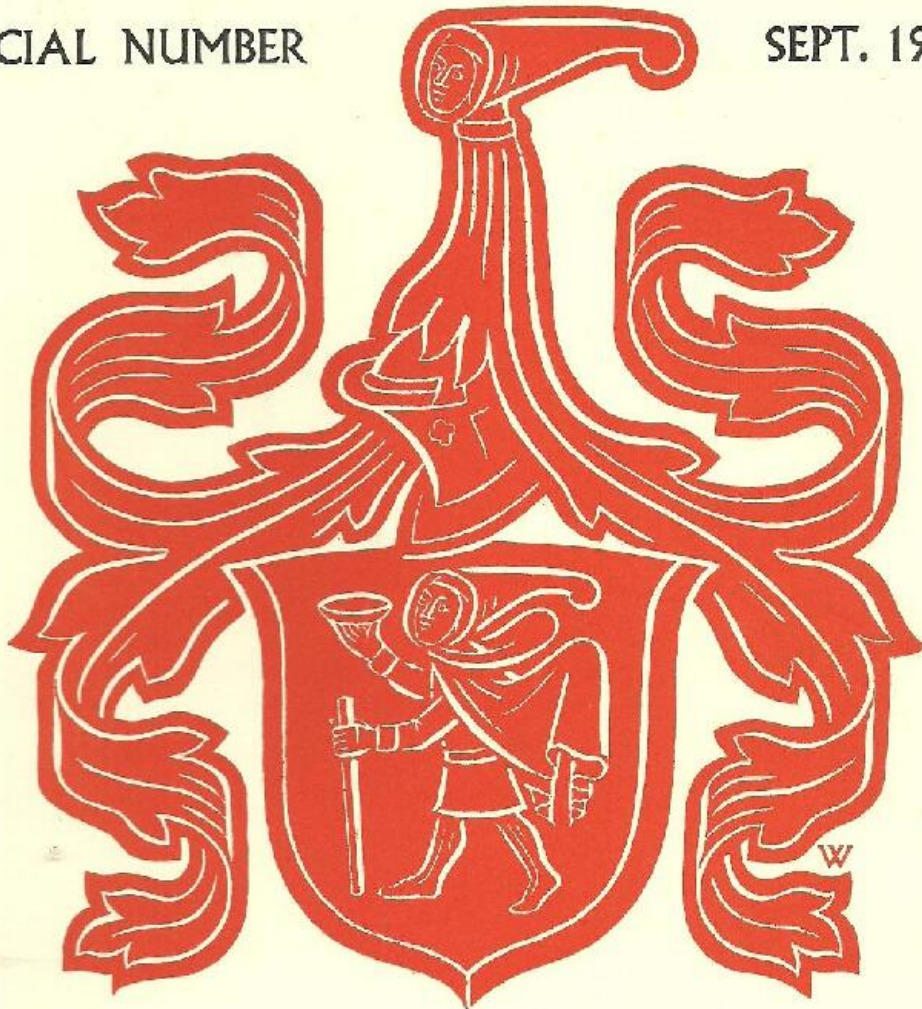


THE MONOTYPE RECORDER

SPECIAL NUMBER

SEPT. 1940



THE FIFTH CENTENNIAL OF THE INVENTION OF TYPOGRAPHY

THE ART OF PRINTING WITH MOVABLE TYPES

LONDON & REDHILL
THE MONOTYPE CORPORATION LTD

THIS SPECIAL FIFTH CENTENNIAL NUMBER OF
THE MONOTYPE RECORDER

contains a 12,000 word historical survey of some of the effects of the invention of Movable Type on the civilized world.

"Monotype" Times Roman, Series 327, has been used in 8 point, and a triple-column format adopted to reduce what would have been a 48 pp. issue to 12 pages.

Attention is drawn to the special supplement to this issue which deals with various ways of economizing paper.

The normal mailing list of the *Monotype Recorder* has been drastically reduced for this war-time issue. Hence recipients who do not wish to file or "pass along" this number are particularly requested to take advantage of our return-postage offer (see envelope).

A fortunate discovery in our warehouse, during a waste-paper hunt, has brought to light small stocks of several back numbers of the *Monotype Recorder* which remain in demand amongst students of the history and practice of typography. While copies last they are available gratis to our customers and potential customers—but not directly to booksellers or collectors as such. A list of available back numbers will be sent on request; it includes those on Baskerville, Fournier, Type Faces (Spring, 1933), and others of permanent reference value. The contribution of The Monotype Corporation Ltd. to twentieth-century typographic history was by no means brought to a halt by the war, as recipients of our recent *News Letter* will have seen; but until the days of victory that lie ahead, the fame of this British effort will be kept alive chiefly by the adroit use of its products, in a thousand cases where feeble typography would have been wasteful.

TWENTIETH-CENTURY PROBLEMS IN PRINT

SUGGESTIONS FOR PAPER-SAVING

AS in previous articles of this series, we shall begin at the end and work backwards. The end and purpose of every printed job is to meet or anticipate some need or want. Every stage of its preparation is governed by the fact, directly in the case of design and re-styling, and, less obviously but certainly, "all the way back to the keyboard" where the actual work begins.

But whereas our other articles dealt with specified kinds of work, this one deals simply with "any printed thing"—any book, periodical or job—in wartime: in other words, with any piece of paper-with-ink-on-it which is permitted to come into existence nowadays, inasmuch as its end and purpose can be justified. Any copy which reaches the printer at all marches in proudly and claims its right to good design, for if it were not "worth the paper it's printed on" to the country at large, it would not be there at all.

The general public is now intensely paper-conscious. Women with shopping-bags ("you needn't wrap it up"), and men who want to know when the Boy Scouts are coming for that waste paper, both make a very restive and critical audience for anyone who even *appears* to have squandered paper in addressing them. The advertiser who used to get his effects by using "plenty of white space, my boy, and some good big half-tones", the direct-mail designer who arranged a little feeble copy on a "great big french-fold" meant to cover the whole desk when opened—these people would nowadays get "results" they never bargained for: a definite negative reaction. The printer, as usual, has to mind his customer's business if it becomes necessary. A society for solving the world's problems must not be allowed to exasperate its public by sending out, on ten single-sided sheets of imitation typewriting, bulletins that would be far more *effectively* set in a small four-page type-printed folder in eight-point Times New Roman. Even windy, meaningless phraseology becomes the printer's problem if the customer has passed it; three dead-weight sentences eliminated may prevent a paragraph from "turning over" and thus save a whole page, perhaps a whole signature.

SEVEN QUESTIONS

There are other questions which *ought to be* (but often are not) asked and answered before the job goes to the printer. So far these questions have been: (1) Is there an adequate purpose for issuing some sort of printing in this connection? (2) Are both the copy and the general intended format "cut to fit" that purpose without any inherent waste? Now the typographer asks question (3): Must it be a wide-column setting, as in book-work, or can it be set in narrow columns, in which case a much smaller body-size of a "large-face" (highly legible) type can be used without wasteful leading? This question may lead to a drastic re-styling of a long-standing format, *e.g.*, a periodical may go from two to three columns

Sizes of Paper and their Sub-divisions", of which four large complimentary editions have now been exhausted.¹ The "normal" sub-divisions of the most-used general printing and stationery standard sizes are tabulated below.

Book and periodical publishers whose paper is made for them to special sizes seem to have begged this question; but if they are forcing a paper-maker to use less than the full width of his web, or to complete it with a non-standard width, they are not thereby contributing to the general interests of the trade.

There is also question (5): What *minimum* shall be allowed for margins? It is not a peace-time minimum, for again, the people who used to admire "nice broad margins" are now welcoming any evidence of paper-economy.

THE PART TYPE PLAYS

The measure and depth of column or page can now be fixed, and the next question is, how many more words can be readably set in that area than would normally get in? One must not defeat the whole ultimate purpose of the job, and the look of "unreadability" spells defeat; hence it is vital to think first in terms of what the reader is to see. There is no such thing as "eight point" nowadays, outside the composing department, and even there the term refers only to types cast on an eight-point body; it may mean a ten-point with special cropped descenders (which by the way becomes an extremely wide-set, hence relatively wasteful,

¹ The few remaining copies are on sale at 6d.

complete	18-pt. Times, 2-pt. leaded, with special long descenders overhanging. Equal in "appearing size" to three of the 24 points below.
complete	24-pt. Fournier. Looks nearly as large as the face below, yet gets in ten more 11pt. characters in a 21-em pica line.
complete	24-pt. Goudy Old Style.
complete	24-pt. Bembo. Another narrow book roman—a space-saver.
complete	24-pt. Cochon: as wide, and as black, but not as "large" as
complete	24-pt. Times New Roman 327. An extremely compact face.
complete	24-pt. Rockwell Light—the "Ionic way" of getting legibility at the cost of set-wise space.

eight-point), or it may mean a six-on-eight, with or without special long descenders. What counts is legibility; and here we see why the question of the measure had to precede any question of type choice. Times New Roman, for example, is an ideal narrow-column face. It can be set solid to an eight-word measure in any size, whereas the Ionics call for wasteful leading; and the condensation of its curves often saves as much as a word to a line (5 letters and a space), even in newspaper work, where the most extravagant word-spacing is allowed. But extend the measure to ten or eleven words, and it becomes necessary to cast Times or any other short-descender face on a larger body (or to lead it). In short, the "appearing ten-point" becomes an actual ten-point, and comes up against the rivalry of (say) Bembo and Fournier, which are also slightly condensed, hence space-saving.

The seventh question concerns headline and other display founts, and there is no need to stress the value of condensed faces here. The main thing to remember is that sub-captions must work overtime when the text is in any danger of looking "cramped". Their function is to keep the reader reading and to signal to him. "Monotype" Bodoni Heavy Condensed 529, and a wealth of adroitly-narrowed grots, and sans-serifs, are now available on loan as display matrices.

Now the job is ready for the keyboard. The copy has been stripped of "adipose

tissue"; the format and layout have saved perhaps as much as 40 per cent of what might have been the paper consumption, and meanwhile people outside the typographic circle have been pruning mailing-lists and deciding on the shrunken but at least "100 per cent justified" printing order. Now the technician steps in to ask and answer his questions.

SAVING THE RIBBON

If "Monotype" machines have been chosen—and their hourly output and correction facility make that choice particularly wise in these days—the technician points to two important new attachments that ensure a saving of paper, and asks: "Why not save $\frac{1}{4}$ -inch of the perforated ribbon as often as a word-space occurs—i.e., at least 16 per cent of the spool?" That is done by using the Combined Spacing Attachment, which casts the first letter of each word with as much added thickness on the left side as performs the function of a separate word space. Incidentally, this device permits close-spacing at will; that is, less than the normal minimum 4-unit space can be used if required. What this means to Bible printers, in terms of whole signatures saved, counts more with general printers than it used to do.

