

The Emergence of Print Culture in the West

by Elizabeth L. Eisenstein

The impact of printing, experienced first by literate groups in early modern Europe, changed the character of the Italian Renaissance and ought to be considered among the causes of both the Protestant Reformation and the rise of modern science.

The advent of printing in the fifteenth century was a complicated innovation which involved a cluster of different changes. The consequences of this innovation appear to be even more variegated and remarkably elusive. Attempts to encapsulate the effects of printing in a single formula or thesis statement are almost always misleading. Take, for example, the observation by one authority that the advent of printing moved Western Europe “from image culture to word culture.” Now this formula “image to word” is plausible in some ways. As Frances Yates points out in her study, *The Art of Memory*, the more information storage and retrieval was handled by printed reference works, the less need there was for vivid images to serve as memory aids. An increased output of encyclopedias in book form diminished the need for cathedrals to serve as encyclopedias in stone.

But the formula image-to-word holds only for a limited set of phenomena, for printing also endowed graven images with a new lease on life. Protestant iconoclasts made use of picture books and exploited caricatures and cartoons. As the work of Dürer, Cranach, and Holbein suggests, image making was stimulated by printing among Protestants as well as Catholics. Printed publicity, further-

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more, helped to win new celebrity for painters and sculptors as well as for playwrights and poets. The formula seems even less applicable when one turns to the development of early modern science. In such fields as anatomy, geography, and astronomy the influence of printing pointed communications away from ambiguous words, and toward precise pictorial and mathematical statements. By making it possible to duplicate maps, graphs, tables, and charts, print revolutionized scientific communications. Repeatable pictures and repeatable equations made it possible to bypass confusion engendered by translation from one language to another.

To set the stage for the scientific revolution, we must be prepared not just to discard the formula, but to turn it around. In this area, print led towards an increased use of the image and a diminished use of the word. This point is rarely noted, partly because printing has usually been associated with evangelical and popularizing trends—with the spread of literacy or with the output of primers and vernacular Bibles. Little or no attention has been given to internal transformations within a Commonwealth of Learning where the Latin Bible had long been studied, although complete polyglot versions and uniform world maps had never been seen.

When dealing with these transformations it is important to strike the right balance between the uninformed enthusiasts who assume printing changed almost *everything* and the scholarly skeptics who hold it changed *nothing*. The enthusiasts overestimate the initial changes wrought by print and forget that preliterate folk were not much affected. They know little about the evolution of the manuscript book and need to be warned against taking the claims made in prefaces by early printers and editors too literally. The skeptics, while having well-grounded fears of exaggerating the break, do not appreciate the danger that comes from *underestimating* its true dimensions. The tendency to underestimate the new powers of the press is especially likely to occur when printing is placed in the framework provided by the history of the book. By Gutenberg's time, the book had been in circulation for a thousand years or more, depending on whether we start with the codex or go back to the earlier scroll. What is new in the fifteenth century in Western Europe is not "the coming of the book" but rather the coming of a new process for duplicating books.¹

¹ Of course not *one* tool but many were involved in the new duplicating process. The term printing press has to serve simply as a convenient labelling device—as a short-hand way of referring to a larger cluster of specific changes—entailing the use of movable metal type, oil-based ink, etc. My point of departure, in any case, is not one device invented in one Mainz shop but the establishment of many printshops in many urban centers throughout Europe over the course of two decades or so from the mid-1450s–70s. This entailed the appearance of new occupational cultures associated with the printing trades. A retail booktrade became a wholesale one. Sales catalogues and other new publicity techniques were developed. New shop structures were created and bookmaking became subject to profit-making drives. Many other changes—a large cluster or ensemble—occurred.

Three major movements affected by the development of this new process deserve special attention: the Renaissance, the Reformation, and the rise of modern science.

A special problem is posed by the Renaissance, because the advent of printing comes well after the classical revival in Italy was already underway.

The first phase of the Italian Renaissance has to be placed within the context of scribal culture and seen to predate printing by a century or more. Accordingly, we may take as our starting point the self-conscious and self-congratulatory revival that was launched by scribal scholars in fourteenth-century Italy, well before the first printshop was set up in fifteenth-century Mainz. Then we pose the question: how was the earlier Italian revival affected by the later communications shift?

