AMERICAN TYPECASTING FELLOWSHIP

NEWSLETTER

Number 32

The cover of this edition is a celebration of the antique typecut, often found stashed in dusty galleys in old-time printing shops, but rarely used. The cover was printed letterpress using mostly type cast at the Hill & Dale Typefoundry.

I emulated the Victorian nature of the cuts and chose VICTORIA ITALIC for the first line (a very old Lanston Monotype matrix font which I own). The "Newsletter" heading is 30 pt. ISPEN INITIALS. The original 18th-century Dickinson type foundry matrices are now owned by Dave Peat and the type was freshly cast from those matrices on my English Supercaster. The two doves are electrodeposited mats made by Paul Duensing from cuts originating from a font of FLOURISH ORNAMENTS No. 3, done by MacKellar, Smiths & Jordan and shown in the very first collective specimen published by American Type Founders in 1895.

"Number 32" is 24 pt. PASTEL, cast by Barnhart Brothers & Spindler of Chicago (the only type I didn't cast). The decorative element used to frame the cuts is 48 pt. No. 598, done by English Monotype.

I was surprised to find 17 of the cuts shown on the cover were offered by ATF "almost to the end," listed in their *Typographic Accessories* booklet as "typecast antiques." Theo Rehak says the cuts were cast from original matrices which were over 100 years old; such casting had to be done on ancient pivotal casters retained and used by ATF until the foundry was closed. These old matrices may have survived the ATF auction but most likely are now dispersed among four or five different persons.

These typecuts are very old images. Some are found in the *Book of Specimens* of MacKellar, Smiths & Jordan of 1869 (still available as a facsimile from Dave Peat), which is the earliest American type specimen book I have. They are also seen in *James Conner's Sons Electrotype Specimens of 1888*, re-published in 1972 as a facsimile by Morgan Press, Inc., New York.

The matrices I used in casting these antique typecuts were electrodeposited from original typecast ornaments gathered over the years. Some of the mats were made by John Carroll, one of the very first private typefounders. More were done by Andrew W. Dunker, who developed a very efficient electrodepositing and finishing facility in his tiny basement. Still more came from Paul Duensing, who electrodeposited them himself and added them to the work of Carroll and Dunker (Paul acquired their ornament matrices shortly before their deaths). I am the lucky one to have gotten most of Paul's ornament collection. Finally, some of the cuts were cast from mats made by the Triangle Type Foundry of Chicago. These matrices now are presumed lost.

The precise replication possible via electrodepositing assures that these images are virtually the same as those which may have been offered to the printing trade *over 180 years ago*. Pretty fresh and clear faces considering their ages, eh?

Cover letterpressed on a 10x15 Heidelberg windmill. All else is digital direct-to-plate on a Hamada B452 four-color offset press. Setup was done using Adobe InDesign software version CS3 installed on a Toshiba laptop PC.
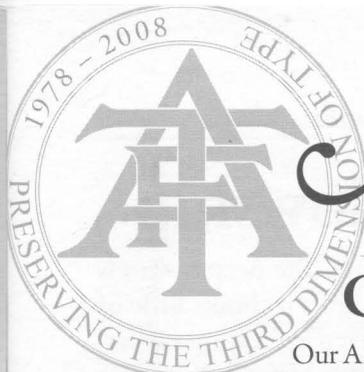
Conference Near St. Louis Sept. 11-14

Our AMERICAN TYPECASTING FELLOWSHIP will be celebrating its 30th anniversary Sept. 11–14 with its 16th biennial Conference, this year being staged at the Pere Marquette State Park Lodge at Grafton, Ill. (near St. Louis, Mo.).

Hosts for this year's event are Sky and Johanna Shipley of the Skyline Type Foundry. An all-day open house at the Skyline foundry is scheduled for Sunday following the Conference. It's a 30-minute drive northwest of the State Park.

A block of rooms is reserved at the Lodge at a special rate of $89.50 for Thursday, and $106.25 (plus taxes) for succeeding nights. You may make reservations by calling (618) 786-2331. To check out the facility, log onto the Lodge website at http://63.135.118.189/.

Please note that flooding during the early part of this summer has interfered with access to the Pere Marquette State Park. You are advised to consult the website (listed above) before finalizing your travel plans if the heavy rains persist.

A small number of dormitory-style rooms may be available at a "guest house" a few miles from the Skyline foundry. Contact Sky for details. Also, there is a Class A RV Park within the State Park complex, just a short walk from the Lodge. Call (618) 786-3323 for details.