Again the technician asks: "Even if this is not a 'fat' job, will it not pay to save perforations and time whenever a line is to

be whited-out (practically, wherever a paragraph ends), by using the Automatic Quadding and Centring Attachment?" Finally he asks: "Are we wasting any ribbon on repetition work when the Line Repeating attachment makes a short strip into an endless band that will feed itself through the caster any number of times?"

The caster attendant knows he and his carser are helping to save make-ready paper (and skilled time) by producing first-rate new type ready for the press. The machine minder's skill reduces the wastage of spoiled sheets, and wax-sprayers save interleaving paper. The folded job is shaved of its minimum eighth-inch under the guillotine, for waste-in-trim was prevented at the very beginning.

Then comes the final test of how much paper has really been wasted in the whole effort. Every copy that is pitched away unread because it failed to look important or interesting has failed at its purpose and wasted that much printing paper. That *avoidable* wastage can be greatly reduced by good writing and intelligent design. A decent type-face, for example, makes even the shoddiest printing paper look less "negligible", and the right words set in the right display face can get the same amount of respectful attention that *used* to be accorded to anything that made ostentatious use of margins, sprawling half-tones and other squanderingings of white paper.

THE SUB-DIVISIONS OF THE MOST-USED STANDARD PAPER SIZES

	DOUBLE	BROADSIDE	FOLIO	QUARTO	OCTAVO	LONG OCTAVO
Foolscap	17 × 27	13½ × 17	8½ × 13½	6¾ × 8½	4¼ × 6¾	3¾ × 8½
Post	19 × 30	15 × 19	9½ × 15	7½ × 9½	4¾ × 7½	3¾ × 9½
Large Post	21 × 33	16½ × 21	10½ × 16½	8¼ × 10½	5¼ × 8¼	4⅞ × 10½
Crown	20 × 30	15 × 20	10 × 15	7½ × 10	5 × 7½	3¾ × 10
Demy	22½ × 35	17½ × 22½	11¼ × 17½	8¾ × 11¼	5⅝ × 8¾	4⅝ × 11¼
Medium	23 × 36	18 × 23	11½ × 18	9 × 11½	5¾ × 9	4½ × 11½
Small Royal		19 × 24	12 × 19	9½ × 12	6 × 9½	4¾ × 12
Royal	25 × 40	20 × 25	12½ × 20	10 × 12½	6¼ × 10	5 × 12½
Large Royal	27 × 41	20½ × 27	13½ × 20½	10¼ × 13½	6¾ × 10¼	5⅞ × 13½
Imperial	30 × 44	22 × 30	15 × 22	11 × 15	7½ × 11	5½ × 15

THE INVENTION OF TYPOGRAPHY

A SUMMARY ACCOUNT OF ITS PLACE IN HUMAN HISTORY, NOW CLARIFIED

BY THE EVENTS OF ITS DEMI-MILLENNIAL YEAR

THE invention of Typography, in Strasbourg in or about the year 1440, was one of three major events in human history, the cumulative effect of which has only one imaginable precedent or parallel in the entire period of man's existence as a species.

If we can imagine a time when the convention called oral communication was practised *only* by the "chosen few" of the primitive wandering tribes, if we can picture the leaders and professional spokesmen of such clans passing on to their chosen successors the secret of memorizing arbitrary syllables to which definite meanings were attached *by prior agreement*, then we have a parallel for the way in which the convention called graphic communication was, in sober fact, passed on through the entire period of recorded history down to a time still within living memory. If we can picture the "common herd" of our remotest ancestors as still content to express their simple wants and emotions by gesture and by changing the pitch and speed of ape-like chatterings, we have at least an analogy for the state of things—which pertained until only yesterday, even in the most civilized country in which the common workman was content to exchange speech only with the living, while the literate man could receive direct messages from the dead; and only with those within earshot, while the literate man was choosing his friends from every corner of the world.

As soon as speech made it possible for mankind to perform quite complicated concerted actions by prearrangement, it became dangerous to allow even the least member of the community to remain ignorant of the great secret on which the future of the race was to depend.

If language was at first beyond the grasp of any but the outstandingly intelligent, then it had to be simplified. Above all, the whole "herd" had to be given what might be called access to the spoken word—chances to practise it, things to say and hear in words. Thus (let us say) the gift of speech became at last a universal free gift, forced upon every normal child of man by the busy and careless, maintained and developed by leisured specialists, but at creature.

The invention of typography is a major event in history because it gave the common people access to the written word, and chances to practise it—things to read, reasons to write—and thus widened the magic circle of literacy until finally, in civilized countries, it came to divide all physically normal people, irrespective of class, from those whose physical and mental handicaps prevented them from claiming what was now at last a free gift, comparable with the gift of speech. If we think of the earliest "speakers of words" as the first true human

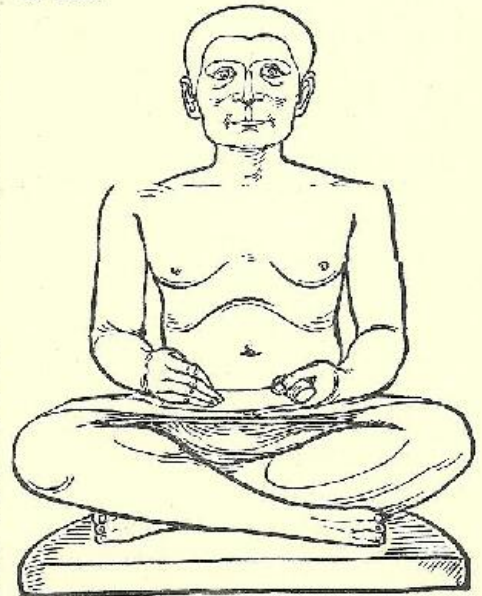
beings, and their gibbering fellows as somehow sub-human, we may also think of the earliest readers-and-writers as the first "supermen", insofar as they were endowed with a new and mysterious power of communication; and in that light the whole history of writing becomes the story of how "ordinary" folk at last climbed into the power and privileges and freedoms which are vested in the written word.

The present year 1940 is the quincentennial of one of the three great moments in that story. It is also, as it happens, a time in which most of the powers and privileges and freedoms that go with literacy are being challenged: a time when no centenary can be celebrated, however modestly, unless the backward glance involved reveals some source of inspiration for the printers, the history and even the "pre-history" of their craft are of distinct topical interest, inasmuch as they are the very roots of Democracy.

THE ALPHABET

The first of the "three major events" since the invention of writing was the invention of alphabetical script, by which the very few different "types of sound" involved in speech were analysed and each given its different arbitrary symbol. It happens that the ear is far more gifted than the eye at making quick, precise and lasting associations with meaning. A child can memorize, in a few months, hundreds of arbitrary sounds-of-words: it takes years of concen-

tration to memorize a small vocabulary of arbitrary symbols-for-ideas or pictograms, the original form of written words. The new "sound-writing" was particularly suitable for merchant-travellers, for its secret could be imparted in a few days, and it permitted the marking-down of at least the *sounds* of foreign names for commodities. Thus the alphabet spread wherever its Semitic pioneers travelled. Wherever it went, writing ceased to be (or was prevented from being) a life study in itself, and became a faculty which could be acquired quickly by any busy man who found any sufficient reason and reward for the effort of memorizing twenty odd meaningless symbols, and of getting used to the sight of them in combination as words. We may smile with Sam Weller over the charity boy who, having learned his alphabet, doubted whether it was "worth going through so much to learn so little"; and yet that is one of the most significant remarks ever put in print. It was in answer to that uncouth challenge, by the "charity boys" of that period, that every possible resource of the newly mechanized printing industry was focussed on the problem of reading matter for the people. It has never been enough to teach the common man simply to decipher curt public inscriptions. Until he has access to "books" in the largest sense—to continuous texts of some personal value to himself—he will not learn to read.



**Molite ergo assimilari eis. Sic enim pater vester quid opus sit vobis: an-
tequā petatis eum. Sic ergo vos ora-
bitis. Pater noster qui es in celis san-
ctificetur nomē tuū. Adveniat regnū
tuū. Fiat volūtas tua: sicut in celo et
in terra. Panē nostrū supsubstantiālē
da nobis hodie. Et dimitte nobis de-
bita nostra: sicut et nos dimittimus
debitoribus nostris. Et ne nos indu-
cas in temptationē: sed libera nos a
malo. Si enim dimiseritis hominibus
peccata eorū: dimittet et vobis pater
vester caelestis delicta vestra. Si autem
non dimiseritis hominibus: nec pa-
ter vester dimittet vobis peccā vestra.**

Fig. 2: From the 42-line Bible, circa 1456

The application of mechanical power to typographic technique was the third of the "major events" we have mentioned. The interval between the first number of *The Times* to be printed on Koenig's steam press and the introduction in England of compulsory universal literacy was less than three score years. The previous interval, from Koenig back to Gutenberg, was one of nearly four hundred years. But behind Gutenberg, back to the invention of the system of writing which made typography possible, stretches a period of not less than two thousand years. That was the time it took the alphabet-users to march up a blind alley; to be driven back to the main road as a very small party of survivors from catastrophe; to reach the point where the Chinese invention of printing paved and lit the road—and at last to come to that point on the map of human progress marked "Strasbourg 1440".

PREPARING THE WAY

Wherever the alphabet went, it found already established and in use another time-saving invention, that of the stamp, which in its original form of the seal enabled any number of identical images to be manifolded from one "master pattern". What Gutenberg invented was a means of mass-producing small "stamps", each of a single letter of the alphabet, for combination in a flat mosaic from which copies of texts could be manifolded. That involved cutting a few dozen model letters (instead of thousands of distinct word-symbols) in relief. When we

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realize that the Romans of the second century understood the principles of manifolding by stamping and of mass-production by casting in a mould (e.g., coins, Samnian pottery), that they had the tough, printable substance parchment, and that a punch-cutter in that day would have had but one alphabet (capitals) to cut, and no punctuation signs, we have to ask ourselves what accident, what impediment, what possibly have prevented the second major event from occurring at that time—when all cultured men could read and write, and great private and public libraries were being formed?