In dealing with this question, it is helpful to recall the comments of the art historian Erwin Panofsky concerning the Carolingian revival and the so-called twelfth-century Renaissance. In its early phase, the Italian Renaissance was similar to both medieval revivals insofar as it depended on the necessarily limited and highly perishable resources of scribal culture. The preservative powers of print produced a new kind of cultural movement involving a permanent process of recovery. Greek studies, for example, could be pursued independently of the survival of enclaves of Greek emigrés in the Mediterranean world. The difficulty of persuading tutors to visit cold Northern regions no longer blocked the progress of classical studies in transalpine Europe. It became possible to carry on Greek studies in Northern Europe, across the Alps, across the channel, and even overseas.

Assigning special significance to the preservative powers of print and to the permanent process of recovery it launched also explains how the fall of Constantinople got coupled with a revival of learning. Before printing, the destruction of a major center of manuscript records had always been associated with the onset of a "dark" age. The dispersal of Greek scholars and Greek manuscripts after the Ottoman takeover in 1453, however, was associated not with the beginning of a "dark" age but rather with a prelude to a "golden" age. This reversal becomes less puzzling when one considers the new impetus given to Greek studies by master printers such as Aldus Manutius in Venice.

In Renaissance studies, there is a natural tendency to neglect the effects of printing, because Gutenberg comes so long after the Petrarchan revival was launched. In Reformation studies, the topic is not neglected, but it is brought in too little and too late. Only after the causes of the Lutheran revolt have been discussed and the events of 1517 narrated is the printer called in to spread Lutheran broadsides, Bibles, and tracts. Yet new issues posed by printing had begun to divide Western Christendom and had begun to force churchmen to

adopt new positions even before Luther's 95 Theses were nailed, mailed, or issued in print. In this regard, the conventional image of crowds gathering round the Churchdoor at Wittenberg to read Luther's 95 Theses is somewhat deceptive. Church doors *had* been the customary place for medieval publicity, but by 1517 more than a half century of printing had elapsed. Luther's Theses did not stay tacked to the church door (if indeed they were ever really placed there). To a sixteenth-century Lutheran chronicler, "it almost appeared as if the angels themselves had been their messengers and brought them before the eyes of all the people." Luther himself expressed puzzlement, when addressing the Pope six months after the initial event:

It is a mystery to me how my theses, more so than my other writings, . . . were spread to so many places. They were meant exclusively for our academic circle here. . . . They were written in such a language that the common people could hardly understand them.

According to a modern scholar, it is still "one of the mysteries of Reformation history how this proposal for academic disputation, written in Latin, could have kindled such enthusiastic support and thereby have such far-reaching impact."

This mystery is primarily the result of skipping over the process whereby a message ostensibly directed at a few could be made accessible to the many. Instead of jumping directly from church door to public clamor, we should move more cautiously, a step at a time, looking at the activities of the printers, translators, and distributors, who acted as unprecedented agents of an unprecedented change.

Whether or not the Theses were "nailed" or "mailed," they were first read by a small group of learned laymen who were less likely to gather on the church steps than in new urban workshops run by master printers who combined scholarly, mercantile, and mechanical skills. There town and gown met to exchange gossip and news, peer over editors' shoulders, check copy, and read proof. There, also, new schemes for promoting bestsellers were being tried out. Given access to presses and booksellers' routes in the early sixteenth century, it required only a small following in a handful of towns to create an unprecedented stir.

A letter to Zwingli in 1519 suggests how the tactics employed by the small learned public, whom Luther addressed, might produce distant repercussions in a short time. The letter recommended a book peddler and noted that "he will sell more of Luther's tracts if he has no other to offer." The peddler was to be told to go from town to town, village to village, house to house, offering nothing but Luther's writings for sale. "This will virtually force the people to buy them, which would not be the case if there were a wide selection." The linking of concern about salvation with shrewd business tactics and a so-called "hard sell" seems to have been no less pronounced in the early sixteenth century than among Bible salesmen today.

By insisting on Bible-reading as a way of experiencing the Presence and achieving true faith, Luther also linked spiritual aspirations to an expanding ur-

ban enterprise. Overnight Wittenberg turned into an important printing center. So did Geneva after Calvin's arrival there. Protestant doctrines harnessed an evangelical religion to a new capitalistic industry aimed at expanding markets and increased book sales. The new combination of evangelism and capitalism made for an irreversible movement which threatened priestly prerogatives in an unprecedented way. Western Christianity soon developed peculiar features which gave it the appearance, in comparison with other faiths, of having undergone some sort of historical mutation.

