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Stephen O. Saxe, Editor

Following Isaiah Thomas: Casting Sorts in a Composing Stick

Our press was frequently in want of the necessary quantity of letter; and there was no trade as that of letter-founder in America. I had seen the practice of this art at the house of James, in London; but had at the time paid it very little attention. I, however, contrived to fabricate a mould. I made use of such letters as we had for punches, founded new letters of lead in matrices of clay, and thus supplied in a tolerable manner the wants that were most pressing.

(Benjamin Franklin, *Works of the late Dr. Franklin, consisting of his life, written by himself*. London, 1793.)

... during the time *Blutigen Schau Platzes* was in the press [1748-49] particular sorts of the fonts of types on which it was printed ran short. To overcome this difficulty, one of the workmen constructed a mould that could be moved so as to suit the body of any type not smaller than brevier, nor larger than double pica ... The best type they could select from the sort wanted, was then placed in the mould, and after a slight corrosion of the surface of the letter with aquafortis to prevent soldering, or adhesion, a leaden matrix was cast on the face of the type, from which, after a slight stroke of the hammer on the type in the matrix, we cast the letters that were wanted. Types thus cast answer tolerably well. I have often adopted a method somewhat like this to obtain sorts that were short; but instead of four pieces of brass, made use of an even and accurate composing stick, and one piece of iron or copper having an even surface on the sides; and instead of a leaden matrix, have substituted one of clay, especially for letters with a bold face.

(Isaiah Thomas, *The History of Printing in America*, second edition, Worcester, 1874, i, 288 footnote.)

Benjamin Franklin's comments on his experience as an impromptu type caster in 1727 are well known. Isaiah Thomas' are hardly known at all, since they appear only in a footnote in the second (1874) and third edition (1970) of his *History of Printing in America*. The need for casting sorts was acute during the Colonial era of this country, and it is not unreasonable to suppose that other printers, faced with an emergency, tried their hand at it. But I am not aware of any other accounts of the practice.

Recently, however, I had the opportunity to watch an experiment in the casting of sorts in a basement type foundry in Columbia, Maryland. The workshop, fitted up in fine 17th century style, is that of Stan Nelson, Museum Specialist in the Graphic Arts department at the Smithsonian Institution, and perhaps the most accomplished hand type caster and mould maker active today. Stan Nelson thinks more about the techniques of type casting in the 17th and 18th century than most of us do. Lately he has been concerned

with casting lead type in lead moulds, and when our discussion fell to Franklin's and Thomas' comments, he said that he had thought of a simple way to duplicate the process. At my urging, he demonstrated the process.

The stick chosen to serve as a mould must be square, clean and free of projections and perforations. (In this instance it was a Grover stick, the first American stick to receive a patent, in 1856.) The type to be replicated was a 24 point Garamond lower case "n." It was held in the smoke of a candle flame and coated with soot, which Stan explained served as a mould release and prevented adhesion (as did the aquafortis in Thomas' account.) It was placed horizontally in the bottom of the stick, groove upward, and the stick closed tightly around it. Then, to seal the open edge of the stick, a quad was clamped tightly against the opening with a C-clamp.

The next step was casting the matrix around the type (figure 1.) The metal used to pour this matrix was melted from leads and slugs; Stan explained that these contain less tin and antimony and therefore have a higher melting point than type, and this would help prevent adhesion. When the metal has cooled, the stick is opened and the original piece of type is found surrounded on three sides by the newly-cast matrix (figure 2.)

The matrix with its type is put into a vise and, using a hacksaw, that portion of the matrix at the foot of the type is cut off and removed. The original type, now free on two sides, can be freed from the matrix with a little manipulation (figure 3.)

The matrix, now an L-shaped piece of lead, has an exact intaglio replica of the face of the type at one end.