This is no idle question to-day, as we shall see. And no purely materialistic or technical answer is quite sufficient. It is not enough to say that the Romans lacked paper; for they had parchment. It is not enough to say that teams of slaves, writing from dictation, offered a cheap way of multiplying books for publication; even human cattle have to be foddered and stabled and taught at considerable expense. The Romans even recognized and used the greatest single advantage which printing has over writing, namely the automatic guarantee that all copies, taken from the same master-pattern, will be in effect *the same* copy, not merely a succession of copyings-by-hand. Documents were authenticated by stamping. Why then did it remain for the Chinese, probably as late as the eighth century of our era, to develop the principle of the stamp into the invention of printing proper—by simply cutting an extra-large "stamp" to lie face-upwards and be daubed with ink? If that idea had occurred to the Romans, they could have passed by one logical step to the invention of the *composite* face-downwards "stamp", or mosaic of combinable units, which is the invention of typography.¹

We must say therefore that for two centuries the Western world had the two essential secrets of typography in its hands—the idea of a few combinable "types of sound", and the idea of manifolding by stamping—and that something prevented the inventive Greeks and Romans from bringing those two great principles together. What that impediment was we can guess by noting what ideas were scrapped at the coming of Christianity. That new system first introduced a new concept of Everyman—one

¹ The Koreans actually took that step in the tenth century, and yet it would be misleading to say that they invented Typography, for that would imply that they found a practicable way of printing any sentence that could be written down. Lacking the alphabet, they could invent no more than a way of cutting and casting *such few word-symbols* as would be needed for certain prayers and charms.

which neither the state-worshipping Roman nor the aristocratically intellectual Greek had ever grasped—the concept which we still express by the phrase "every single *soul* in the place". The implications of that sweeping-together of cultured men, illiterate slaves, and women into one category of "individual souls" were not all worked out at once, and simultaneously; many things had to happen before the notion that everyone mattered (in one spiritual respect) could develop into the notion that everyone mattered enough, politically, and socially, to be forced into the mental freedom of literacy.

One of the first things that had to happen was the scrapping of the classic notion of how a book should look and act. The *volumen* or papyrus scroll was extremely inefficient as a book, that is as a text to be read and referred to by any one person at a time in privacy. The one advantage it had over the *codex* (book of stitched leaves) was not a "book" advantage at all: *i.e.*, it could be unrolled so as to display the entire contents of the work simultaneously to many different readers. In short it was quite efficient as an inscription; and the fact that cultured Romans could see and yet despise the more convenient *codex* may be due to the immense political prestige of the carved inscription in those days. At least we know that readers, always by their nature loth to see anything "queer" or "different" in the appearance of books (inasmuch as reading depends on recognition-of-the-familiar), were then wedded to a sort of book that was inefficient in itself and hopelessly "off the track" as a step toward the typographic book. It was the monastic scribes of the dark and middle ages who unconsciously prepared the way for Gutenberg, by preferring the elastic substance parchment to brittle papyrus and the folded sheet (as a unit) to the indefinitely long scroll.² They were, of course, simply making the book a vastly more efficient instrument for private reading—*e.g.*, by inventing the economical descending-and-ascending letters we now call "lower case"; by inventing word-spacing and punctuation marks; by finding a way of distinguishing *eve* from *Eve*, *job* from *Job*, and so on. And yet if they had been deliberately working to make things as easy as possible for the coming typographer, they could not have worked to better effect. The most uncanny "preparation" of all, that by which the eyes of Northern readers were accustomed to the *textura* or formal-gothic script, was only the result of a quest for legibility with space-economy: but the thickness, angularity and rigid consistency of that script made it the ideal model for experimental punch-cutting. It was as if the inventor of a mechanical man

² Papyrus was made in sheets, but these were pasted together before the scribe set to work, and his writing often went straight across the joins.

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had been able to count on the public's familiarity with the sight of real men walking sully in full armour, vizors down. So costumed, and in such circumstances, his *robot* could march down the street unnoticed. In the equivalent costume of *textura*, the first printed books and jobs had their only possible chance of arriving unnoticed, of sparing their readers the always unpleasant shock of the "somehow queer".

THE INVENTION

By the time that John Gutenberg, as an exile in Strasbourg, had found the capital, the goldsmith, and the other workmen needed to experiment upon his secret process, the common people were already consuming *printed matter* in quantities which we can only guess at to-day. The coming of paper, from the 11th century onwards, had brought a cheap and increasingly *abundant* substitute for parchment, and Gutenberg in his youth would have had chance enough to see primitive printers supplying a mass market with things they not merely wanted but genuinely needed. The sight of an image of St. Christopher protected the traveller from assault throughout the perilous day: a pack of tarot cards could tell, or even make, one's fortune. The "peany-plains" that filled this need were printed by laying down a sheet of paper over a relief-cut plank of wood daubed with liquid ink, and rubbing it to transfer the image. A nimble man could thus mass-produce up to 2,000 copies a day—and learn the fundamental fact of mass production, namely that many a mickle makes a muckle.

Meanwhile book-binders had been demanding from metal-workers sets of relief-cut "punches" of letters, and goldsmiths in and out of the mints had practised multiple casting from "female dies"—essentially matrices. The means of constructing the "mosaic", the composite face-up stamp, were not beyond the grasp of even a local goldsmith such as that Hans Dunne to whom Gutenberg, between 1436 and 1439, had paid 100 florins. The new parts of the problem, those for which the least analogy existed, were presumably connected with the printing process. A new, oily ink had to be contrived to adhere to metal; and some way had to be found of exerting simultaneous, even pressure over the whole printing surface instead of rubbing it by hand. Even in that last case, there was the hint of the answer ready; for in Mainz, amid the vineyards, a curious nobleman would have had a chance to see the screw and lever action of a wooden wine press.

In recent times, the investigation of ancient bindings has brought to light certain fragments from which scholars have deduced facts of the utmost interest about the Invention. The magnificent 42-line Bible that appeared in Mainz between 1455 and 1457 was undoubtedly the first "full dress" printed

book, the first to challenge the calligrapher on his own ground: but it is more probable than not that this edition was not brought out by Gutenberg, but by Fust and Schœffer. They, too, shortly afterwards issued the first overt, deliberate, "signed" challenge of the new craft, the Mainz Psalter. Gutenberg did not return to his native Mainz until 1448; within two years the hard-headed Johann Fust was lending him an impressive sum of money—and not, at first, claiming an active partnership in the work. The conclusion is irresistible, that Gutenberg came to Mainz with plenty of convincing evidence that the new multiplying-process had passed the theoretical, experimental stage and now justified a serious investment of capital. Every scrap of clue we have to the sort of thing that Gutenberg was printing during the crucial period in Strasbourg helps to counteract the misleading effect of one's first sight of the Mazarine or 42-line Bible. That two-volume folio work, many sets of which were on vellum, was indeed a cheaply produced book as compared with a manuscript of the same pretensions. But the first typographically printed books were really "cheap books" in the common sense: Latin grammars for schoolboys printed on parchment only because it was tough enough for hard wear, and a "Mother Shipton" poem of prophecy in the vernacular, amounting presumably to 72 pages of paper. Of these we happen to have accidentally-surviving scraps—and of an astronomical calendar almost certainly printed in 1447. In other words, books and jobs which stood in relation to the Mazarine Bible as a "Penguin" to the Oxford Lectern Bible. If Gutenberg was primarily trying to make money he was, as we now know, on the right track, for the very nature of a multiplication-process makes "many pennies" more worth seeking than "occasional pounds". If, as seems more likely, he was the sort of man who could write the colophon of the Mainz *Catholica*—a man with the Christian ability to see that "the humble" were more important than "the wise", then we need not wonder that the idea of mass-producing "mere" school-books, "mere" pamphlets in the vernacular, seemed worth the mental wrestlings that so complex a process as typography must have called for.

A TECHNICAL "PAUSE"

Within ten years of Gutenberg's return to Mainz in 1448, the technique of those arts which together constitute typography (punch-cutting, matrix-fitting, type-casting, composition and printing) had reached that state of development in which they were to remain for roughly four centuries. During that time, the number of readers kept increasing, but so long as they remained readers of books, typography could keep up with them simply by increasing the number and size of printing offices. Even when they

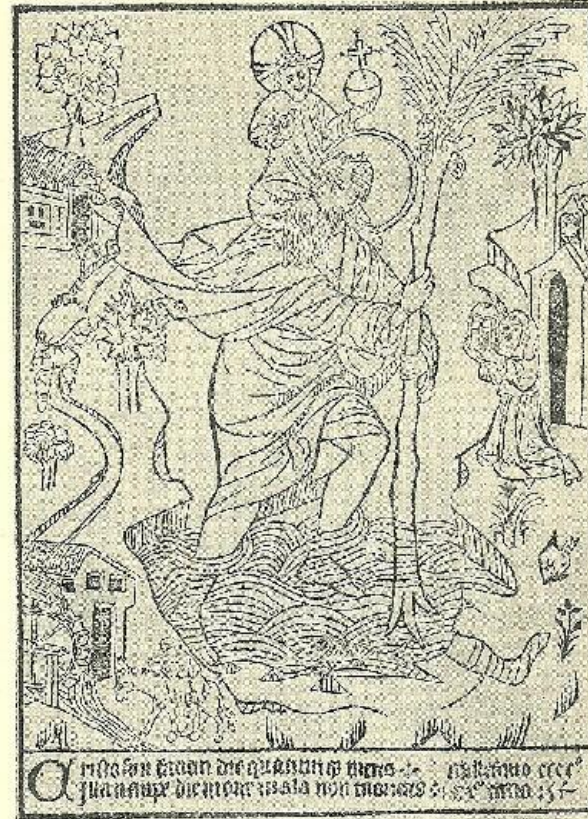


Fig. 3: The earliest dated wood-block in Europe, 1423.

developed into readers of news-sheets, and embarrassed the printer by demanding more copies of a printed sheet within a given time than one hand press could possibly cope with in that number of hours, there was a temporary solution at hand: output could be doubled or trebled by setting up the copy in duplicate or triplicate.

Blaeu's press of 1620 somewhat extended the efficiency and printing area of the screw-and-lever press, but in England, as late as 1771, a manual of printing could still refer to it as something superior to the "common", *i.e.*, usual, press. By that time, the actual numbers of those who wanted periodical reading matter were great enough to justify a retreat from the blind-alley of duplicate composition, back to the true problem of multiplying enough sheets, in a given time, from one setting of type. Again we find "key inventions" preparing the way: Nicholson's provision of a cylinder press in 1790; the Fourdrinier paper-making machine, invented by Louis Robert in Paris in 1798. The vitally important substitution of the composition roller for the pair of ink-balls, opened the way to Koenig's momentous invention, by which the previous maximum output of 300 sheets an hour soared to 1,100. That lowered printing costs by 25 per cent, and put that much more value upon large cheap editions; the composing side was no longer the more profitable side. In one generation, the offices in which it had paid to treble the use of type, and of compositors, in order to treble the presses'

THE MISSIONS OF TYPOGRAPHY

output, became places in which it took many skilled compositors, working at utmost speed on "short takes", to keep pace with one printing machine.