Significant aspects of this mutation were associated with nationalizing the Bible and bringing it into the home. The universalistic aim of spreading the Gospel—of making it available to Everyman—had paradoxical consequences when implemented by print. In Western Europe, Everyman spoke in diverse tongues; national editions had to be produced to place Bibles within his reach. In the form of the Lutheran Bible or the King James version, scripture became more insular as it grew more popular; God seemed more like an Englishman or a German than ever before.

The positions adopted by the Catholic Church at Trent as part of the Counter-Reformation reflected changes wrought by print no less than did the positions taken by the Protestant churches. Providing breviaries for priests, manuals for confessors, and textbooks for seminarians kept certain privileged Catholic firms prosperous; but the censorship regulations issued by Counter-Reformation churches curtailed the open-ended expansion of lay book markets and diversification of output that was occurring in Protestant regions, to the disadvantage of Catholic printers.

The new device of the Index of Prohibited Books boomeranged, producing an intriguing asymmetric effect in the pattern of the European printed book trade. Just as being "banned in Boston" helped American book sales in states other than Massachusetts during the 1930s and 1940s, so too placing a title on the Index (which heightened risks and lowered profits for Catholic printers) had just the reverse effect upon Protestant ones. Some books were advertised as being on the Index even when they were not placed there. Authors such as Rabelais, Boccaccio, Machiavelli, and Aretino, who were by no means favored by Protestant churchmen, were nevertheless published by Protestant printers. Protestant literary culture was thus endowed with a strangely secular and libertine flavor.

As the peculiar workings of the Index may suggest, the special interest of the printer acted as an independent variable in certain situations.

Because many printers shared common interests with early Protestants, they flocked to Wittenberg and Geneva almost as soon as Luther and Calvin arrived in these towns. But they also gravitated to other towns such as Basel and Frankfurt where religious zeal was more subdued. Some printers helped to fan the flames of religious warfare by mounting propaganda campaigns and promoting religious causes. But others also contributed to the clandestine circulation of

more tolerant creeds. Such firms represented a “third force” in early modern Europe and pointed the way to Enlightenment thought.

Extending far-flung trade networks from small principalities and city states, some of the more celebrated publishers of the sixteenth century observed outward conformity to established churches and officials while secretly adhering to heterodox sects. Independent of secular dynastic interests and of religious orthodoxy alike, these firms served as sanctuaries for refugees of diverse faiths in the sixteenth century. They also provided wandering scholars with facilities extended by modern institutes of advanced studies. The heads of the new firms not only cultivated princely patrons. They, themselves, dispensed patronage, providing part-time jobs and room and board to impecunious students and clerks who had previously been more dependent on finding careers within the church.

By providing support to editors, translators, and other literati, sixteenth-century printers contributed to the secularization of European culture. The lay publicist increasingly took over functions previously performed by priests and mendicant friars. Not that the pulpit became unimportant or less influential—from Savonarola to John Wesley, Christian preachers benefited by resort to the press. But news and entertainment were increasingly handled outside the church—by the irreverent inhabitants of Grub Street. “Low-born adventurers of the pen” called “poligraphi” made their appearance in sixteenth-century Venice, where the largest number of printing presses clustered and Aretino carved out a new career. His followers exploited a variety of new publicity techniques, appealing to anti-clerical sentiment and to an insatiable demand for gossip and scandal. Aretino, often described as the “father of journalism,” was the father of pornography and blackmail as well.

Respectable as well as disreputable lay literary careers were opened up by printing. Obscure young monks like Erasmus and Rabelais could rise in the world without staying in clerical orders. By finding congenial work in printshops they could fully exploit the talents that won them patrons and fame.

Although he died within the Catholic Church deploring the outbreak of religious warfare and Protestant zeal, Erasmus was transformed into a quasi-Protestant author by the workings of the Index. His books were banned and expurgated in Catholic regions, published and promoted in Protestant ones. When his complete “opera” were issued in the late seventeenth century, the edition was produced on Protestant Dutch presses by a French Huguenot editor—who also ran the leading literary review which circulated throughout the cosmopolitan Republic of Letters. This journal introduced John Locke and Locke’s review of Newton’s *Principia* to readers of the French language press.

The publication of Newton’s Principia in 1687 points to the third development spurred by printing, namely, the rise of modern science.

