The Greatest Invention Since the Wheel

Richard G. Underwood

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The Greatest Invention Since the Wheel

by Richard G. Underwood

Everyone knows that the alphabet is the greatest invention since the wheel, but where would the alphabet be today without the book? Claims for the book’s obsolescence by modern technologists overlook its long history as a thing of joy, as well as a basic tool. Ancient Latins used a tree’s inner bark, called liber, to write on, and in time the word liber denoted book; our word library is derived from it. I find it curious that many of the words for book, or words connected with books have their origins in the materials which went into their making. The Middle English bok, the Anglo Saxon bōc, Goth boka, Old Norse bōk, Old Saxon bōk, Dutch boek, Old High German buoh, German buch, are all related to old Anglo-Saxon bēce, meaning beech, because the ancient Saxons and Germans in general wrote runes on pieces of beechen board. The Russians carefully preserve in their museums pieces of birch bark on which early forms of the Cyrilic alphabet were scratched; very likely there are bookish words in Russian referring to that tree and its bark. The Greek word for book, biblion, was originally a diminutive of biblos, or bublos, meaning papyrus or scroll, after Byblos, the Phoenician port from which Egyptian papyrus was exported to Greece. From biblion, of course, comes not only our Bible but a whole string of bookish words with the prefix biblio.

Our word page comes from the Latin pagina - a trellis where a row of vines is fixed, hence, metaphorically, a column of writing. Volume comes from the Latin volumen, from volvere, to roll - hence a roll of parchment, or a scroll. Our word bind stems from the Old German, bindan, and the Old English bend, meaning a band or ribbon or fetter. The modern German bund, and our own bundle and bandage are related.

And how do we know these small facts today? Facts which anyone can look up in a good dictionary? Undoubtedly it is because of the preservative action of thousands of unknown monks, hidden away in monasteries, cells, and hermitages, copying away like mad in daylight and in the light of fish-oil-soaked reeds onto skins, or paper, or whatever material they could get, those bits of Gospel and other knowledge that came their way. Meanwhile the heroes of the world grabbed the headlines, slaughtered the peasants, burned the countryside, and toasted each other with mead between bouts. 'Tis ever the same. But don't believe that those monks were all old or were full of pious thoughts twenty-four hours a day. One of the moving aspects of many of the old handwritten books is the marginalia — those

Mr. Underwood is Director of the Syracuse University Press. This article is adapted from a talk he gave at the Annual Meeting and Luncheon of Library Associates, May 4, 1973.
remarks written by a weary copier to tell what he really is feeling or thinking. The Irish missionary monk, St. Gall, died in 635 at the age of ninety-five after preaching over much of western Europe and founding a monastery on Lake Constance, Switzerland. On the margin of the St. Gall manuscripts about two hundred years later a monkish scribe wrote in Irish:

A hedge of trees surrounds me:
A blackbird sings to me
Above my booklet, the lined one,
The thrilling birds sing to me

In a grey mantle from the tops of bushes,
The cuckoo chants to me
May the Lord protect me from Doom!
I write well under the greenwood.

In the eleventh century, Columcille, the Irish saint, wrote these verses:

My hand is weary with writing,
My sharp quill is not steady.
My slender beaded pen pours forth
A black draught of shining dark-blue ink.

A stream of the wisdom of blessed God
Springs from my fair brown shapely hand:
On the page it squirts its draught
Of ink of the green skinned holly.

My little dripping pen travels
Across the plain of shining books,
Without ceasing for the wealth of the great —
Whence my hand is weary with writing.

Time and again the monkish, scholarly retreats of these saviors and preservers of literacy, books, and Christianity were raided by fierce pagans. Along the coasts of western Europe and throughout the British Isles, there were churches and abbeys, monasteries and schools, built like forts (which they were) along river valleys, with watch towers facing the sea and the navigable streams. Ireland, being the westernmost land of Europe, escaped not only the Roman legions in early years but also was overlooked during those years when the Huns and Goths and Vandals were playing king-of-the-hill all over western Europe. This isolation had its effect both upon the Irish religion, breeding an almost wholly monastic form of Catholicism as opposed to the cathedral-centered and Rome-centered form of Europe and, later, of Britain, and upon the books produced in that little green island for almost a thousand years. The Book of Kells is the best known
of those books, and it is, to my mind, one of the most beautiful in the world, rivaled only by certain Persian and Oriental volumes.