Program Details to Come

Program details are not finalized at this time, but you can be assured this will be another lively meeting with heavy concentration on all the processes involved in making type—in close accord with our goal of *preserving the third dimension of type*.

Airline Connections

Those planning on flying to the Conference should head for the St. Louis airport and rent a car. The State Park is about 40 miles from the airport. If you are interested in sharing housing or a car rental, please let Sky or Johanna know so interested parties can be put in contact with each other.

Technical Sessions

As with previous Conferences, this meeting will be followed by "Thompson Tech III." Sessions will run from Monday, Sept. 15, through Thurs-

day, Sept. 18. These sessions will include hands-on typecasting experience with the Thompson caster, tailored for both current and prospective Thompson caster operators. The stated objectives are to share, preserve and perpetuate the knowledge and techniques of operating these machines—and to have a good time.

Great Northern Printers Fair

The Midwest & Great Northern Printers Fair, planned at Mt. Pleasant, Iowa, is an easy and scenic two-hour drive north from the ATF meeting place for those individuals who have stayed the week. The fair is scheduled Saturday and Sunday, Sept. 20 & 21, 2008. For late-breaking details, check this website: *www.oldthreshers.org*, then check the *Printers Hall* listing.

If You Wish to Attend

You must contact Sky and Johanna as soon as possible for a registration form and up-to-the-minute details, including Conference costs. Write to P. O. Box 5, Kampsville, IL 62053, or e-mail sky@skylinetype.com. Do this as early as possible to aid in planning for this year's Conference.

State of Our Typecasting Fellowship

The long silence between issues 31 and 32 serves to give the casual reader some inkling there has been something "different" going on with the publisher and editor himself, and that's absolutely true.

The passing of two of my long-time friends and close associates, Mac McGrew and Paul Duensing, plus the death of Chris Stern, have caused me to ponder the reality that our group is continuing to age and those still holding the banner high are beginning to waiver in their enthusiasm. It is true there's a new generation of typecasters on the scene and they are coming of age and hopefully will be able to carry the banner for years to come.

I have been involved in an internal battle with myself over the thought that the *Newsletter* was becoming nothing more than extended obituary. I wanted to give both Mac, Paul and Chris Stern proper reflection in this issue, but my internal dilemma created inertia.

A Book on Private Typecasting

Then along came Henry Morris of Bird & Bull Press fame and an intriguing proposal to do a book on the subject of private typecasting. Before I knew what happened, his enthusiasm absolutely infected me and I was enveloped by the task of recruiting individuals to participate in the project. The book is "on the press" now and promises to be a truly significant monument to our collective work and testament to the fact that a lot of exciting things still are happening in typecasting. Certainly typecasting isn't all ancient history—not yet. But pursuing this project has opened my eyes to realities which I had not previously focused on.

First was the realization that we who are casting type come from dramatically different cultures. Those who are tied to the goal of making ends meet (or even making a profit) of necessity must turn aside from the enthralling joy of doing things simply to exercise the skill and creativity so deeply rooted in our craft.

"Time is money," they say. The person who is a typecaster because he loves it thinks little of the time and effort involved in creating a specimen page for a book such as Henry's. But those with business motivations are more inclined to view participation as a cost which they coan not afford. Several of those whom we consider "members of our hallowed craft" are not included in the book for this reason. Even so, the book is scheduled to include over 200 pages showing the work of 16 different persons using their own casting equipment.

Significant Differences In Skills

Secondly, as Henry put it so elegantly, "All typecasters are not created equal." These latter days of letterpress have blurred the hardset rules of yesteryear with regard to building forms and doing things "properly." A person who works only on a Vandercook press doesn't know or understand the need for proper and consistent line justification and precise form buildup because he or she never has had the challenge of trying to lock up a form in a chase so it can be picked up and carried to a press—a Heidelberg windmill, a C&P platen, a Miehle Vertical or whatever. This huge variation in makeup experience has proved a real impediment to Henry's completion of the book, for he does the bulk of his work on a Mielhe Vertical and has spent countless additional hours reworking forms in an effort to get them to lift.

Henry is making solid progress in getting the books printed, and you can rest assured this will be another beautiful case-bound edi-

On the next page you will see five of the over 200 pages which have been submitted for inclusion in the Henry Morris book project, which now is on the press. These pages were submitted by Stan Nelson, Michael Bixler, Greg Walters, Phil Driscoll and Jim Walczak. Sixteen different typefounders have participated.