The process of casting duplicate types in this matrix now begins. The matrix is now coated with candle soot, taking care especially to cover the recessed portion that includes the letter. The matrix is returned to the composing stick, in the



same position as before. When the knee of the stick is closed around the matrix, the opening (corresponding to the mouthpiece or jet of a true type-mould) is at the top of the stick.

For casting the letters, this time type-metal is melted down, again to provide the difference in melting points that prevents fusion. The type-metal should be poured at the lowest possible temperature. With a steady hand, the molten metal is poured into the opening without stopping until the cavity is filled (figure 4.) After cooling for a few moments,



the stick is opened once again and the matrix and the newly-cast type are removed (figure 5.) A gentle pressure is all



that is needed to separate them.

If the face of the type is deemed satisfactory on examination, the final steps involve making it ready for printing. First a mark is scribed across the bottom of the type, allowing a bit over type high. In a vise, the hacksaw is used again to remove the jet. Then the foot of the piece of type is rubbed

across a file while being kept carefully square and vertical against the file. Some rubbing of the sides of the type may also be necessary. The rubbing, both of the foot and the sides, should be done with care; it is important not to take away more metal than necessary. The height of the type should be checked frequently with a type-high gauge commonly used by printers.



A comparison of the newly-cast type with the original shows that the new sort will "answer tolerably well." Of course, there is an inevitable degradation that must occur in the process, and continued use of the matrix and of the

nn nn

typefoundry

model letter will coarsen them. As a demonstration of the quality obtained, we printed the new letter twice: first, mixed with lower-case n's of the original font, and then mixed in a word composed of original types. In the first instance, the final letter is the sort. The proofs speak for themselves of the feasibility of Franklin's and Thomas' process, and of Stan Nelson's ingenuity.

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Warning: Typefounding with molten metal can be a dangerous undertaking. The description above is intended as an historical footnote, not as encouragement for the amateur to try his hand. Stan Nelson's demonstrations of traditional type founding are given several times a week at the Smithsonian Institution's Hall of Graphic Arts.

APHA NEWS

David Heisser of Tufts University, program chair of the 12th annual APHA Conference, has announced the details of this year's meeting. The conference will take place on Saturday, September 26th in Wood Auditorium, Columbia University, New York City. The theme of the conference will be *Government Printing in the Western Hemisphere: Technology, Design, Politics*. It will include papers on the history of printing by and for governments of the U.S., Canada, and Brazil since the 18th century, focusing on printing technology, design, postage, and the politics and personalities of government printers. Speakers will include Norman Manchewsky, Queen's Printer for Canada; James M. Bruns, National Philatelic Collection, Smithsonian Institution; Gay Walker, Yale University; Sarah Jordan Miller, Rutgers; and Laurence Hallewell, University of Minnesota. Registration for the conference, including morning coffee, buffet lunch, and reception afterward, is \$25 for APHA members (\$30 for non-members). For further information, contact Treasurer, APHA, P.O. Box 4922, Grand Central Station, New York, NY 10163.

OBITUARIES

Dr. James Eckman One of the best-known writers on the history of printing, Dr. James Eckman, died on April 28 at the age of 79 after a long illness. Dr. Eckman had been consultant to the Mayo Clinic on publications for many years, but is best known for his many articles on aspects of printing history published in trade magazines through the years. One of these publications was *Printing Impressions*; in 1965 the publisher of that magazine published Dr. Eckman's *The Heritage of the Printer, Volume I*, containing articles on composing machines, presses, and printers of America's past.

In addition to writing, Jim Eckman maintained a full amateur printing shop in his basement, including an Inter-type, presses, type and antique printing equipment. When your editor was engaged in collecting antique composing sticks, he found that Jim Eckman had been there before him – years before. He was proprietor of The Doomsday Press, and one of his important publications was the *Collectanea Typographica of Henry Lewis Bullen*, a bibliography of Bullen's articles in *The Inland Printer* from 1918 on. Dr. Eckman wrote a series of articles on Chicago type foundries and their specimen books for *Printing and Graphic Arts* in the late 1950s; part of that series, on the Union Type Foundry, was not published in *PaGA* and appears in the current issue of *Printing History*.