The rest of the nineteenth century completed the step forward, bringing as it were the left foot, composition, into line with the right foot, printing. Church's letter-founding machine of 1822 quadrupled the type-caster's output. For a while another "blind alley" tempted inventors—the notion of machines for composing type. Again there was a retreat, a fresh start from "further back": Olmar Mergenthaler (c. 1885) invented a machine for composing not types but matrices, and thus casting what were in effect long logotypes, each of which functioned as a "line o' type". Ingots of metal and an equipment of matrices would thenceforth take the place of tons of ready-cast type. Again we find a previous "key invention": without Benton's pantographic mechanical punch-cutter, the modern casting-composing principle could never have developed, first with the line-casting machine and later, as printers saw disadvantages in the inalterable "long logotype", with the final development of a machine for casting-and-composing single types. Gutenberg's invention of movable type (individual combinable letters) entered its machine age in 1899, with the first practicable "Monotype" machine.

Meanwhile the invention of mechanical wood-pulp paper (1853) had removed the last serious physical barrier to printing on a scale equal to the demands of a wholly literate public; and the Education Act of 1870 had erected its milestone in English History.

Such, briefly, was the technical answer of typography to the demands put upon it, from the first decade of what we call "modern times" down to the very moments in which these words were printed—moments in which the very basic assumption on which Gutenberg felt his way, is being attacked and perverted: in which the chief and noblest reason for giving the common man "access to books" has been destroyed in Gutenberg's own country.

Let us now turn back to the more important story of the increase in demand for the printed word, as its missions were discovered one by one.

In Strasbourg, typography first showed itself capable of widening and cheapening the market for books; and that part of its task has been going on ever since. In Mainz, a few years later, the new art was tackling its second (and as things then were, its more immediate and profitable) historical task: that of providing the "professional literates" of Europe with a vastly swifter and safer means, and incidentally a cheaper means, of pooling their knowledge through the written word in an international language. We know now, as no one realized then, that the little vernacular pamphlets and dog-Latin school-books of Strasbourg were portentous. They and their like, pouring out in quantities of which we can only guess to-day—for who preserves a tattered primer or broadsheet?—finally opened up reading to a class that had no leisure to acquire the international language, Latin. That meant that sooner or later the scholars and scientists would have to choose between existence as an international clique with a second language in common (and one which, being no man's mother tongue, gave no one nation pre-eminence)—and, alternatively, such existence as the "Republic of Letters" could look forward to as a "dispersed people", unable to communicate one with another except by learning dozens of different vernaculars. In Gutenberg's country the proportion of books printed in Latin to those printed in the mother tongue was as 71 to 29, a hundred years after the invention. A century later it was only as 28 to 72, and at the beginning of the 19th century it had shrunk to 4 per cent. In two ways, Latin gave the pioneer typographers the financial head-start and prestige they needed: and typography eventually killed Latin as an international language.

THE HUMANISTS

But even at the beginning there were two kinds of Latin, the jog-trot ordinary language of clerics and lawyers, and the "high-brow" sort of Latin in which Cicero, Horace and others had deliberately attempted to model themselves on Greek stylists. The difference was not as great as between Chaucerian and modern English, but to the men of the time it seemed sufficient to justify writing or printing classical Latin in its own special "exotic script" or "exotic fount"—a round, light, long-descendered lower-case with inscriptional capitals which harked back, if not all the way to classical

manuscripts, at least to the remote days of Charlemagne and Alcuin. The Humanists desperately needed printing to help them purge newly-found texts of the results of centuries of miscopying by calligraphers; but just as they would not print Greek by simply taking the everyday Roman alphabet and cutting some extra characters such as θ in the style of the fount, so they would not use ordinary "modern letter" (*litera moderna*) to set Cicero and Livy. This point happens to be of some importance to us, for that then "exotic" script, that "antique" letter (*litera antiqua*) was turned by Aldus Manutius and his followers into what we now serenely call "Roman". But its importance in the 15th century, to printers and type-cutters, lay not in the size of the market but in the fact that the Humanists, few as they were, had a reason to want printing, for the sake of its correctability.

EFFECT ON LANGUAGES

The earliest printers, in every country but England, were Germans. The printers of civilized countries to-day can afford to stress that fact, for when those Germans crossed their frontiers they always, without exception, acted like true printers by giving the customer what he wanted—instead of attempting to impose their own national styles and tastes. It would have been more easy then than now to pretend that the mystery could only be worked in this and that (German) way. Instead, they must have adapted themselves with business-like zeal to each different country's tastes, for national book styles emerge clearly by the 1480's. It was only the countries with backward economic conditions that accepted the German style of printing, just as they had to put up with the economic predominance of German merchants. These are the reasons why Fraktur and Schwabacher survived in Scandinavian printing and handwriting far into the 19th century. But even in the Baltic and Balkan countries where the economic and cultural foothold of Germany was strongest, the main effect of printing was a national revival, first of the languages, later on of the literature of those peoples. The Lithuanian, Latvian, and Estonian languages might have been absorbed by German in the course of the next century, as were the languages of the Prussians, Pomeranians and other tribes before them, had they not been preserved in print.

Fig. 4 (below): The humanist script as Aldus and his punch-cutter Griffo standardized it. The first wholly successful typographic reform of the International Intellectual Republic of Letters.

B. F. Vtinam ipse id
possis pater; tibiq; istud (quando ita te iu-
uat) tam facile factu esset, q̄ mihi: sed om-
nes curae, quae quidē sint maximae, ita
se habent; ut, si insequaris, non fugiant; si
fugias, etiam insequantur: munus autem
istud tuū cum est ipsum negotiosissimū
per sese; quippe, a quo ferē omnes reip.
nostrae partes pertractantur; quodq; uni-
uersae civitatis, caeterarūmq; urbium,

THE INVENTION OF TYPOGRAPHY

Unconsciously German printers provided those small nations with the most effective weapon with which to defend their spiritual independence. The survival of Welsh is largely due to the fact that from the year 1546 books were printed in Cymric and thus kept alive a literary language,³ whereas Cornish, the next of kin to Welsh, has become practically extinct for the lack of a printed literature.

The unifying and levelling influence of printing both upon the literary language and its spelling is remarkable. If to-day the "King's English" has become the standard idiom of millions of writers and readers, beside which the dialects of Kent, Lancashire, Northumberland and all the rest have vanished into local insignificance, William Caxton and his brothers-in-art may justly claim the credit for it. It was Caxton who overcame the perplexing confusion of Middle-English dialects and by adopting that of the Home Counties and London fixed a standard never to be abandoned. The printers of Luther's translation of the Bible had a similar influence upon the development of the German language; whereas throughout the Middle Ages High and Low German were two independent literary languages, they were, from that time onward, reduced to mere dialects, and the Lutheran German became the standard form. The same thing happened in Italy, where the Tuscan tongue as used in Annibale Caro's *Lettere familiari* (1572-75) was adopted by all Italian printers and thus superseded the rival claims of various dialects.

ORTHOGRAPHY

As regards the outward appearance of the language, to wit, orthography, the influence of printing has been entirely conservative. If one takes into account the obvious insullicency of the 25 letters of the Latin alphabet to express all the sounds of our spoken language, one may protest that up to the invention of printing the written word corresponded fairly well to the spoken sound. When an Old English scribe wrote *genyg*, or a later one *enough*, he really reproduced a word that he pronounced rather like German *gemig*. The new English written word *enough* has no semblance whatever with the spoken sound. As a matter of fact our modern spelling reproduced the status of pronunciation which prevailed in the 16th century when people actually said *enooch*. Before that time every scribe reproduced the words in writing as he heard them;

³ The same applies, for instance, to the Basque language; that curious relic of Old Iberian has been fixed in print since 1545 and thus got a fair chance of surviving despite the superiority of Spanish as a means of communication. The survival of the Catalan dialect owes something to the fact that the first printers on the Iberian Peninsula settled in Catalonia and not in Spain proper.

spelling kept pace with the changes that took (and take) place in pronunciation in every generation. Thus the development from Old English *slapan* to Middle English *sleepen* and finally *sleep* is distinctly reflected in contemporary documents. Since the spread of printing, this perpetual adaptation has become impossible, and the result is that our 20th century spelling reflects the pronunciation of the 16th century—and will continue to do so. All attempts at a thorough-going spelling reform are doomed to fail while their initiators neglect the most potent factor of conservatism, the printer. It may safely be prophesied that Horace Hart's *Rules for Compositors* will outlast the schemes and pamphlets of the Simplified Spelling Society. The printer's influence here works in the direction of bridging national demarcations for the benefit of a better national understanding. *The Times*, although it is spelt in the language as spoken by King Henry VIII, may be read and understood by millions of people whose pronunciation varies from Pidgin English, American and Cockney to Broad Scots and the King's English.

GOTHIC PROVINCIALISM

The stubborn adherence to Gothic types of the greater part of the German people—now artificially fostered by the Nazi Government—is one of the major obstacles that keep Germany out of the comity of civilized nations. This fact was recognized as early as 1765 by Adelung, the German translator of Tassin and Toustain's *Nouveau Traité de Diplomatique*. The use of Gothic letters, he said, "is undoubtedly the reason that prevents other nations from learning our language, and thus deprives them of the use of many good books produced in Germany". It is characteristic that the black-letter provincialism was, before 1933, completely overcome in German scientific and economic writings, which were meant to reach the eyes of scientists and economists abroad.

MARCH OF EDUCATION

The teaching profession soon realized the advantage of the new invention. Gutenberg's press had issued no fewer than 24 editions of Donatus's Grammar. Some 20 Latin grammars and dictionaries were published by one Cologne printer within only four years. Between 1518 and 1533, Robert Whittington published 13 Latin grammars, all of which had to be reprinted several times. Ten thousand copies of the popular *ABC and Little Catechism* were sold within eight months in 1585. The publication of school books seems to have been the most profitable branch of the publishing trade from the incurable period onwards.