Missa votiva de SS. Nomine Jefu. clxj

ferent re- ges mu- nera.

Communio
de 2.
Q Ui confir- mat nos

in Chri- fto, & d

De- us; qui & fi

dedit pignus Spiritu

no- ftris.

ABCDEFG
HIJKLMNOPQRS
TUVWXYZ
abcdefghijklmnopq
rstuvwxyz

Typography may be regarded as consisting
of three parts, each distinct and indispensable:
punchcutting, founding, and printing.
the different branches produces artists
ferent kinds,
, the second founders,
d printers,
a knowledge of all three
to be styled a
RAPHER.

PARIS,
ux Caractères de
RE FOURNIER
le jeune
DCC, LXV.

THE STORY OF
GOUDY ORNATE,
THE TRAGIC LOSS &
DISASTROUS REVIVAL

GOUDY
LAYS AN EGG

BY
GREGORY J. WALTERS

NUMBER TWO IN THE
TYPOGRAPHIC
HAIRBALL
SERIES

Italian
ABCDEFG
QRSTUVW
abcdefghijklm
$12345678

36 Gallia est omnis
divisa in partis tris,

30 quarum unam incolunt
Belgae, aliam Aquitani,

24 tertiam qui ipsorum lingua
Celtae nostra Galli appellantur.

18 Hi omnes lingua, inftitutis, legibus
inter se differunt. Gallos ab Aquitanis

14 Garumna flumen, a Belgis Matrona et Sequana
dividit. Horum omnium fortissimi sunt Belgae.

IRISH HILLS TYPE FOUNDRY

OUDY MODERN
Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp

Our sycamore tree is beginning to
shed its leaves for the fifty second time in its life. When it
was around 17 years old, we moved into our home, and soon
a rabbit hutch and a garden shed appeared below the syc-
amore's branches. Now and then printing presses and type
cabinets rolled in and out of our basement, but when the
tree turned 34, a major event occurred. 🍃 Directly under
some of its long, graceful limbs a typefoundry building was
erected, and soon casting machines were moved into their
new home. The machines were fed buckets and bars of type-
metal and, in cold months, huge piles of wood were likewise
fed into a hungry woodstove. 🍃 Now, sixteen years later,
the tree has reached its 'golden' years. For us it has been six-
teen wondrous years of learning and fellowship with others
with whom we joined in an adventure of TYPECASTING.

Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz & . , : ; ' · ! ? ff fi
ffi fl ffl 1 2 3 4 5 6 7 8 9 0 $ See: Ars Typographica 1918.

tion printed on imported (some handmade) paper with an exquisite slipcase, measuring up to the Bird and Bull tradition of excellence which has been evolved over 60 years or more. The excited, aggressive way this octogenarian has approached this book can serve as nothing less than a great inspiration for us all.

The Great Need for Training

There still are many of us out there with great skills and we owe it to our craft to get off our behinds and make sure we do everything we can to pass along to the new generation the skills we so diligently learned during our lifetimes. With the help of many others including Paul Duensing, Roy Rice, Mike Anderson, Jim Walczak, Pat Taylor and Dan Jones, I have been able to offer seven sessions of Monotype University during the past 12 years. We have given "new horizons" to 38 persons during those years. Proudly, I make note that nearly half them have equipment and are casting type.

One of our grads, Sky Shipley, is carrying forward with Thompson Tech, with the third session set to follow the 2008 ATF Conference. That's very encouraging.

Do—And Write About It!

First, my advice to you is to not let that machinery in your shop get rusty. Go to the shop and use the equipment regularly. Find projects which need to be done and devote your time toward doing them as thoroughly and as professionally as you can possibly do. Don't rush the work and don't take shortcuts. Make your work an enduring testament to the skills you have. At each opportunity, when you find someone who wants to know about your work, make every effort to encourage and entertain this person. Invite him/her to spend time with you and be generous with your time and advice. The only thrill greater than printing something yourself is seeing such work produced by a person you have taught.

Several have encouraged me to continue with the *ATF Newsletter*. At the same time, most of you understand the time and effort in-

volved in producing the volumes I have done until now. I have resolved that in the future, if I continue, I will return to a true newsletter format. That will make the editions smaller; they will contain shorter articles and less typographic display, but hopefully they will be more frequent, and will do as much as possible to keep fanning the fire under the pot and continuing our lively obsession of typefounding. *

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* My personal definition of typefounding is quite broad. It includes everything from the ancient hand mold, through the pivotal caster, the Barth, Universal, all the various Monotypes, and n up to include the slugcasters such as Linotype, Ludlow, Intertype, Linograph, and . . . well, tell us what you're using. That'll be good reading for a future *Newsletter*.

