Going digital: Learning from Gutenberg

by Quentin J. Schultze in the January 31, 2001 issue

The rise of the Internet's World Wide Web in the mid-1990s launched an unlikely hero into the media spotlight: Johann Gutenberg, the 15th-century inventor of movable printing type and technological forefather of the vernacular Bible. Reporters, Internet columnists and even some scholars began parading Gutenberg before the public as a kind of poster child for the digital revolution. The Net, we were told, would do for modern society what Gutenberg's invention had done for the Renaissance: spread the fruits of mass education by democratizing communication. Everyone would become a publisher. By late 1997, public discourse about the Net was so deeply anchored in Gutenbergian mythology that skeptics of the digital revolution were sometimes dismissed without a reasonable hearing.

In hopes of digging deeper, I revisited the long-departed world of Gutenberg and of the first major mass communicator to use Gutenberg's technology—Martin Luther. I wondered what more significantly shapes the use of new technology, the nature of that technology itself or the social and economic context in which it developed? More specifically, how might a strongly religious context, the rise of the Reformation, have influenced how the printing press was distributed and institutionalized? Does it make any sense to compare the life and times of Gutenberg or Luther with those of Bill Gates and Pope John Paul II?

In our understanding of the digital revolution, I think we stand about where Gutenberg and Luther did, with plenty of ideas and little firm grasp. If confusion is democracy, we are rolling in the green. The techno-gurus offer their poster children to all takers—often at quite a price on the lecture circuit. Business is rolling in the cash as well as losing its shirt with trendy ideas and faddish management books that have ignored far more business wisdom than they have created. Religious groups, too, are busily cultivating the digital landscape, often funded by donors who hope that pornographers or other evil folks will not commandeer the future. And then there are scholars and professors, myself included, who claim to see some truth in

the so-called digital revolution. Bless all of their souls, for we shall need as much help as we can get.

Like all of us, Gutenberg (1394-1468) inherited a social and technological world created by previous generations. Monks gave their lives to the painstaking process of copying one page of a manuscript after another, until finally another “book” was completed for religious leaders. Reading itself was largely the domain of priests and, to some extent, their wealthy, educated patrons.

When Gutenberg was a young man, someone in Western Europe invented block printing (already used for centuries in China), in which “printers” carved outlines of words or pictures on a block of wood and then inked them for the “press.” The movable-type printing press, for which Gutenberg is so well known, was invented in about 1450, 70 years before the outbreak of the Reformation. In this process, masterminded at least partly by Gutenberg, printers placed reusable, individual letters or characters of type in a form to create a printable page. Hand copying of manuscripts was time-consuming and highly individualized; no two manuscripts were exactly the same. Printing, on the other hand, created a means to make artificial copies that merely imitated the “authentic” reproduction process of the scribes. Printing was considered artless and crude—a kind of cheap imitation or virtual copy of the real thing.

Printers and scribes competed for customers into the second half of the 15th century, when printing finally won the day. Scribes catered to the luxury market by crafting elegant, high-quality manuscripts—much like the difference today between handcrafted and factory-made furniture. But as the prices of printed volumes declined, scribes found themselves without work—like COBOL programmers in the 1980s. At first, scribes sought legal protection for their former monopoly, but they eventually gave in to the inevitable by inserting printed sections into their handwritten works. Some scribes even became consultants, advising printers on how to design their pages to look like calligraphic art.

Early printing was financially risky. The ability to print books did not guarantee a means of marketing them successfully. Printers were driven not by the religious and artistic impulses of the scribes, but by the economic realities of the marketplace. The early years of promise also created the stress of uncertainty—perhaps a feature in the rise of all new media. No one demonstrates this more than Gutenberg.

The public mythology about Gutenberg locates him in a saintly world of disinterested inventors. The truth is that he was an entrepreneur who took one financial risk after another, using other people's money, and who maintained a secrecy that was designed to keep any potential competitors from gleaning his ideas. Gutenberg worked so surreptitiously that the best documents we have about his business affairs and technological inventions are from the courts, where he battled unhappy investors who had tired of his many promises and few results.