Easy access to the Scriptures, which typography had made possible, led to a fundamental splitting of Europe into two religious

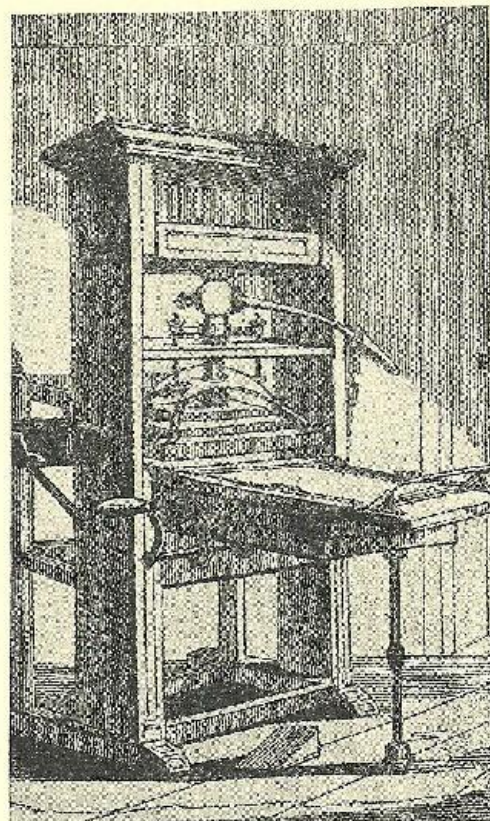


Fig. 5: Blaeu's Press, Amsterdam, c. 1625.

camp, on the primary question of whether a written document could or could not be quoted against its accepted interpretation and against oral tradition. Thus it was in its very nature a literate man's quarrel that Martin Luther started. Under the double onslaught of Protestantism and Humanism the mediæval university system broke down. From 1525 to 1535 university attendance shrank by three-quarters; thereafter it rose as the new Protestant schools and universities were founded.

Printed educational works had a profound effect on the mind of the public during the sixteenth century. Sir Thomas Elyot's *Governour* (1531) revolutionized the English educational system. He was the first to hold up the "gentleman" ideal as the aim of education. He described it as "vertue mixte with sufferance, affabilitie and myldeness" which would make boys "able to be governour of a publike weale". On the Catholic side the writings of the Spanish humanist, Juan Luis Vives, had a similar effect. His book *De Disciplinis* (1531) became the model from which not only the Jesuits, but also pedagogic reformers like Ratichius and Comenius profited. Vives also emphasized the need for a special system of girls' education. In accordance, however, with the aristocratic character of the time, all these reforms aimed at the education of children of the "nobility" only, i.e., they were of what we should call "public school" standard. Württemberg was the first European country which, in 1559, provided for primary

THE MONOTYPE RECORDER

education in mother-tongue schools as distinct from the Latin or grammar schools, although their origin goes further back, as may be seen from the first German grammar published in 1534. The 17th century made some decisive moves towards a broadening of general education. The name of the Czech educationalist, Amos Comenius (1592-1671), here stands first: he outlined the principles of primary education which have been followed by teachers ever since; and his *Orbis pictus* (1654) was the first picture book especially designed for children. The petty dukedom of Weimar was the first country to demand compulsory school attendance on principle, in 1619. It was not until a hundred years later that Prussia introduced this principle as the first great power (1717); and England did not follow suit until 1870.

The idea of general education in Britain is a product of the 19th century: it was prepared by the 18th century Rationalists and a further impetus was given by the French Revolution and continued by the Evangelical Movement. The following dates illustrate the development:—1785: London Society for the Establishment of Sunday Schools; 1803: Sunday School Union founded; 1833: first public grant for educational purposes; 1867: beginning of the University Extension Movement; 1869: first college for women (Girton, Cambridge) founded; 1870: compulsory school attendance; 1890: free elementary education established.

When this movement is considered in relation to its effect on the printing trade, it becomes evident that there has occurred an increase in potential readers surpassing by far the natural increase of the population. This development is clearly reflected in the statistics of book production.⁴

NEW "THINGS TO READ"

From the beginning of the 19th century onward the number of readers increased considerably in every country. The reading matter of the lower classes hitherto had been limited almost exclusively to the Bible, one or two works of edification, an almanac, and perhaps a guide to letter-writing and to the interpretation of dreams. The popularization of science with which the Rationalists were deeply concerned enlarged this severely restricted pabulum. The American, Benjamin Franklin, the Swiss Pestalozzi, and the

⁴ The figures for England are as follow:—13 editions in 1510; 28 in 1530; 87 in 1550; 89 in 1560; 219 in 1580; 355 in 1640. From 1666 to 1680 the total is 3,550, i.e., an average of 237 a year. This average yearly output fell to 93 in the period from 1700 to 1756; it rose to 372 for the decade of 1792 to 1802, and to 580 for the years 1802-1827. The annual output was c. 2,600 in the middle of the 19th century, and has steeply risen in the present century to: 6,044 in 1901; 12,379 in 1913; 17,286 in 1937.

German Hebel must be mentioned as the first successful popularizers of scientific and philosophical subjects. Franklin's *Poor Richard's Almanack* (Philadelphia, 1732 sqq) sold more than 100,000 copies. Its success was surpassed by a similar publication in Germany, Becker's *Noth- und Hilfsbüchlein für Bauersleute* (1788) of which 150,000 copies were sold by 1798, and a million by 1811.

These figures, of course, need some qualification. A comparison between the population and book production of some of the civilized countries results in the following figures for the year 1927:

	Population	Book production
Denmark ..	3 million	3,293
Germany ..	65 "	31,026
Britain ..	41 "	13,810
France ..	40 "	11,922
Netherlands ..	7 "	6,103
Italy ..	40 "	6,533
Switzerland ..	4 "	1,909
U.S.A. ..	120 "	10,153

In the year 1681 the number of publications in German (401) surpassed that in Latin (373) for the first time.

A comparison of the proportionate share in the output of books of the various branches of science and literature is even more instructive:

	1625	1675	1725	1770	1800	1850	1900	1929
	%	%	%	%	%	%	%	%
Theology	45.8	40.5	39.9	23.5	5.7	14.6	8.9	8.3
Law	7.4	11	10.6	8.2	7.9	11.9	10.5	11.9
Medicine	7.5	8.3	8.6	8	7.9	5.7	6.6	3.8
Science	under 3%			6.2	7.2	6.6	5.6	3.9
Philosophy	18.2	19.8	20.1	5	11.8	13.8	16.5	21
Historical Sciences	2	14.7	16.8	7.2	19.3	15	15.8	10.2
Belles Lettres	5.4	3.5	3.6	19.9	22.3	9.2	11.8	16.3

As there must needs be a margin for "general literature" and some branches may be classified under different headings, the figures are naturally open to correction; suffice it here to mention that educational writings have been put under "philosophy" and that the title "historical sciences" comprises history proper, geography and philology.

BEST SELLERS

It is unfortunately almost impossible to supply the net figures of books produced in certain years with exact figures giving the numbers of copies printed or sold. The publishers have always been rather secretive on the subject unless they wanted to use such figures for advertisement purposes. A statement such as "third edition" or "fifth reprint" may mean much or little, according to the numbers of the first edition. The estimates of historians therefore greatly differ.

The average edition of the 25,000 editions printed in the 15th century is said to have been 500 copies. It was probably far lower, at least as regards large-size books, 200 or 300 coming nearer to reality. As late as 1786

an edition of 600 copies was considered the maximum, according to the semi-official "Relation" of the Leipzig book fair. Incunabula, indeed, which were designed only for the use of scholars, had a very modest circulation: one hundred copies of the *Pliny* of 1470 were printed by Johann da Spira; the edition of Cicero's *Epistles* (1471-2) by Johann Neumeister was of 200 copies; and the average edition of the books issued by the first printers of the Sorbonne was also 200. Aldus Manutius, however, printed an average edition of 1,000. On the other hand, religious and popular legal writings enjoyed a far greater circulation; six-sevenths of the incunabula are said to belong to the former group. Johann Luschner, for instance, printed at Barcelona 18,000 letters of indulgence for the Abbey of Monserrat in May, 1498; and 99 editions of Thomas à Kempis's *Imitatio Christi* were issued before 1500. Some 3,000 copies of Tyndale's English version of the New Testament were printed; and it ran into six editions by 1530, although it was banned by the Privy Council. At the beginning of the 16th century the first European author who was a "best-seller" was Erasmus of Rotterdam: between 1500 and 1520, 34 editions, numbering 1,000 copies each, were sold of his *Adagia*; 24,000 copies of his *Colloquia Familiaria* were printed during his lifetime. The literary success of Erasmus, however, was soon eclipsed by the theological sensation of Martin Luther. Over 4,000 copies of his address "To the Christian Nobility" (1520) were sold within five days; 22 editions of his *Sermon on Indulgence* and 21 editions of his *Sermon on the Right Preparation of the Heart* were issued in two years (1518-20). The first edition of 5,000 copies costing 1½ fl. (circa 30s.) of his translation of the New Testament (1522) was out of print in three months. The Holy Scriptures have, from the days of the 42-line and 36-line editions onward, proved the best of all "Best-Sellers". Even a purely scholarly edition like the eight volumes of the famous *Polyglot Bible*, which Plantin published in 1568-73, could be printed in 1,400 copies, although its price varied from 70 to 200 fl. (c. £70 to £200); 12 copies were printed on vellum for King Philip II of Spain, who rewarded Plantin with the royal fee of 21,200 fl. The Bible Society, which Baron von Canstein founded at Halle in 1711, was the first press to organize and carry out a mass production of cheap editions: from 1712 to 1739 they printed 340,000 copies of the New Testament, 180,000 copies of the whole Scriptures in large octavo, and 300,000 in duodecimo. Those were the beginnings; the numbers of Bibles since printed, especially after the foundation of the British and Foreign Bible Society in 1804, amount to inconceivable figures: between 1900 and 1930, the last-named society alone issued about 237 million copies.

EXCERPT FROM A
SKETCH OF AN HISTORICAL PICTURE OF THE
PROGRESS OF THE HUMAN MIND

BY
CONDORCET

(WRITTEN WHILE AWAITING EXECUTION)

OF TYPOGRAPHIC PRINTING

Printing multiplies indefinitely, at little cost, copies of the same work. Thus anyone who can read has the privilege of acquiring books, and choosing them according to his individual tastes and requirements. This increasing facility both whetted the appetite for education and offered a means of acquiring it . . . Enlightenment has become the object of an active and universal commerce . . .

A new kind of public platform has been set up. The impressions it communicates are less vivid than those received by the ear, but they sink better into the mind; they exercise a less tyrannical rule over the passions, but a more certain and more lasting power over the reasoning faculty; they put all the advantage on the side of truth, since all that is sacrificed for the sake of mental enlightenment is a means of swaying the emotions.

A Public Opinion has been formed, powerful because of the number of those who share it, energetic because the motives which determine it act at once upon all minds, even at great distances. Thus we have beheld the rise, on behalf of reason and justice, of a tribunal that is independent of all human power; from which little can be hidden; from whose verdict no man can escape.