The isolation came to an end when the Danes and the Norwegians discovered the riches of the monasteries. Their raids began in the late seventh century, and continued for over three hundred years. During that time those unique architectural features, the round towers, were built as watch towers and refuges at every abbey and monastery of any size. Even the tiny community on the top of the Great Skellig (seen on the BBC television series, "Civilization"), perched 700 feet above, the sea on a bare rock, with no landing place – even this place was raided by the Vikings more than once, the monks hewn with axes and thrown over the cliffs into the sea. It is no wonder then that one Irish monk wrote on the margin of one of the St. Gall manuscripts:

Fierce is the wind this night
Brushing back the white mane of the billow;
This night the savage warriors of Norway
Will not sail across the Irish sea.

Miles up the estuary of the River Shannon in what is now County Offaly, St. Ciaran founded the most celebrated of Ireland’s monasteries, Clonmacnoise, in 548 A.D. Up the Shannon came the Norsemen, time after time, raiding this center of learning, looting and killing. One account describes the monks fleeing in their white robes of bawneen wool like flocks of sheep bleating before the sword, while the Vikings mowed them like hay and harvested them like wheat until the Shannon ran red.

But between these bloody raids, Clonmacnoise and Clontarf and Armagh and other monastic communities of Ireland were the universities of the western world, hundreds of years before the founding of Salerno and Bologna, usually considered to be the earliest universities.

In their book, *An Introduction to Medieval Europe*, James Thompson and Edgar Johnson write, “The sixth, seventh, and eighth centuries in Ireland witnessed the culmination of a poetry in the Gaelic vernacular some five hundred years before such outbursts in France and Germany. There are at least five hundred titles of stories and poems written in the seventh and eighth centuries, all redolent of the Celtic world of adventure on land and sea and of the world of fæiry and many expressive also of deep and intimate human feeling.”

An eighth century poem written by an anonymous student of the monastery of Carinthia on the margin of *Codex Sanctus Pauli* will illustrate what one French historian and critic, Roger Chauviré, calls “the formal perfection and the polished charm which [Irish poetry] was capable of attaining in those ancient times – a hundred years before the French
language" appeared as an entity in the *Serments de Strasbourg*. The poem is *Pangur Ban* or *The Scribe and His Cat*.

I and Pangur Ban, my cat,
'Tis a like task we are at;
Hunting mice is his delight,
Hunting words I sit all night

Oftentimes a mouse will stray
In the hero Pangur's way;
Oftentimes my keen thought set
Takes a meaning in its net.

So in peace our tasks we ply,
Pangur Ban, my cat, and I;
In our arts we find our bliss,
I have mine and he has his.

Practice every day has made
Pangur perfect in his trade;
I get wisdom day and night
Turning darkness into light.

But, why, you may ask, do I go on and on about the medieval Irish monks and their Goidelic verses? What do they have to do with the subject?

Just this: they are a neglected chapter in what used to be called the "dark ages." When the barbarian invasions brought darkness over Europe, the little island in the West was the only light left burning. For almost three centuries Ireland was truly the teacher of Europe, not only attracting hordes of disciples and students to her monasteries (at Armagh there were so many English students that the community had a special Saxon quarter), but sending out Irish monks in all directions. In the sixth and seventh centuries the whole Irish people seemed to become missionaries, pilgrims, and travelers. Colonies of Irish hermits were to be found in all the northern islands, the Faroes, Orkneys and Shetlands. They discovered Iceland long before the Norsemen. They crossed in their currags (lath-framed cockle-shell craft covered with skins and sealed with resin) to Scotland, Britain, and the continent.