What Kind of Printer Was Benjamin Franklin?

We claim old Ben to be our patron saint, but how much do we really know about his abilities as a printer? An essay by Lawrence C. Wroth included in The Typophiles book *Typographic Heritage*, published in 1949, gives us some excellent insight.

Ben got his first training from his brother James, whose printing was never anything more than adequate. When he ran away to Samuel Keimer's in Philadelphia, Ben described him as "a mere compositor, knowing nothing of presswork."

In 1724 he went to England and joined Samuel Palmer's printing house, a printer of genuine ability. Later Franklin moved to the printing house of John Watts, who was one of the printers who encouraged and helped finance William Caslon in typefounding. Franklin, an excellent student, learned an immense amount from all these individuals.

When he returned to the U. S., he put these new skills on the line and the superior quality of his work was instrumental in helping him win more business from that day forward. He was a good businessman, an excellent writer and editor, but above all, he was a very good printer!

On Smelting and Cleaning Type Metal

We have thoroughly demonstrated that 90% of the troubles experienced in casting type with perfect faces is due to the impurities in the metal. One of the hardest tests is the casting of shaded faces, and we have been able to cast shaded type from standard Monotype metal (without the addition of any extra tin) by first re-cleaning the metal with Monotype metal cleaner (detailed herein). Even new Monotype metal will not give as perfect faces as the same metal re-cleaned with Monotype metal cleaner.

Buy good metal and keep it clean if you want maximum production from the Casting Machine. A suitable means of cleaning the metal therefore, is quite as important as the furnace in which the metal is melted. While there are various fluxes on the market, the ingredients of which are not disclosed, these are of very little real value for thoroughly cleaning the metal because they are sprinkled on the surface of the molten metal. Never use rosin alone as a flux, for it makes the metal brittle and unless the rosin be thoroughly worked out of the metal, the Pump will stick and not work freely.

A metal cleaner should be placed in the molten metal at the bottom of the pot so that it may separate the dirt and dross and force them to the top, where they may be skimmed off.

The Importance of Mixing

Thoroughly mixing the molten metal is the secret of obtaining uniform results. Because type metal is a mechanical as well as a chemical mixture of lead, tin, and antimony, and because of the difference in the specific gravity of these metals, it is essential that the mixture be thoroughly stirred all the time it is in the molten state. Unless this is done, the lighter tin and antimony will rise to the top. Not only will an imperfect mixture result, but also a large percentage of these metals will be lost in the skimming.

Putting the metal cleaner at the bottom of the pot gives the required result because the moisture in the cleaner causes the metal to boil, stirring it thoroughly while the metal cleaner passes up through the metal, freeing the dirt and dross which will rise to the top, where they can be easily skimmed off.

This article was extracted from *Bulletin 131* and *138*, published by the Lanston Monotype Company, Philadelphia, sometime in the very early 1900s. The illustration is from *One Hundred Years, 1796-1896*, a very rare commemorative published by the MacKellar, Smiths & Jordan Company, Philadelphia.

We furnish Monotype metal cleaner properly prepared, all ready for use, in cans of convenient size.

Formula for Metal Cleaner

To those who wish to mix this for themselves, we publish the formula and the following suggestions for mixing:

4 parts, by measure, of beef tallow (beef fat, suet)

4 parts, by measure, of sal ammoniac (ammonium hydroxide)

1 part, by measure, of powdered rosin

Render the beef tallow (suet) in a kettle over a fire; stir constantly until all the fat is extracted, and the residue, called "crackling," turns to a light brown. Strain the hot fat through a cotton cloth and measure it to determine the amount of sal ammoniac and powdered rosin to mix with the liquid fat. Then, while the fat is still liquid add an equal measure of sal ammoniac and one-fourth as much rosin, by measure, stirring them thoroughly into the tallow. Continue to stir until the mixture hardens. This can be hastened by setting the kettle in cold water while stirring.

A Cleaning Rod

The cleaning rod is used to thoroughly distribute the metal cleaner through the molten metal. This is a metal rod, three and half feet long, with a cup on the lower end. In this cup are drilled 50 holes, $3/16$" in diameter. To use the cleaning rod, fill the cup with the metal cleaner (it holds about 2½ ounces) and plunge the cup into the metal down in the bottom of the pot. *Note:* The cup full of cleaner is sufficient to

thoroughly clean 1,000 pounds of metal. Do not use more cleaner than necessary. If 500 pounds of metal be melted at a time, fill the cup half full of cleaner.