New methods, an account of early steps along a road that might lead to a discovery; work that must prepare that road; points of view which may reveal the possibility of that discovery, or may merely inspire the desire to seek it—all these spreading quickly, offer to each individual the sum-total of the efforts

that all have contributed, and with this mutual help, human genius has more than doubled its power.

The education which every man can obtain from books, in silence and solitude, cannot be universally corrupted; there need only exist a free corner of the earth where the press can deliver its sheets. How, in this multitude of different books, of many copies of the same book, with reprints which swiftly multiply it again—how can any man hope to lock fast all the doors through which truth seeks to enter?

That has become impossible. It was difficult enough, even when the destruction of a few manuscript copies would serve to annihilate a work completely, and when it was enough to proscribe a truth or an opinion for a few years in order to relegate it to eternal oblivion. To-day, what ceaseless vigilance it would demand! Even if the inquisitorial power succeeded in smothering any overt truths which obviously attacked its own interests, how could it prevent the penetration and spread of such works as hint at the proscribed truths without making them too apparent, which prepare the mind for them, and which one day will lead to them? Could such censorship be exerted without dropping that mask of hypocrisy, whose fall would be as fatal in itself as the truth is fatal to the power of error?

WE SHALL SEE REASON TRIUMPH OVER THESE VAIN EFFORTS; WE SHALL SEE IT, IN THIS WAR, EVER REVIVING AND OFTEN RUTHLESS, TRIUMPHING OVER VIOLENCE AS OVER STRATAGEM, BRAVING PERSECUTION, RESISTING CORRUPTION.

For over a century, the Stationers' Company tried to limit the size of an edition. In 1587 it was stabilized at 1,250 or 1,500 copies. Schoolbooks, and prayer-books, and catechisms were allowed four impressions of 2,500 or 3,000 each annually; statutes, proclamations, calendars, and almanacs were altogether free from these restrictions. In 1635, the number of copies was raised to an average of 2,000. It was only at the beginning of the 18th century that the increased demand eventually frustrated these attempts at artificially restricting editions.

The wave of best-sellers in belles-lettres starts with Defoe's *Robinson Crusoe* (1719). In one and the same year it was reprinted four times; in the following year it was translated into French, Dutch and German; and after (1758), at the suggestion of Jean Jacques Rousseau, it was adapted to youthful readers, its popularity increased everywhere. The number of more or less good imitations produced all over the continent must be added to the success of the original *Robinson*: before 1800, about a hundred imitations were published in Germany alone, and there appeared Swiss, Russian, and Silesian "Robinsons". Richardson's *Pamela* (1740), Goldsmith's *Vicar of Wakefield* (1766) and Goethe's *Werther* (1774) were the next best-sellers of European reputation, with Horace Walpole's *Castle of Otranto* (1764) as a good follower. The latter, however, derives its significance mainly from the fact that it heads the unending list of shockers which flooded Europe in the next two generations: they were the *pièces de résistance* of the lending libraries which at that time came into vogue, and successfully displaced better authors in the public favour. One author only succeeded in keeping the

favour of the masses, which was denied to men like Wordsworth, Shelley, Keats, Goethe, Schiller, and Alfieri, namely Walter Scott.

THE LIBRARIES

When Antonio Panizzi once called the British Museum "an institution for the diffusion of culture", he incidentally paid the highest tribute to the library as a factor of the promotion of civilization. There had certainly been large and well-organized libraries of manuscripts before the invention of printing. But the library as a storehouse of the intellectual treasures of the whole civilized world, as a spiritual pleasure ground for the humblest workman, and as the last refuge of the citizens of the Republic of Letters, has been made possible only by the printer's craft. Federigo, Duke of Urbino, it is true, strictly excluded any printed book from his precious library; but his attitude was exceptional and only based on his "natural egoism". Others thought otherwise: the library of the Nuremberg humanist, Hertmann Schedel, consisted of about 200 printed and 400 written books; his younger contemporary, Willibald Pirckheimer, owned only 170 manuscripts among c. 2,100 books. In 1500, the library of the Deanery of Sibiu, Transylvania, numbered 167 printed books of a total of 320. Luther was well aware of the usefulness of libraries, just as he fully appreciated the immense debt which he owed to the printing trade in general; in 1524 he urged the municipal authorities "not to be parsimonious in establishing good libraries". In later times libraries rapidly multiplied. The National Library of Scotland was opened in 1689, the Spanish National Library in 1712, the Magliabechiana at Florence in 1747, the British

Museum in 1759. A few figures at random show the relative and absolute growth:

Madrid	1712 —	8,000 vols.
	c. 1740 —	30,000 vols.
Leipzig	1711 —	14,000 vols.
	c. 1733 —	30,000 vols.
Greifswald	1713 —	1,100 vols.
	c. 1748 —	5,300 vols.
Berlin	1740 —	72,000 vols.
	c. 1786 —	150,000 vols.

The way in which librarians looked at customers is superbly indicated in the regulations issued by the librarian of Gotha in 1774: "in order to check the previous excessive concourse in the best manner possible" it was decreed that "anybody who wants to inspect a book must apply to the librarian, who then will show and, if need be, even allow him to read it". Since then, accessibility to the public and growth of the collection have extended simultaneously. At present the figures of the biggest national libraries are as follows:—Paris, 4,300,000; London, 4,000,000; Washington, 3,500,000; Cambridge, Mass., 2,500,000; Berlin, 2,000,000; The Hague, 2,000,000.

PUBLIC LIBRARIES

As an influence on the people as a whole, the national and university libraries are eclipsed by the Public Libraries which literally serve millions of readers and which were established later. "The Public Library should come in at the end of our system of free instruction, and be fitted to continue and increase the effects of that system by the self-culture that results from reading". It was an American, George Ticknor, who spoke those words, and America is, in fact, the cradle of the Public Library movement. Its father is none other than Benjamin Franklin, the most distinguished printer in the world. He opened the first "Subscription Library", as it was called, at Philadelphia in 1731. Later on, Massachusetts showed itself particularly interested in the furtherance of Public Libraries; its state regulations go back as far as 1798. England follows a good second since the Ewart Bill of 1850. It is only in the two English-speaking countries that Public Libraries have established themselves as an integral part of public education, and it is characteristic that countries which in political and cultural outlook are akin to the British lead the statistical account.⁵

⁵ No figures were available for Switzerland, where Public Libraries have met with a great success since 1843.

	Public Libraries	Volumes
U.S.A. ...	11,500	130,000,000
Britain ...		10,000,000
Netherlands ...	650	
Belgium ...	2,150	3,000,000
Denmark ...	830	1,550,000
Sweden ...	122	350,000
Norway ...	1,235	1,280,000

legibus suis reddidit. Nec multo post ipse adlocatus
regni accusatus duplicis & in filio principis & in pater
patria dedit. Hinc Mago imperator successit. bonus
industria & opes Carthagenensium & imperii fines
& bellica gloria laudes creverunt.
IUSTINI HISTORICI LIBER. XVIII.

MAGO Carthagenensium imperator cum
primus omnium ordinata disciplina militavit
imperium per se condidit & inter imperia
ratis non minus bellandi arte quam virtute
firmavit & defugit. Relictis duobus filiis Haldribale
& Hamilchate qui per vestigia patris virtutis decur
retes sicuti generavit & magnitudinis patris successerit.
His duobus Sardinia bellum illatum adversus athenos
quoque uectigal pro solo urbis multos annos repetentes
dimicavit sed athenos sicuti causa iustior ita & fortius
superior fuit bellumque cum his solutione pecuniarum
non armis finitum. In Sardinia quoque Haldribal gra
uiter uncleratus imperio Hamilchati fratri tradito
inuenit. cuius morte cum iunctus civitatis tum & didicit
undecim & triumpho quattuor in signe fecere. hostibus
quoque crevere animi uelut cum duce prope uictis
occidissent. Itaque Siculis populis propter affiduas car
thagensium iniurias ad Leonidam fratrem regis
spartanorum concurrerunt inibus gratie bellum in quo & nauum
dum & maria uictoria profertur fuit. Dum haec age

Fig. 6: The "Latin" or "Antique" script favoured by the humanists, as it was paraphrased in type by the Frenchman Nicolas Jensen in 1470. Note that the capitals, clumsy as they sometimes are, at least are not trying to look like pen-forms. They hark back to the stone-cut letters of antiquity. This style of letter was perfected and standardized by Aldus Manutius into what we now call "old face" (see fig. 5).

The Public Libraries of New York (2,800,000 vols.), Boston, Mass. (1,400,000) and Chicago (1,350,000) lead as far as individual cities are concerned. Manchester with 600,000, Birmingham (580,000), Prague (400,000) and The Hague (300,000) show respectable figures with which the biggest German Public Libraries cannot compete: Hamburg, Essen and Berlin have 160,000 volumes each.

LENDING LIBRARIES

Another product of the 18th century is the Lending Library, that curious mixture of intellectual and commercial enterprise. It was a Scotsman who opened the first of its kind at Edinburgh, in 1726. Allan Ramsay, the father of the great Scottish painter, George Bathoe established the "British Library" in the Strand, which was the first circulating library in London. It was continued by John Bell, publisher and journalist. Towards the end of the 18th century, Lending Libraries became a common feature of every town of Western Europe. In small places where they could not possibly be run with profit, reading clubs and literary societies took over the function of providing their members with the latest productions of the book market. Their sudden growth astonished contemporary observers. One critic remarked in 1795 that "people are used to reading nowadays in places where twenty years since a book was hardly available". A few years later we hear that "a passion for reading becomes commoner from day to day and spreads among all classes". In 1804 the three biggest Lending Libraries of Dresden had a stock of 8,000, 18,000 and 30,000 volumes. Mudie's Circulating Library, founded in 1842, was perhaps the greatest enterprise ever started in this field. *The Times* Book Club, founded in 1905, came into collision with the publisher on the question of prices and discounts to be given to the public.

CHEAPER BOOKS

As long as the reading and buying public consisted of a small number of comparatively wealthy people, the limited number of editions justified prices which seem to us exorbitant. Nevertheless, as seen from the sale of, say, Luther's Bible translation, the public were prepared to pay those prices, as the value they got must have appeared to them worth the money. In fact, printed books were much cheaper than those written by hand, and the new invention caused a revolutionary drop in prices: Fust sold his Bible of 1462 for 40 crowns in Paris, where people had before had to pay 400 to 500 crowns for a manuscript copy of it. A hundred years later, the huge circulation of *The A.B.C. and Little Catechism* enabled the firm of Damm & Robinson to sell it at 1d. in paper and 2d. in vellum. It has always paid

publishers to tempt their customers by value-for-money: one of the reasons for the flourishing trade of the Elzevirs was the astonishingly moderate price they asked for their standard editions of classical authors: despite the careful preparation of the text and the excellent print and make-up they sold their Virgil (1636), Pliny (1640), and Cicero (1642)—each volume of which comprised about 500 pages—for one guilder each; thus bringing their books well within the reach of every student, parson, and schoolmaster. Aldus was the first publisher who added the prices of his books in his catalogue of 1498. Other publishers, and even the Frankfurt Fair Catalogues did not indicate prices until the middle of the 18th century.

