.
9. *Ibid.*, p. 317.
10. *Ibid.*, p. 375.
11. See Febvre and Martin, *The Coming of the Book*, pp. 170–172.
12. Rice, *The Foundations of Early Modern Europe*.
13. Febvre and Martin, *The Coming of the Book*, p. 172.
14. For a discussion of works that make such strong claims, see Eisenstein, *The Printing Press*, pp. 303–329.
15. See Luke, *Pedagogy, Printing, and Protestantism*, p. 78; This particular argument is one favored by those inclined to a Marxist view of history. See, F. Engels, *The Peasant War in Germany*, [trans. M. J. Olgin] (New York: International Publishers, 1926); and F. Braudel, *The Structures of Everyday Life*, Vol. 1, [trans. S. Reynolds] (New York: Harper and Row, 1979).
16. Luke, *Pedagogy, Printing, and Protestantism*, p. 134.
17. Dudley, *The Word and the Sword*, p. 153.
18. See Febvre and Martin, *The Coming of the Book*, pp. 289–290.
19. See Mark U. Edwards Jr., *Printing, Propaganda, and Martin Luther* (Los Angeles: University of California Press, 1994), p. 1.
20. *Ibid.*, p. 17.
21. *Ibid.*
22. Anderson, *Imagined Communities*, p. 39.
23. *Ibid.*
24. Edwards, *Printing, Propaganda, and Martin Luther*, p. 15.