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The Hand-printed Book

PRINTING types are representations in reverse of letters of the alphabet, cast in relief on the ends of rectangular lead-alloy stalks about 24 mm. high. In a printing house of the hand-press period alphabets of type were kept in cases, wooden trays divided into many separate compartments with a supply of letters of the same sort in each compartment. The workman who assembled the type for a book, the compositor, set up his manuscript (or printed) copy on his case and picked up the letters he wanted one by one with his right hand. He set them up in a small tray called a composing-stick held in his left hand, and he separated each word with spaces, short pieces of blank type. Each line, as it was completed, was made to come to an even margin by the alteration of the amount of space between the words, a process known as justification. When the composing-stick, which could accommodate several lines of type, was full he transferred its contents on to another tray called a galley, large enough to hold a whole page of type; and when he had set enough for a page he tied it round with string and put it aside, and proceeded to set the next one.

Books were not printed leaf by leaf, but on large sheets of paper with a number of pages on each side, which were later folded and cut at the edges to make a group, or section, of leaves; books usually consisted of several such sections sewn together at the back. So the compositor set enough pages for a whole sheet, and arranged those that were to go on each side of it in a special order, and fixed them in a pair of iron frames (chases), one for each side; this process was known as imposition, and the two chases with their pages of type locked in and ready for printing were called formes.

Trial prints (proofs) of the formes were then made, and compared with the copy from which they had been set. Errors were marked on the proof by a corrector (and sometimes by the author as well) and the marked proofs were used by the compositor as a guide in correcting the type.

Next the formes were placed in turn on the printing press, the hand-powered machine which was used to press sheets of paper on to the inked surface of the type-pages. It consisted of a wooden frame; a screw which, worked by a handle, forced a flat impression surface (the platen) down towards the type; and a movable carriage upon which type and paper were run in under the platen for printing, and then out again so that the type could be re-inked and a fresh piece of paper inserted. It was normally worked by two pressmen. One fitted a sheet of paper into a frame hinged to the back of the carriage, folded it down on to the type, ran the carriage under

the platen with a small windlass, and pulled the bar which turned the screw and pressed the paper on to the type; then reversed these operations and changed the paper. Meanwhile the other man got the ink ready—it was simply a black oil paint—and dabbed it over the face of the type when the press was open. Having worked through their heap of paper and probably printed as many sheets on one side as there were to be books in the edition, the pressmen turned it over, changed the forme, and printed the other side in the same way.

So the setting and printing went on, sheet by sheet, until all were finished. Then the warehouseman arranged all the heaps of printed sheets in order on a bench, and took one sheet from each heap in turn, until at the end he had collected a copy of the whole book in sheets; and so on, copy by copy, until all the sheets were used up. Later the books were delivered to the binder, who folded up each sheet, sewed them together into individual volumes, and covered the volumes with paper or leather.

Printing houses of this period were of various sizes. A few were great establishments with ten or more presses, run by masters of discrimination and learning, but many were poky little shops with one, two, or three presses (and eight or ten workmen in all) with masters lacking all but the most rudimentary skills. Balzac, who had been a printer himself, describes at the beginning of *Illusions perdues* a provincial French printing house of a type common enough in eighteenth-century Europe: 'The whole of the ground floor was one large room, lit by an old-fashioned window looking onto the street and by a large sash-window giving onto an enclosed yard. It was in fact possible to get to the master's office by a passage at the side, but in the country the processes of printing always provoke such lively curiosity that the customers preferred to go in by a glazed door set in the shop-front and giving onto the street, even though this meant going down some steps, the floor of the workshop being below road-level. These gaping sightseers never took account of the difficulties of going through the shop. If they stared up at the arbour of sheets of paper hanging from the cords attached to the ceiling, they bumped into composing frames or knocked their hats off on the iron bars which braced the presses. If they were watching the nimble movements of a compositor as he gathered the types from the hundred and fifty-two boxes of his case, reading his copy, rereading the line in his stick as he slipped in a lead, they would run into a ream of wetted paper weighted down with paving stones, or knock their hips against the corner of a bench; all this to the great amusement of the 'monkeys' and 'bears' [compositors and pressmen]. No one ever arrived without some mishap at the two large cages at the far end of that gloomy room (which projected like a pair of wretched pavilions in the courtyard), the foreman

being ensconced in one of them and the master-printer in the other.' This master, with his three creaking presses and his 2,100 kg. of worn type, was an ex-pressman who, although illiterate, could 'estimate the price of a page or a sheet at a glance for any size of type. He would persuade his ignorant customers that large type cost more to pick up than small; or, if it was small they wanted, that small type was more awkward to handle.'[1]