CENSORSHIP

Mainz, the cradle of the art of printing, was also the birthplace of censorship. Archbishop Berthold (1484-1504) asked the town council of Frankfurt to examine carefully the printed books to be exhibited at the Lent Fair of 1485, and to collaborate with the ecclesiastical authorities in suppressing dangerous publications. In 1486, Mainz and Frankfurt jointly set up the first censorship office. Censorship of books was nothing novel in itself: as a matter of fact, it is as old as book-writing. As recently as 1479 Cologne University, a stronghold of scholasticism, had gained a Papal privilege which extended their censorship to printed books. The novel feature of Archbishop Berthold's procedure was that here for the first time the right of censorship was claimed as a state prerogative. Although the first edict ostensibly aimed only at the suppression of German Bible translations, the censors speedily

extended their authority over book production as a whole. The spiritual and temporal powers quickly realized that the new invention might easily be used for purposes different from the swift turning out of Letters of Indulgence and governmental proclamations; and they did not hesitate to use their coercive authority to the full. The Papacy established the precedent: Alexander VI made censorship the duty of all in authority, in 1496; and Leo X set up the first preventive censorship in 1515. Henry VIII of England was the first secular prince to issue an index of banned books, in 1526; the German Diet promulgated censorship regulations in 1529; and the Papal *Index Librorum Prohibitorum* of 1559 became the most complete as well as the most notorious publication of this kind. It is to the credit of the Cologne printers, led by Ludwig von Renchen, that they protested against censorship as early as 1501, when Alexander VI issued his second bull which extended ecclesiastical supervision far beyond heretical writings. Their courageous action, however, had no effect; and a century after Gutenberg's invention censorship had become a universal practice. The first effective blow dealt to censorship came from England: Milton's *Areopagitica* (1644) fervently advocated the "liberty of unlicensed printing": "God", the author said, "used not to captivate man under a perpetual childhood of proscription, but trusts him with the gift of reason to be his own chooser". It is a well-deserved tribute to the great English publicist that on the eve of the French Revolution which led Milton's ideas to victory, Mirabeau paraphrased the *Areopagitica* in his pamphlet *Sur la liberté de la presse; imité de l'anglais* (Londres, 1778).

grave & court; on doit fuir les phrases, les jeux de mots, & les pointes, & s'abstenir le plus qu'il est possible, de certains termes, qui bien que tres Latins, ne conviennent pas toujours à la Médaille. Une des choses les plus essentielles encore, c'est de ne jamais faire parler les figures, comme dans cette Médaille de Diane que nous avons rapportée, & où Diane dit elle-même, QUAERUNT VICTORIAM VECI. *Foy vaincu le vainqueur du monde.* Il y a d'ailleurs un certain goût, & une certaine finesse qu'il est plus aisé de sentir que d'attraper. Toutes les compositions d'esprit demandent du génie, & les règles ne font faites que pour ceux qui en ont; mais au moins ceux qui ne se sentent pas de faire des médailles, feront en cela d'en juger, & de distinguer les hommes. Celles-ci peuvent avoir un avantage sur les anciennes, c'est la clarté. L'antique souvent ne se fait pas trop bien entendre, faute de déclarer nettement les faits, & plus souvent faute de mettre les dates. C'est ce qui ne manque point à cette Histoire, on a toujours mis à l'Exergue la date, & quelquefois même le sujet de la Médaille, lorsque la Légende ne le dit pas; ce qui ôte toute obscurité.

Peut-être, qu'à la vue de plusieurs de nos Médailles fort simples, & en apparence si aisées à trouver, on le figurera qu'elles ne demandoient pas de grands efforts d'imagination. Cependant si les Lecteurs veulent bien le souvenir, qu'en tout genre d'écrire rien ne vaut la noble simplicité, & ne couste tant que le tour naturel, ils défavouèrent leur jugement précipité, & pourront enfin remarquer, ce que le premier coup d'œil n'aperçoit pas toujours.

Au reste, comme il est juste de ne rien dérober au mérite de ceux, qui de quelque façon que ce soit, ont eu part à ce

Fig. 7: The Latin script is essentially super-national, as opposed to the essentially "regional" Gothic scripts. Under Louis XIV the European "Republic of Letters" had Paris as its capital city. There, at the end of the seventeenth century, the Latin script was rationalized. What we still call "modern" roman began with this roman du roi, cut by Grandjean.

When the reactionary period of the Restoration was overcomg, England set an example to the world by abolishing censorship in 1695. Holland, the native country of King William III, showed at the same time how to apply a nominal censorship in a very liberal spirit. Broad-minded and tolerant, Holland offered a refuge to the persecuted Jews of Spain and Portugal, Huguenots of France, and Calvinists of Germany and Poland. The conflux of skilled professionals and versatile business men secured the economic predominance of the Netherlands; whilst the liberality of her universities and the freedom of her press made her the centre of learning and journalism in 17th-century Europe. The printing dynasty of the Elzevirs of Leyden and Amsterdam had no rivals; it is characteristic that they issued books in Latin, French and German, thus reflecting the fact that Holland was in truth the focus of international literacy. The deadening effect of censorship can be gathered from the history of the Frankfort book fairs. From the end of the 15th century they were the centre of the German book trade and even attracted a large number of foreign publishers and booksellers: agents of Aldus Manutius are known to have trafficked there. In the 17th century the Frankfort book market came under the supervision of the Imperial censorship commission, since Frankfort was an Imperial Free City; and that commission, ruled by the Jesuits, suffocated the very freedom of thought and expression which has been the lifeblood of the printing trade from its beginning. By the middle of the 18th century the Frankfort book market was completely ruined: the last fair catalogue which appeared in 1750 contained but 42 German, 23 Latin and 7 French books—and that at a time when the yearly output of books in Germany amounted to about 1,350 items.

Strange though it may sound, censorship was not always disadvantageous to booksellers. A Jesuit once jokingly remarked, "*Notabitur Romae, legetur ergo*", and thereby hit the nail on the head. Putting a book on the Index naturally aroused curiosity and might well result in an unexpected publicity. An Amsterdam publisher was probably a shrewd judge of human nature when he endeavoured to have the *Bibliotheca fratrum Polonorum* (1656) banned by the censor because the initial sale was not quite up to his expectations.

With the growth of absolutism in the 18th century, censorship became more severe as far as political writings were concerned. *Non licet de illis scribere, qui possunt proscribere*, was the order of the day. The American and French Revolutions naturally increased the uneasiness of the ruling powers, and books and pamphlets dealing with those revolutionary movements were usually forbidden without discrimination

as to the political attitude of the writer: Burke's denunciation of the French Revolution was condemned, together with the writings of Helvétius, Montesquieu, Rousseau, and Voltaire, who paved the way for it. The Bavarian censorship certainly reached the zenith of stupidity. In addition to the writers just mentioned, the following authors fell its victims: Frederick the Great, Spinoza, Kant, Erasmus, Swift, Schiller, Wieland, Ovid, Virgil, Thomas More, Plato—and Homer's *Iliad*. On the other hand, the Electorate of Hanover, since 1714 a British dependency, was famous for the liberal administration of its censorship: the political journals which the Göttingen Professor Schlözer edited enjoyed a circulation and prestige throughout Europe. Denmark was the first continental country, in 1770, to abolish censorship. What a liberal application of censorship meant to the printing trade may be gathered from the development of the exportation of books from Austria. In 1773 its total amounted to 135,000 fl. Twenty years later, in consequence of the thorough-going reforms of the Emperor Joseph II, it had risen to 3,260,000 fl.

"PUBLIC OPINION"

The turning point in the history of censorship came when the French National Assembly promulgated the Rights of Man, on August 26, 1789. The eleventh article solemnly declared: "*La libre communication des pensées et des opinions est un des droits les plus précieux de l'homme; tout citoyen peut donc parler, écrire, imprimer librement*". Although this principle has been challenged and denounced by reactionaries and dictators again and again, it will nevertheless remain the Magna Carta of intellectual freedom, and its significance for the printing trade has always been, and will be, of particular momentousness.

In fact, reactionaries and oppressors of the liberty of the people had and have and will have every reason to dread the power of the printed word. It was the highest tribute the reactionary governments of the Germanies could pay to the disciples of Gutenberg when in 1840 all public celebrations of the fourth centenary were banned for political reasons. Political, religious, and economic mass movements of modern times are unthinkable without the help of the printing press. The reformation could not have spread so rapidly over the whole of Europe without the quick and cheap multiplication of tracts, pamphlets, controversial and edifying reading matter by means of which the "man in the street" was, for the first time in history, enabled to form his own opinion. "The man in the street is very keen on everything printed and now reads more in a day than he previously did in a year", related a Papal nuncio in 1524. An opponent of Luther stated in 1519 that the writings of the Reformer were "*non*

venditi, sed rapiti"; and Erasmus complained that Luther and his followers were the sole masters of the book market. The politicians, too, were not slow in grasping the significance which printing offered to their own purposes. Francis I of France was the first monarch to appeal to what afterwards became known as public opinion: in 1527 his government publicly explained and justified their policy in a pamphlet "*Lettres de Francois I^{er} au Pape*", which may be considered the first White Book in diplomatic history. His opponent, the German Emperor Maximilian I, made an even greater use of publicity in print. He kept a host of scholars, historiographers, poets, artists, humanists, and other men-of-the-pen in his (more or less irregular) pay, who on the whole acted for him as a "Ministry of Information". The passion for their alleged Nordic ancestry, the conception of France as the hereditary enemy, and other unpleasant paraphernalia of modern pan-Germanism may be directly traced back to the anti-French propaganda of Maximilian. Among the artists working for him, Albrecht Dürer was particularly interested in printing. Not only was he a friend of Pirckheimer and Erasmus, whose close connection with the printing world is well known, but he himself tried his hand in designing letters; and looking at his beautiful characters one regrets that later designers abandoned his pleasing patterns. They rather followed the suggestions of Leonhard Wagner of Augsburg, whose *Probae* of a hundred different alphabets, which he dedicated to the Emperor (1507 or 1517) marked the beginning of the peculiar insularity of German script.