Dr. Eckman was a member of APHA and received our Annual Award in 1985. His lively talk at that ceremony is remembered with pleasure.

Brad Brownell Brad Brownell, the printer-curator of the Ben Lane Printing Shop at the Shelburne Museum in Shelburne, Vermont, died May 11 at the age of 44. His early work as a printer and typesetter in Vermont led to an interest in the history of the craft, and in 1984 he helped to establish the Ben Lane Printing Shop at Shelburne. He

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became the curator of the working historical printing exhibit and travelled throughout Vermont and New England in search of antique equipment for the shops. Benjamin Mason, Director of the Shelburne Museum, has said that the exhibit will remain open this summer, but that Brad's talent and dedication will be sorely missed.

Doc Leslie Well over a hundred of Bob Leslie's friends attended a memorial program honoring him on May 29th. The meeting, which took place at the Donnell Library Center in New York, was arranged by Prof. Herbert Johnson of RIT, and featured biographical excerpts from a videotape Prof. Johnson made of Doc a few years ago.

NOTES & QUERIES

To the Editor:

The purported daguerreotype in *APHA Newsletter* 77 certainly raises some interesting questions, doesn't it? Among them: Why is this compositor working at what appear to be empty cases? Why is his stick in his right hand – have we finally found the composing room's missing link, a "left-handed" stick? The date of his clothing aside, what is the evidence that he is an "American compositor" and not a French, British, or Transylvanian? And not least, could all this be a little leg-pull?

Wilbur Doctor
Kingston, RI

The Editor denies any propensity for leg-pulling. The comp is holding the stick in his right hand because the daguerreotype process, which did not use the intermediate negative of later photography, always reversed the sitter's image. The cases are at a steep angle, and the type they hold is hidden by the front edge of the compartments – and we would venture the guess that the cases hold a light font of display types that did not fill the compartments. As to nationality, the image surfaced in the possession of a man in New York City who said he'd found it at a flea market. American daguerreotypes are more commonly found at these than Transylvanian.

Peyton Reavis (La Prensa Antiqua, 7048 Skyway, Tucson, AZ 85718) seeks information about the history of the type case. "Who did it and when was the basic layout done?" He notes that cases at the Gutenberg Museum in Mainz are laid out just as lower cases are now. If this accurate?

BOOKS

Schreyer, Alice D. *The History of Books: A Guide to Selected Resources in the Library of Congress*. Small 4to, 221 pp., clothbound. Available by mail at \$15 from Supt. of Documents, U.S. Government Printing Office, Washington, DC 20402; include stock No. 030-001-00117-2.

Alice Schreyer, APHA's current Chairman of the Board, has written what amounts to a detailed guided tour of the collections in the field of book history at the Library of Congress. Its more serious purpose is to suggest research opportunities. The book is divided, logically enough, into sections corresponding to the units of the Library's collections. In the Manuscript Division, for example, are, among many others, the Thomas M. Cleland papers, the records of R. Hoe & Co. (press manufacturers), and the papers of Benjamin Franklin. The Rare Book and Special Collections Division contains the papers of Fred and Bertha Goudy and of Bruce Rogers.

The second part of the book deals with separate divisions and units of the LC: Copyright records, Law and legal literature, Geography and Maps. Music, and Prints and Photographs. Each deposit of papers is described briefly to give an idea of the holdings. At the end of each description references are given, and important books are illustrated.

Although the book is obviously of great value to anyone planning research in book history, it is also a most agreeable guide to a library of treasures.

A sampling of publications of interest to APHA Members

Hart, Horace. *A Bibliography of the History of Printing in the Library of Congress*. 468 pages, 8½ × 11 (in loose leaf binder). \$120 before publication July 1; price after that not announced. From Horace Hart, 6219 Canadice Hill, Springwater, NY 14560. (Contains about 4,000 titles in the LC, with complete information about each book as given on the catalogue card.)