From the monastery colony of Lindisfarne on the island of Iona, they spread their gospels and their education and their book making through Northumbria and what is now Yorkshire. It was from the cathedral school at York that a brilliant young Northumbrian scholar and student of the Venerable Bede (who had himself been trained at the monastery of
Wearmouth-Yarrow), was summoned by Charlemagne to his court in Parma in 781. His name was Alcuin of York, called Albinus; and he was, for the rest of his life, the leader of the palace school and the most important figure of the Carolingian renaissance. He it was who replaced the Merovingian script, the uncial or majuscule, which had degenerated into an almost illegible cursive, with the minuscule script, which used neat and elegant small letters. The minuscule was very legible, easy and quick to write. It was the lineal descendent of the Irish monastic letters and the forerunner of the capitals and small letters of our own contemporary type forms. You may see Alcuin’s “Carolingian script,” as it came to be called, on postage stamps of the Republic of Ireland today. You may see them, also, on the stones of the ruins of Clonmacnoise, that greatest of Irish monastic communities, the heart of western learning in those three centuries when Ireland was truly “the island of saints and scholars.” Clonmacnoise survived plundering raids by Danes and Norwegians, native chiefs, Anglo-Normans, and was only finally despoiled and utterly ruined in 1552, a thousand years after its founding, by the English garrison of Athlone, who carried off bells, books, images, treasures, and even every scrap of glass in the windows.

By that date, however, the golden age of Ireland was only a memory, and a new power allied to the book and the alphabet was already a hundred years old. The third greatest invention since the wheel, printing, had appeared from the inventive brain and clever hands of — Laurens Janszoon Coster, a Nederlander. I’ll bet you thought I was going to say “Gutenberg,” but I must tell you that we have been misled in our youth by those who told us that Johannes or Johann or John Gutenberg “invented” printing. Scholars now strongly favor the claims of the Dutch for Mynheer Coster and do not sneer at the people of Haarlem, who erected a statue of Coster and celebrated the four hundredth anniversary of his invention in 1823. Another small truth: Johann’s name wasn’t really Gutenberg; it was Gensfleisch. Since his mother, Elsgen Wyrich Gutenberg, was the last of her line, and since it was the custom in Germany in those days for a son in such a case to take his mother’s name so that it might not become extinct, John became Gutenberg. And he did not invent printing, he “only” perfected it.

The chronicle of Cologne reports for the year 1499 that “the eternal God has out of his unfathomable wisdom brought into existence the laudable art, by which men now print books, and multiply them so greatly that every man may himself read or hear read the way of salvation.” At that time, Europe was in the grip of what it regarded as its first great epidemic of syphilis and from recurring ravages of the plague; alchemy and astrology epitomized the state of the sciences; Savonarola had been burned at the stake the previous year; and hunting witches was beginning to be popular throughout holy Christendom. Today, after five and a half centuries of progress in our own most progressive of countries things are much changed: venereal diseases are at epidemic levels; drugs and alcohol are fighting it out.
on both sides of the generation gap; assassinations, kidnappings, and terrorism are worldwide phenomena; and although alchemy has been replaced by psychoanalysis, astrology has made a marvelous comeback.

If these improvements do not gladden our hearts sufficiently, we have only to look at the state of the art of bookmaking to have our cups overflow. This “laudable art,” as the Cologne chronicle called it, has progressed mightily also; never before in history have so many books been printed and published. Whether this week’s New York Times best sellers, *Once is Not Enough*, by Jacqueline Susann, and *Dr. Atkins’ Diet Revolution*, help every man to himself read or hear read the way of salvation, probably is unimportant in the face of the sheer magnificent technology of modern communication devices, including printing.

It is true that Coster and Gutenberg and their “thing” have fallen into disrepute lately. Marshall McLuhan has predicted the imminent demise of the printed book for years; in fact he has written fourteen books on the subject. McLuhan and his cloudy crystal ball, notwithstanding, and in spite of the electronic “hardware” which has metamorphosed our *biblions, libers, boeks*, and *books* into a form of merchandise called “software,” the greatest invention since the alphabet remains one of mankind’s greatest tools. It might almost be said to be the primal tool of historical man. How do men learn to plan and build all, all of the modern tools of communication including the electrostatic copying machine? From books, of course. As a tool it is preeminent. Its handiness, its portability is unsurpassable. Can one really imagine Omar Khayyam intoning to his inamorata:

“A micro-reader beneath the bough,
A loaf of bread, a jug of wine, and thou” . . . ?

Never.

But what of the book as esthetic object, as artifact, as a non-utilitarian thing-in-itself? First, one must admit that books cannot ever be truly non-utilitarian even to the insensitive types who use them as elements in interior decoration. (“I’ll take two feet of red morocco books, three feet of blue buckram, 1-1/2 feet of green linen finish,” etc.). Book design and bookmaking are servant arts, like architecture, not fine arts, like painting. One does find book designers “expressing themselves” at the expense of the book, intruding themselves between the author and his readers, impeding rather than enhancing communication; but fortunately for the book and bibliophiles these “artists” are a small, however flamboyant, minority. But tools can be beautiful or at least, pleasant to the eye and the hand. The phrase, “form follows function,” need not be limited to architecture.