Then stir the metal from the bottom of the pot, with the cleaning rod containing the cleaner, and thoroughly agitate the metal. As the metal cleaner melts, it passes through the holes in the cup, causing the metal to boil. Do not use the metal cleaner until the metal has reached a temperature of 750 degrees. While using the cleaner, light the dross on the top of the metal by throwing a piece of burning paper and continue to stir the metal until all the metal cleaner has been used, that is, until the metal no longer boils and the dross ceases to burn.

Skim in the usual manner with the temperature at 750 degrees. Then immediately lower the heat to reduce the temperature and pour in the usual manner.

Reclaiming Metal from the Dross

To one part of sawdust, preferably pine, put two parts of dross and mix these togther with a shovel on the floor. For sufficient of this mixture to fill the pot of a metal furnace, break up three ounces of metal cleaner (note the cleaning rod cup holds 2½ ounces of cleaner) into small bits and mix thoroughly with the sawdust and dross and put the mixture in the furnace.

Put on heat for an hour until the temperature of the mixture is from 800 to 850 degrees. At the end of an hour, the dross mixture on the top is fired (red hot) while the metal is clear white underneath

Now take the Cleaning Rod with the cup full of the mixture and force it to the bottom of the mixture, allowing the mixture to boil exactly the same as cleaning metal. Then skim off the lighter dross on top to a depth of about two inches. Stir again, allowing the dross to become red hot as before, and repeat stirring and skimming until all dross is taken off the top.

The clean metal is then run into pigs to be used as toning metal in the proportions of one pound of this toning metal (rich in tin and antimony) to about ten pounds of old metal.

Instructions for Casting Machine Installers

It's interesting to see how Lanston Monotype gave instructions to the men who represented the firm in the field as servicemen and installers. It gives clear indication of how times have changed! The paragraphs below came from a packet of LANSTON MONOTYPE TECHNICAL BULLETINS *published primarily for company representatives, composed in a tiny 3¾" x 6" format using 6 point type with no display whatsoever. I had never before seen such technical information until Richard Mathews of Tampa, Fla., showed me a stack of these bulletins which he had copied and saved, just for occasions like this. What is written here is not dated, but it is surrounded by other bulletins dating around 1917.*

The success of an installation is largely influenced by the impression the machines make at the start. Be sure you are right, and that all your instructions to the proprietor, plumbers or other workmen are given clearly. It is not enough to give instructions so they can be understood; they must be given so they cannot be misunderstood.

Remember that the impression the machines make will be influenced not a little by the impression the installation man makes. Above all, convince the proprietor that you are looking after his interests and pushing the work. Don't smoke about the plant. Don't stand around and look wise. Help all you can; not with an afraid-of-getting-dirty air, but put on your overalls and keep busy. Do all you possibly can to arouse interest in the machine.

When asked a question by proprietor or foreman, don't tell him the answer, show him. For example, don't say that a change of face and point size can be made in 15 minutes; show him that you can do it in 5. Most important, be prompt in starting in the morning, and never leave before quitting time.

Report daily to your home office and be particular to give the date the machine starts to cast type.

Remember that the test of an installation man's ability is the way in which the plant runs after he leaves. The test of an installation man's tact is the way the purchaser speaks of him after he has gone.

Other Interesting Sidelights

The same article indicated that every effort should be made to assure that all shipping crates be returned to Philadelphia. "Put the Keyboard box inside the Caster box, together with all packing pieces, bolts, nuts and washers."

It also said a work bench provided with a suitable vise (3½" x 1" jaws, heavy pattern) for removing the Pump-Body Plug and drilling the Pump Arm should always be in the Monotype department, located in close proximity to the Casters.

"This bench and vise are not a luxury, they are a necessity, and erectors should see that they are furnished," the article insisted. Air and gas connections near the bench also were recommended.

Cancer Claims Chris Stern, A True Letterpress Artist

Another shocking loss to our typecasting community came with the death of Chris Stern, who was an accomplished printer and designer and typecaster as well, operating "The Printing Farm" with his wife Jules Faye at Sedro Woolley, Wash. Chris was taken by colon cancer in November, 2006. He was only 56 years old.

Chris was in the first class of Monotype University, and put his instruction to work quickly at Stern & Faye Printers, getting involved in both a variety of display castings as well as composition work for book projects. He was a tenacious operator, unwilling to let any difficulty interfere with his drive to get the very best work out of his equipment.