Inspection of a book printed during the hand-press period demonstrates the result of these methods. A typical opening of the book shows two pages of text, the type somewhat old-fashioned in design and with the unfamiliar long ſ, often heavily impressed into a rough-looking paper. At the top of each page there is usually a headline, sometimes with a running (i.e. recurring) title reading across from the left-hand page of the opening (the verso) to the right-hand page (the recto), sometimes with a separate heading or title on each page; and at the outer ends of the headlines are the page numbers. Other layouts were occasionally used, but the arrangement described here was much the most common. In the sixteenth century many printers numbered the leaves (foliation) rather than the pages (pagination).

At the bottom of each page there is an extra line below the text, mostly blank but with the catchword (the first word of the next page) at its end; it is called the direction line. The top and bottom of the book are known as the head and tail respectively, and the front (away from the back, or spine) is the fore-edge;[1a] similarly the margins round the type on each page are called the head, tail, outer (at the fore-edge), and inner margins.

A closer inspection of the folds at the inner margins of successive openings (which should be carried out delicately so as to avoid damage to the binding) will reveal the sewing; and it may be seen that one or more pairs of leaves, joined to each other at the back, are held in place by a double stitch of thread running up the fold. The groups of leaves thus sewn together are known as gatherings, and each gathering will consist of one or more pairs of leaves joined at the back (they are called conjugate pairs), and will have been made from one folded sheet, or a fraction of a sheet, or from several folded sheets tucked one inside another (quired). Each gathering is identified by means of a signature—it is generally a letter or letters of the alphabet—placed in the direction line of its first recto and often repeated on subsequent rectos, the order of the gatherings being indicated by the alphabetical order of the signatures. As a rule the main signature series begins at the start of the text of the book, but in front of this are certain preliminary leaves or gatherings, such as the title-page (which may be preceded by a half-title), dedication, preface, table of

[1] Balzac, H. de, *La comédie humaine*, Pléiade ed. vol. iv, Paris 1952, pp. 469–70, 466, translated.

[1a] Binders rhyme fore-edge with porridge.

contents, etc. (The preliminaries were not included in the main signature series of new books because it was usual to print them last; reprints, however, sometimes began the main signature series at the beginning of the preliminaries.) The printer may identify himself, and record the place and date of printing, on the title-page by means of an imprint, or at the end of the book in a colophon.

Next the paper should be considered. It will be hand-made, rough-surfaced compared with modern book papers, and off-white in colour. If it is held up to the light it will show as watermarks a pattern of broad-spaced lines (chain lines) crossed by lines that are close together (wire lines), and some of the leaves may also contain a watermarked picture or legend. The edges of the leaves may have been trimmed smooth by the binder, or left rough (uncut); it may even be that they are still joined together at the folded edges (unopened).

Finally, the binding. Working from the inside outwards, there will probably be one or two leaves of blank paper at each end of the book, which are of a different colour or texture from the printed leaves; these are the endpapers, which were added by the binder. There may also be strips of printed waste, or even of vellum cut from manuscripts, used by the binder in securing the spine of the volume. Next come the boards, the stiff upper and lower covers that were made in early days of wood, then of pasteboard and finally of millboard, with a paper paste-down inside, and covered on the outside with leather or rough paper. Various skins were used for leather bindings—calf, goat, and sheep were the commonest —and the surface was often decorated with heated brass tools, either using gold leaf (gilt) or plain (blind). In bindings of the later hand-press period the title of the book was tooled on the spine, though an early book may also have the title written on the fore-edge in ink—a relic of the time when it was placed on the shelf the other way round.

Next we consider the making of the hand-printed book in detail; and begin with Gutenberg's central invention: printing type.