Conventional interpretations of this development tend to stress popularizing themes (such as the rise of the vernaculars, the appearance of artisan authors, and new varieties of science writing). In this view, printers were responsible for

encouraging a new genre of vernacular technical literature *outside* the university, even while Aristotle still reigned supreme in traditional Latin lectures. This interpretation is not without merit. However, vernacular translation had little to do with the major landmarks in early science: *De Revolutionibus*, *De Fabrica*, *De Motu*, *Principia*—each one in Latin, each by an academically trained professional. In this light it seems misguided to follow the Marxists and to set an avant-garde of capitalists and mechanics against a rearguard of Latin-reading clergymen and professors. After all, Copernicus, Vesalius, Harvey, and Newton *were* Latin-reading clergymen and professors.

Too much emphasis on the issue of vernacular versus Latin distracts attention from other important changes wrought by print. When Galileo discussed the language in which the “Book of Nature” was written, he did not refer to Latin nor the vernacular, but rather to the “language of mathematics.” This brings us back to the point made earlier about a decreasing reliance on ambiguous words. The duplication of visual aids reduced time spent on slavish copying of diagrams, tables, charts, and maps. It also provided a new basis for agreement about precisely observed natural phenomena and eliminated previous confusion engendered by translation from one language to another. Corrupted texts and drifting records could be discarded, and fresh ventures in collaborative data collection launched.

Technical literature inherited from Alexandria was subjected to the same kind of scrutiny in the sixteenth century as the scriptural tradition was. Much as Erasmus set out to redo St. Jerome, so too did Vesalius set out to emend Galen, and Copernicus to emend Ptolemy. The fate of the medieval Latin Bible, which was undercut by vernacular translations on one hand and by polyglot versions on the other, was paralleled by the fate of scientific textual traditions derived from Ptolemy and Galen. But whereas polyglot editions of the Bible made scripture (“the *words* of God”) seem more *multiform*, repeatable visual aids like maps and equations made nature (the *works* of God) seem more *uniform*.

Thus I think it can be argued that printing played a significant part in weakening confidence in scriptural revelation while strengthening trust in mathematical reasoning and man-made maps.

In presenting a case for the transforming powers of print I have had to consider objections from critics who are worried about monocausal interpretation and technological determinism. When dealing with the new powers of the press I believe it is possible to make a good case for multivariable explanations even while stressing the effects produced by a particular invention. It seems clear that a mixture of many different motives all converging on the printshop provided a much more powerful impetus than any single motive (whether spiritual or material) could have provided by itself. Old missionary impulses were thus combined with new profit-seeking impulses and with other drives for power and fame. Princes seeking to increase their political power could develop their own propaganda machines and thus emancipate their realms from dependence on clerical copyists and scribes.

Printing also aided artists and writers in pursuit of lasting fame. Among artisans and guildsmen it acted by a kind of marvelous alchemy to transmute pri-

vate interest into public good. Map publishers, globe makers, reckon-masters, and instrument-makers could serve the cause of public knowledge by making their inventions known, and at the same time serve themselves by attracting purchasers to their shops. In short, the use of early presses by Western Europeans was determined by many different forces which had been incubating in the age of scribes. In a different context, the same technology might have been used for different ends (as was the case in Asia) or it might have been unwelcome and not been used at all (as was the case in many regions outside Europe where Western missionary presses were the first to be installed).

Such comparisons are useful because they underscore the importance of considering context when discussing technological innovation. Yet the fact remains that once presses were set up by profit-driving printers a major transformation of Western European communications *did* occur. And it appears that the communication revolution which began in fifteenth-century Europe is underway even now.

Because contrary views have been expressed, it seems necessary to point out in conclusion that the process that began in the mid-fifteenth century has not ceased to gather momentum in the age of the computer print-out and the television guide. This last point needs emphasis in view of the distracting effect of new electronic media. The somewhat chaotic appearance of twentieth-century culture, and the oppressive sense of overload experienced by students and scholars in all fields, owe at least as much to 500 years of printing as to radio, phonograph, moving pictures, or TV.

The effects of printing seem to have been exerted always unevenly but always continuously and cumulatively from the late fifteenth century on. There appears to be no point at which they began to diminish. Much evidence suggests that they have persisted with ever-augmented force right down to the present. Recent obituaries on the Age of Gutenberg show that others disagree. As yet, however, so few scholars have been heard from that any final verdict is impossible and—in more ways than one—premature.