Roberts, Jane W. *Printers' Formulas*. 19 pp., wrappers (comb binding), 4½ × 4½. \$4.40 postpaid from Jane W. Roberts, Box 151, Fitzwilliam, NH 03447.

This is an eminently useful book for the amateur printer, bringing together in one place many recipes for the composing room, pressroom, and bindery. All the formulas have been tested for effectiveness and safety. Impeccably printed on a Pearl press by the author, it is a gem.

Sir John Tenniel's illustrations to Lewis Carroll's *Alice's Adventures in Wonderland & Through the Looking Glass*. This book has been announced for the Fall of this year by MacMillan; it consists of prints taken from the original woodblocks discovered in a bank vault last year (See *Newsletter* 69.) About 200 numbered sets will be published, at a price of \$1,000 each. A prospectus may be obtained from Joshua Heller Rare Books, Inc. PO Box 70268, Washington, DC 20088.

Nicholson, James B. *A Manual of the Art of Bookbinding*, reissued from the 1874 edition, with 18 hand-marbled specimens by Iris Nevins. 310 pp., 8vo., limited to 300 numbered

copies, \$85 (quantity discounts available) from Iris Nevins, Hand-Marbled Paper, R.D. 3, Box 613, Sussex, NJ 07461. This was the first (1856) American book on binding.

TYPE & PRESSES

The Sterling Type Foundry (P.O. Box 50234, Indianapolis, IN 46250) has announced a new casting of type from matrices made by Andy Dunker. The type is 24 pt. Glyptic and 24 pt. Glyptic Shade. (Both were designed in 1878 by Herman Ihlenburg, the prolific type designer for the foundry

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of MacKellar, Smiths & Jordan.) For ordering information and prices, send a #10 stamped, addressed envelope to Sterling Type Foundry.

E. O'Connor (tel. 202-363-8922) has for sale a 7 × 11 Improved Pearl Press dated 1895, in good condition. Also available is a 7-case double type stand with type.

Dennis R. Bowles (Printing Services Manager, University of Rochester, Box 306, Rochester, NY 14642; tel. 716-275-2024) has for sale an 1875 7 × 10 Perfected Prouty Press (treadle operated). The press is in good condition.

Jenny Lawrence (285 Central Park West, New York, NY 10024; tel. 212-877-8040) has for sale a Craftsmen table model lever press, mounted on a stand of type cases, with type, composing stick, furniture, etc.

George S. Lowry (Swann Galleries, Inc., 104 East 25th St., New York, NY 10010; tel. 212-254-4710) is selling a Gordon Old Style 10 × 17 press, with treadle and several fonts of type and some miscellaneous equipment.

Leonard Karig (c/o Krieger, 3967 Sedgwick Ave. #17A, Bronx, NY 10463; tel. 212-548-0615 eves.) is selling an 11 × 14 Gordon press along with 44 cases of type and other equipment.

Dr. James Eckman's C-4 Intertype (Serial # 25,XXX) and his 10 × 15 C&P platen press remain unsold at press time. Both are in excellent-to-mint condition. Almost 50 fonts of mats go with the Intertype, and extra chases with the C&P. Contact Gary Hantke in nearby LaCrosse, WI at 608-788-5630.

BRIEFLY NOTED

Books Arts Programs A series of free demonstrations of processes in the art of the book are now under way at the Museum of New Mexico at the Palace Print Shop of the Palace of the Governors, Santa Fe. They include papermaking, binding, and illustration. Contact Pamela Smith or Judy Herzl, Palace Print Shop, at 505-827-6477.

Workshops in papermaking, marbling, and letterpress printing are offered in August at three Seattle artists' studios, with classes limited to six. Contact Don Guyot, Colophon Bindery, 1902 North 44th Street, Seattle, WA 98103; tel. 208-633-1759.