Throughout his career, Gutenberg repeatedly solicited additional capital, but refused to offer his "product" for sale until he had perfected the process. He became a kind of entrepreneurial schemer who continuously had to develop new, fundable ideas in order to keep the money on the table for his major preoccupation—the movable-type press. Gutenberg created the mold for casting precisely similar letters and numbers. He also developed an ink that would adhere uniformly to the type. He took various partners and developed other business enterprises along the way in order to fund his desire to hit it big in printing.

Gutenberg's tight secrecy, accompanied by his burn rate, led to his decline. He would even dismantle his experimental equipment during his various lawsuits so no one could figure out what he was up to. One of these lawsuits finally wiped him out financially. His financiers won all of Gutenberg's materials and equipment, and hired away Gutenberg's foreman, who knew how to use the technology—an early case of corporate raiding, perhaps. It was they, not Gutenberg, who published the so-called Gutenberg Bible sometime before 1456 and used Gutenberg's technology to print the elegant Latin Psalter (1457) and the Catholicon (1460), a reprint of a popular encyclopedia compiled in the 13th century. Meanwhile, Gutenberg, destitute and almost blind, eventually received from the archbishop of Mainz an annual allowance of corn and wine, along with a suit of clothing. There is a lesson here for the depressed areas of Silicon Valley.

Since Gutenberg clearly had the elements of movable-type printing before investors shut him down, why did he fail to launch the world's first book-printing business? The answer appears to be that Gutenberg did not see himself in the printing business per se, but in the religious-manuscript business. Gutenberg's aesthetic paradigm defined the book as an extension of the manuscript, not as a distinct creation. Manuscripts, however, were not just the creation of scribes, but also the craft of highly gifted illuminators. Gutenberg's movable-type technology itself would simply not enable him to compete on the illuminators' aesthetic terms.

Unable to foresee the nonreligious market for simple printing, he yoked his business to a religious interpretation of the godly craft of illumination—to the idea of “text” as a means of authentically pleasing God. He repeatedly delayed the launch of his technology until he could solve the problem of creating grand illuminations within his printed books. Those delays cost him his business.

As one historian put it, Gutenberg “succeeded in automating the scribe, but not the illuminator.” Or as I would put it, Gutenberg framed his aesthetic paradigm for the printing business within the religious-manuscript market of the day. This paradigm did not suit the iconoclastic times that were around the corner. The Protestant emphasis on “the Word” would create new secular and sacred markets. Protestants liked simple, printed books, and might have loved amazon.com. As Elizabeth Eisenstein, who wrote one of the classic works on the rise of mass printing in Europe, put it, Protestantism was “the first movement of any kind, religious or secular, to use the new presses for overt propaganda and agitation against an established institution.” The Protestant church reformers “unwittingly pioneered as revolutionaries and rabble rousers.” What some people might call a “democratic” development, others might call a “propagandistic” movement—or paper spam.

Religious and financial interests merged in the Protestant Reformation, where printing was both a lively business and a potentially powerful form of religious communication. Martin Luther became the first mass-mediated publicist or propagandist. As historian Mark Edwards claims, Luther “dominated publicity to a degree that no other person to my knowledge has ever dominated a major propaganda campaign and mass movement since. Not Lenin, not Mao Tse-tung, not Thomas Jefferson, John Adams, or Patrick Henry.” For several years during the Reformation, evangelicals like Luther quickly and effectively reached large audiences with “thousands of pamphlets discrediting the old faith and advocating the new.” These pamphlets were cheap, easy to distribute, quick to read and easy to conceal. They were hawked on the street and in taverns, and advertised with jingles. Luther’s New Testament vernacular Bible, with commentary, set the stage for later commentated Bibles that guided the reader’s interpretation.

Luther had a knack for the new communications medium; other evangelicals were not nearly so effective. Luther himself democratized the medium by pushing out his products and making them cheap to print and distribute—in the interest of printers and publishers. For one thing, reprintings of Luther’s pamphlets made money for printers, who did not have to worry about copyright law. Luther himself was

interested not in cash infusions, but in distribution—give away the product free and you might create a market! For another, Luther's pamphlets were inexpensive compared with vernacular Bibles, so why not get the gist without all of the expense and hard work? Even some Roman Catholic publicists printed and distributed Luther's anti-Catholic pamphlets. Luther roundly criticized sloppy, profit-driven printers who marketed the Bible, but his quest for a vernacular version of the scriptures also inherently tied believers' spiritual thirst to the capitalistic energies of an expanding mass-communications business.