Francis' and Maximilian's contemporary, Henry VIII of England was no less skilful in directing public opinion by means of a "press campaign", as we should call it: he used it particularly in defending his indefensible position in his divorce case, so that we incidentally owe to him the introduction into England of an excellent Aldine fount which was used for the *Acta Curiae Romanae* (London, c. 1530).

PAMPHLETS

From that time onward, every mass movement is characterized by an accompanying flood of printed paper. The pamphlets concerning the Civil War, Commonwealth, and Restoration (1640-1661) comprise c. 15,000 pieces. At the end of 1788 more than 2,500 political pamphlets were published in France; and the yearly consumption of paper used for printing in France rose from 160,000 reams in 1788 to 800,000 in 1898. Psychologists have tried to explain the suggestive power of the printed word, and their statement may be quoted for what it is worth: the reader, they say, is dimly aware of the long and costly process

through which the printed work has to run from the author's desk to the stationer's counter, and of the man and machine powers invested in the printing trade, and he concludes that nobody would expend so much money and labour for nothing; he is therefore prepared to accept the result of all that labour as something worth his while.

PERIODICALS

As regards influence upon public opinion, books are less potent than pamphlets, periodicals and newspapers: "Books train scholars, pamphlets train men", as an 18th century philosopher put it. The periodical is a typical product of the century of Rationalism. With the help of the periodical a wider public not yet accustomed to reading books could gradually be trained to acquire "enlightened views on God, Mankind, and the Universe", things so dear to the Rationalist. Philosophical societies wishing to spread their ideas of a general progress of mankind started periodical publications almost simultaneously in different countries: the *Journal des Savans* and the *Philosophical Transactions* began to appear in 1665, the *Giornale dei Letterati* followed in 1668, and the German *Acta Eruditorum* (written in Latin) in 1682. Whereas these journals addressed themselves to scholars and philosophers first of all, the *Mercure Galant* (1672) extended its scope considerably; it was meant for the educated public in general; and the *Monatsgespräch*, edited by Thomasius as the first monthly periodical in the German language (1688), expressly welcomed women among its readers. The real boom of periodicals, however, began with the weekly journals. They originated in England. Steele's *Christian Hero* (1701), Steele and Addison's *Tatler* (1709), and *Spectator* (1711), were the first specimens of their kind, which soon conquered Germany and, to a lesser degree, France: 511 German, 220 English, and 28 French weeklies have been counted during the 18th century. *Die Vernünftigen Tadelrinnen*, edited by Gottsched in 1725, was the first women's journal among them, whereas the *Gentleman's Magazine* (1731) may be considered typical of the best type of men's periodical. The effect upon the readers of these periodicals has been described by Charles Knight (1834) as follows: "They took the patronage of men of letters out of the hands of the great and the fashionable, and confided it to the people. They might not create poets and philosophers, but they prevented Kings and Lords pretending to create them". The economic success may be illustrated by some typical examples. The *Gentleman's Magazine*, founded in 1731, reached a circulation of 15,000 by the middle of the 'forties. *The Spectator* had 3,000 subscribers in the first year of its appearance (1711). The

editor of the Hamburg *Patriot* hoped for a subscription of 400 copies in the first year (1724); in fact, there were about 5,000 subscribers, and the journal, which was originally meant for local consumption, had to extend its interest to the whole of Germany, and the thus widened horizon in its turn influenced the number of subscribers.

The periodicals contributed a good deal to the "reading mania" which seized the public from the middle of the 18th century. "Reading", Kant said in 1798, "has become an almost indispensable and general need". The growth of periodicals lasted throughout

the 19th century. The figures for France are as follow:

1780:	24	1892:	5,600
1790:	350	1898:	6,417
1826:	490	1904:	8,270
1866:	1,640	1908:	8,940
1872:	2,024		

As to the relation of periodicals to books, the number has been constantly shifting in favour of the former. The following figures refer to Germany:

1826:	1: 13.5	1890:	1: 5.9
1858:	1: 10.2	1927:	1: 4.6

THE CHALLENGE TO TYPOGRAPHY

Rivals of the printed word have sprung up in films and broadcasting. Certainly the number of people who rely upon the cinema and the B.B.C. for entertainment or instruction is steadily increasing. Yet, is the number of readers really decreasing? Statistics have proved the contrary. Even though the rapid increase in book production which was characteristic of the last century cannot continue at the same pace, the status reached about 1920, i.e., at the beginning of the wireless epoch, seems to be fairly constant, as shown by the following figures:

	England	France	U.S.A.
1926	12,799	11,095	9,925
1927	13,810	11,922	10,153
1928	14,399	11,548	10,354
Population ..	45 million	41 million	120 million

Wireless, as a cultural medium, was bound to increase the demand for books: not merely for particular books reviewed or alluded to, but for book-reading as a cultural pursuit. Unfortunately, wireless is something more than a way of stimulating minds. It is an invention which does for the audible word what Gutenberg did for the visible word.

There is no better way of perceiving what printing stands for than by contrasting it with the other kind of "broadcasting", the audible kind. Wireless started as Morse-code signalling: in other words, anyone who wanted to use or enjoy it had first to make himself "Morse-literate". Up to a point, history repeated itself: the Morse-users were mainly in one professional class, as the alphabet-users were in 1440, but more and more amateurs were studying the code. If the wireless news-bulletins of this war were being transmitted only in Morse or a similar code, the appetite for news would, by now, have driven more and more kinds of people to learn to decode /.-/.../-.-./ just as their forefathers learnt to decode A, B, C: and we could look forward a century or two to the time when every man would be able to listen-in.

But instead, a mechanical improvement brought about that state of things overnight. Wireless began speaking the mother-tongue: and everybody, from that moment, was able to listen-in without being specially educated to do so. Messages, with all the emotional force of the human voice behind them, could be broadcast straight into a thousand minds. Unscrupulous mouths could hurry the listener past fallacies and thrust him aboard false assumptions, for in listening-in there is no turning back to the first paragraph, no stopping to look up the facts, no skipping ahead to see what axe is being ground. Lies that would look absurd in cold print could be made to sound convincing—for long enough to serve their purpose—at least when the listeners were gathered in vast crowds. And all those evil potentialities (as well as the good)

have already been exploited. It is another case of the servant being no better than its master. But the moment we turn back to typography, "book-broadcasting", we see how relatively inefficient a servant it is to bad masters, and *how much better it is equipped to serve truth than to serve falsehood*. It embarrasses the liar (whose purposes are always temporary) by simply continuing to record the lie; it will not allow one man to exhort a thousand as a mob—only as a thousand individual readers. It betrays its betrayers: if an author cheats his readers into credulity, at least printing lets them cheat him in turn, by skimming ahead to see what he is driving at.

TO-DAY AND TO-MORROW

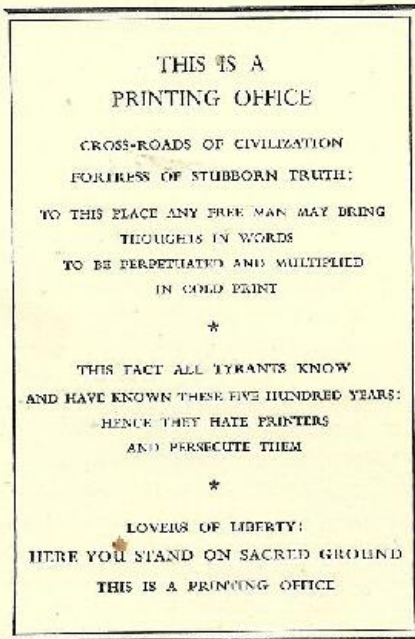
Men who found wireless extremely convenient in seizing power—including the power of unprecedented censorship over the printed word—have now created a situation in which the art of typography must, for the time being, keep alive as best it can, on very short rations, even in countries where the Printers' Creed is still honoured in principle. That Creed is, that any man who can pay to broadcast his opinion in print may do so, and, moreover, that anything which ten thousand readers need is (to the printer) precisely ten times more important, more *worth printing*, than that which only a thousand readers need. To-day, in countries that care enough about Democracy to defend it, printers are willingly abandoning Article One of their Creed, willingly admitting that there can be a just censorship. And their Article Two ("quantity matters"), is bound to lose ground in a paper shortage. The printers are hearing the man in the street say carelessly, "We *could* do without newspapers, now that there's wireless", or "Why not talking films instead of school-books?"—little jests that suddenly grow grim under paper-rationing.

Never was there greater need, amongst printers, of precisely that kind of inspiration and solace which the Demi-millennial is bringing. It is impossible to survey the effects of the

invention in the past without realizing that it vitally helped to create a concept—call it Democracy, or call it the spiritual rights of Everyman—which only yesterday emerged sharp and clear, like the steel letter of a type-punch after the last strokes of the file, when it is ready at last for the Hardening Furnace. On that concept, the future destiny of the craft depends. And so long as there are printers, their art, *by its very nature*, will be an extremely untrustworthy servant of tyranny. It has lost, to the radio, its supremacy as a way of "swaying the masses", and quickly circulating falsehoods. It can never lose its supremacy as a way of reaching Everyman *individually*, and perpetuating and circulating enduring truth. For five centuries it has been witnessing, unconsciously, to the validity of causes for which we are now in battle; and the glory of its achievement has only now begun to be foreseen.

THE GUTENBERG EXHIBITION
AT CAMBRIDGE

As long as there are collectors of "typographica" in freedom-loving countries, the Catalogue of the Exhibition of Printing at the Fitzwilliam Museum, Cambridge, 1940, will be prized for several reasons. In the first place, it is a dignified and beautiful 136-page book, and the 641 entries, describing exhibits ranging from early Gutenberg documents and fragments to the first Penguin and the Jubilee Lectern Bible, are beautifully set in "Monotype" Bembo; each is copious enough so that the reader, turning the pages, has a mental panorama of 500 years of the printed books and periodicals which are milestones of civilization. The book will have more than bibliographical and literary value: Adolf Hitler, with the worst intentions in the world, nevertheless saw to that. The great Fitzwilliam Gutenberg Exhibition, collected under difficult circumstances, had to be closed after only ten days; the catalogue which, with noble appropriateness, immortalized it in print, was issued in a very limited edition. It is hoped that those who have been able to obtain a copy from the Cambridge University Press, at the published price of 1s., will preserve it and have it stoutly bound, for some day it will be a rare book. Because it is a printed thing, it will go on witnessing, go on honouring the German Gutenberg who is being dishonoured in his own country. The Gutenberg Exhibition had to close; but its printed version will never have to close; and every reader who ever "opens" this printed exhibition will be reminded that it is never the bombers that have the last word.



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