As one might expect, wherever esthetic taste is concerned there is controversy; and so it is with book design and manufacture. A book is not only a tool and a product of craftsmanship, it is also — God help us — a piece of merchandise and we know what that can mean. Thirty-three years ago, T. M. Cleland, an artist and typographic designer of huge and crusty integrity,
said, in what is to me one of the greatest lectures on this whole subject, “It has taken printers and publishers five hundred years to find out how wretchedly books . . . can be made and still sell.”

In these days, when the word is taken for the deed, when new is a synonym for better and change is equated with progress and everything is newer and changing at an accelerating pace, how apropos are Cleland’s words on: “. . . the fear of not being original — what Romain Rolland calls ‘the fear of the already said.’ The notion that I must do something new every day or I would not be creative — forgetting that God made the planets all the same shape as far as we can see, and that the oak tree does not alter the form of its leaves from year to year.”

As good American consumers we are all conditioned to be “with it”; we respond to the huckster’s stimulus with a conditioned reflex; when the TV says, “Salivate,” we drool. But, to paraphrase Henry V, “we few, we happy few,” we bibliomaniacs, we who keep our eyeballs round instead of square by reading books, may be partially immunized against the contemporaneity of our society, having a longer view of man and of mutability than the tube boobs, the ad addicts. We can with some comfort read the words of Ecclesiastes: “The thing that hath been, it is that which shall be; and that which is done is that which shall be done; and there is no new thing under the sun.” Or we can read: “Our earth is degenerate in these latter days. Bribery and corruption are common. Children no longer obey their parents. Every man wants to write a book. The end of the world is apparently approaching.” From the religion page of the morning paper? No, from an Assyrian carving of about 2800 B.C.

“Of making many books there is no end . . .” and, regardless of content or esthetics, modern printing technology has moved far from Gutenberg and the announcement of the Cologne chronicle. The contemporary printer may well be using a cathode-ray tube as a manuscript-scanning device to produce a magnetic tape, which, in turn, operates a photocomposing machine, setting positive or negative images on acetate or mylar film at the rate of hundreds of thousands of characters an hour, stripped up into sixty-four page film “flats” to make a thin flexible metal offset plate that is wrapped around a cylinder on a press, into which is fed a continuous web of paper, so that one hundred twenty-eight pages are printed with each revolution of the cylinder, turning at the rate of twenty thousand revolutions per hour. Folding, binding, sealing each book in a plastic wrap, packing, labelling are almost wholly automatic functions. The technology is indeed impressive and likely to become more so.

I foresee that within five years or so a writer can speak into a microphone and have the sounds of his voice transmuted to visual images via magnetic tape. If the Moog Synthesizer can turn electrical impulses into ersatz violin, flute, and organ music, it is altogether credible that sound can be made visible. The next short-cut may be the cap of intensely sensitive electrodes that fits on the author’s head and — like a super encephalograph —
transmutes thoughts, rather than articulated words, onto a tape, which then bypasses a composing machine and goes directly into a "reader" on a high-speed printing press that uses no ink, but imprints images on a web of paper or plastic electrostatically, bound by electric heat-sealing machines in non-biodegradable, flexible, polyester-resin impregnated nylon covers that will last for a thousand years.

But to what end? What have we to say so important as to justify such an array of technical virtuosity, and such a cost? Will the button-pushing technician at his blinking, pocketa-pocketa console be able to write a marginal poem to his cat or a quatrain on the smog level?

Ogden Nash once wrote, "Progress may have been all right once, but it went on too long." And John Clare, years before, wrote, "If life had a second edition, how I would correct the proofs." These days are conducive to second thoughts, revisions of contents, and correcting of proofs, activities not limited to the old who are looking over their shoulders to some imagined happier time. I shall close with one last quotation; an epitaph written, not in old age, but in the year 1728, when the writer was only twenty-two:

The body of B. Franklin, printer (like the cover of an old book, its contents torn out, and stript of its lettering and gilding) lies here, food for worms. But the work shall not be lost; for it will (as he believ'd) appear once more, in a new and more elegant edition, revised and corrected by the Author.