This merger of financial and religious interests made printing the first truly mass medium in Western history. Even so, the printing press was not a "mass" medium in the sense of reaching everyone; most people were spectators of the religious drama that was unfolding in the new medium—as in the early years of the Internet, when most people did not have access. But the press could nevertheless reach more people more quickly and more cheaply than any previous medium. Like e-mail today, the press could distribute messages to many people—if they had access to the technology and knew how to use it (that is, if they were literate).

During the first half of the 16th century, Catholics and various Protestants, especially Luther, competed in the new court of printed public opinion. Between 1518 and 1546 alone, printers produced at least 6 million vernacular religious tracts—one for every two members of the German-speaking lands. Apparently Protestants did a better job of communicating their messages; their treatises were often less expensive, more compelling rhetorically, and hence more widely printed, distributed and read. But the Protestant messages might also have been more open to various interpretations, enabling readers to hear in them what they wanted to hear, prefiguring what Jacques Ellul in this century called the "propaganda" of the media. As Edwards concludes, "In general, the messages sent were not always the messages received, and the historian who seeks to reconstruct the early Reformation message and its appeal must pay at least as much attention to the context of its readers (and hearers) as to the text that they read (or had presented to them)."

Nothing could be more true of the Internet today. We can talk all we want about the "democratic tendencies" of the technology, but who is really interpreting these messages and what in the world are they concluding? We have not a clue. The statistics on Net message distribution, the growth of the number of domain names, the number of individual citizens with Net access, and all of the other widely used

data simply gloss over the real, underlying communication. We have created a public rhetoric about democracy anchored in technological mathematics, not in human understanding or cultural interpretation—not even in civil discourse. We are defining Net-based democracy in terms of transmission, not in terms of actual human communication. In fact, our contemporary public rhetoric about the Gutenbergian revolution does exactly the same. Some commonplaces never change. Luther created chaos before denominational cosmos, and we appear to be doing something very similar with Net culture, sacred and secular. The Net is to democracy what a stadium is to a soccer game. Somebody has to decide how the game is played.

Americans often associate democratic power with the ability of the underdog to triumph over established institutions. They equate egalitarianism with a leveling of power across many individuals or groups in society. Democracy exists, Americans assume, when everyone has an equal voice in defining reality. And we get our own voices by being part of many messages—by being mass communicators or at least mass consumers. Freedom and symbolic quantity are virtually the same. Therefore, we consider the Internet as the most liberating mass-media technology of all times.

But we are also frequently uncomfortable with the ways that evil or at least arrogant people are able to use the media to advance their own interests. The Net is great, but let’s silence the pornographers, bomb-makers and hackers who are up to no good. What does history tell us about these kinds of debates?

Will the Internet necessarily champion the underdog in culture, or even just in religion? Any inherent propensity of one technology over another to foster democracy is overshadowed by the social institutions in society, including the ways that media are financed, regulated and distributed, and the almost indefinable realities of the individual rhetorical moments when audiences will respond. By about 1470 the cost of a French printed Bible had dropped to about one-fifth of the cost of a manuscript Bible, perhaps giving Calvinism the same kind of boost that Luther had in Germany. As Eisenstein states, “Where indulgence sellers were discredited, Bible salesman multiplied.”

Moreover, new power structures and established institutions invariably come to replace the old ones, and any initial glow of inchoate democracy can easily be undermined by the rising centers of symbolic power. Today’s public references about the rise of the printing press tend to overlook the fact that the printing press

shifted authority from church to the individual rhetorician. As the church and book owners/collectors lost control of the manuscript culture to the operators of the printing press, they also relinquished much of their authority to individual authors. In short, public personality—or persona—became crucially important in mass communication, as it has been ever since. The printing press tended to shift power from the more stable social institutions to the more dynamic and industrious communicators. As a theologian friend of mine likes to say, the medium helped replace one authoritative Catholic pope with many popular Protestant popes.

Finally, the openness of citizens to both democratic opportunities and responsibilities is crucial. Technologies do not produce democracy, even if they bring down the dominant institution or eclipse evil empires. As the president of the Czech Republic, Václav Havel, has said, “Democracy and civil society are two sides of the same coin. Today, when our very planetary civilization is endangered by human irresponsibility, I see no other way to save it than through a general awakening and cultivation of the sense of responsibility people have for the affairs of this world.”

The role of the printing press in early-modern Europe shows that the impact of new communications technologies is highly dependent on context. The same technology can affect different social groups and cultures in widely different ways, can unify as well as divide, and can secularize as well spiritualize. There simply is no predetermined impact because of the crucial roles of economics, politics and culture. New media forms do not simply replace older ones. Even after sermons were printed, sermons were still orally delivered. In fact, many people “heard” Luther’s pamphlets read by someone else, both because some of the listeners were not literate and because oral reading was still a significant public act. Preachers often mediated Luther’s writings in the public square, perhaps just as Internet content today is mediated especially by journalists. Printing probably changed the nature of some public discourse, but public discourse, including sermons, itself probably changed how people read or at least how they interpreted the written and printed word. The historical impact of the printing press on religion shows how complex the impacts of new technologies in society really are. Within the Christian church the new technology fragmented theology and ecclesiology, producing Protestantism in all of its variety, dynamism, confusion and contradiction.

But as Eisenstein shows, the same presses “created a new vested interest in ecumenical concord and toleration”—namely, scientific ways of thinking and knowing. As Luther and other evangelicals used the new technology to preach the

gospel—or at least their own version of it—they also encouraged printing and reading per se. Christians' expanded thirst for reading "tapped a vast reservoir of latent scientific talent by eliciting contributions from reckon-masters, instrument-makers and artist-engineers." As odd as it seems today, this thirst for reading fueled a renewed drive within humankind for a kind of scientific ecumenism, or scientific dogmatism, depending on one's point of view. Nothing was more important for the rise of scientific communities across geographic space than the printing press. This technology became part of the human quest for a unified approach to mathematics, natural investigation and scholarship in general.

Gutenberg's investors had no clue about what would eventually happen with the technology they capitalized. On the one hand, science has grown in stature and cross-cultural impact even through the ages of electronic and now digital media. On the other hand, various religious groups have used the Good Book and their own commentaries and other writings to foster alternative views of truth. In fact, some of the most print-based religious groups are the fundamentalists, who often view the scriptures reverently, much the way that some scientists view their textbooks and professional journals. Somewhere in between, or across, these sides of the print divide, science has created an amazing consensus of thought that permeates even modern religious cultures.

Perhaps the Internet is doing all of the above and more: encouraging and unifying small religious and other movements; further facilitating scientific unification across geographic proximity, if not also creating new scientific theories and concepts; fostering the rise of new forms of spiritual irrationalism such as those discussed in Wendy Kaminer's wild book, *Sleeping with Extra-Terrestrials*; focusing the public even more on particular public personas in news, sports and everything else; creating new classes of investors who are willing to publish online just about anything, regardless of whether or not they agree with it; germinating new technological ideas that are luring capitalists who hold unreasonable expectations of financial bonanzas. The truth is that all kinds of ironic, contradictory and even seemingly regressive things are happening in the Internet world, and we have barely a clue how to interpret it all. We, too, have our Gutenbergs and Luthers and all of the additional characters that make the current times so interesting and challenging. And thank God for contrarians like Albert Borgman (*Holding On to Reality*) and Stephen Talbott (*The Future Does Not Compute*), who are helping to highlight the folly of our ways in a digital world.

If God is behind all of this, God surely has a sense of humor. If we are in charge of our own destinies, we are truly “lost in the cosmos,” to steal a title from Walker Percy’s marvelous work, subtitled *The Last Self-Help Book*. But one thing is certain: our utopianism about all of the benefits of the Internet is misguided. We are all in for serendipitous developments and historical reversals that will show us just how important our political, economic, governmental and religious institutions are in shaping the future. I doubt that technology itself will ever deliver more than the level of responsibility that we bring to our modems, our speakers’ platforms and our online and printed publications. Science and technology change, but human nature is remarkably consistent, confusing and confounding.