Chris Stern displaying his Monotype U diploma in 1995. At the time he was being distracted by an impending attack by the family cat.

Though he had an extensive holding in Monotype equipment, his matrix library was somewhat restricted to what others would consider "mundane" American designs. But here is where Chris's outstanding design ability came into play. He was able to take such faces as Franklin Gothic and put them on a page in a manner to gain maximum attention and optimum design results—clear evidence that even the most ordinary typeface in the hands of a true designer can be made to gain dramatic and very attractive results.

Chris began his career in printing as a keyboard operator for Compugraphic phototypesetting equipment. He said such work proved totally unsatisfying, though he continued working in a photo offset environment for several years. Once he was exposed to the hands-on experience of preparing images via letterpress, he knew he had found his true calling and was bold enough to attempt (with Jules Faye, who also is an accomplished letterpress printer and designer) to sustain themselves with the income earned from the great variety of letterpress projects and commissions they undertook.

Stricken by his sudden illness with no insurance protection, an immense medical debt was incurred in the fight to save his life. The graphic design community has come to Jules's aid in many ways trying to help her out of this debt, though she admits she's still a long way from being free of the debt.

She has announced plans to downsize the printing studio and various other letterpress printers (including four other Monotype University graduates) in the Seattle area are working with her in an attempt to preserve the Monotype equipment and holdings.

A partial view of the Monotype facilities housed in the barn at The Printing Farm. Here are three casters, along with a big inventory of composition and display matrices. Photos were taken by Paul Duensing during a visit in 1999.
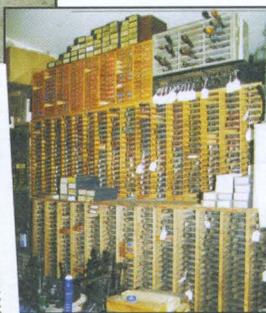
Piece done by Chris Stern to help celebrate Paul Duensing's 50th anniversary as a private printer and typefounder.

Greg Walters Acquires Equipment from Castcraft/Neon/Typefounders of Chicago

In July, 2008, Greg Walters of Piqua, Ohio, bought what was left of the casting department of this once-prominent foundry. It consists of ten Küco (Küstermann) casters, six of which should be readily operable. Mold sizes range from 8 through 72 pt. One machine even handles two drives: .070" and .090".

There are about 400-450 fonts of foundry-style mats which were all made in Europe. The faces are Helvetica, Optima, Melior, Palatino, Eurostile, Microgramma, Univers, Torino, Libra, and American Uncial. Unfortunately perhaps 20% of the mats are ruined because they got wet. European foundry mats have a casting eye in a zinc body, and the zinc cracks and warps as it ages, especially if it gets wet.

Greg is more than doubling his pole building to 80'x 64' to house the equipment near his home at Piqua.

Monotype Composition Matrices

A Preliminary Discussion

What follows is a thorough technical discussion of composition matrices as made for use with the Monotype Composition Caster, a device developed before the turn of the 19th century, perfected and offered on the open market around 1903. The Monotype was an aggressive manufacturing endeavor. Thousands of parts had to be cast in iron, milled out of steel, or punched into brass, and the mandate for precision in all these parts forced the company to do all its manufacturing in-house. Even screws and nuts had to be made in the Lanston Monotype plant in Philadelphia because of this absolute need for precision.

English franchise brings cash to American Company. To help underwrite this manufacturing endeavor, Lanston Monotype entered into an agreement to allow a separate company to sell the machines. The world was divided thusly: Lanston Monotype of Philadelphia would have exclusive rights in the Western Hemisphere (Canada, the U. S., Mexico, and South America). The new English company would have the rest of the world.

Made in the U. S. A. Until the early 1920s, all machines were made in Philadelphia and exported to the English company. But slowly the English company established its own manufacturing facilities. Though not hostile toward each other, the two companies did pursue independent and sometimes distinctly different paths. Even so, about 90% of the parts were interchangeable between American and English machines. Toward the end of its life in the 1960s, the American company stopped making equipment and imported machines from England. All hot metal activities came to an end in 1992 when the English company was disbanded.

The earliest Lanston matrices were very simple in comparison with what was later developed. They consisted of a block of bronze one-fifth of an inch square, about half an inch tall, and featured a single letter stamped into one end to a depth of 50 thousandths of an inch, a conical hole drilled into the opposite end (into which a conical "centering pin" entered to estab-

Face, cone-hole end and side view of original composition matrix.
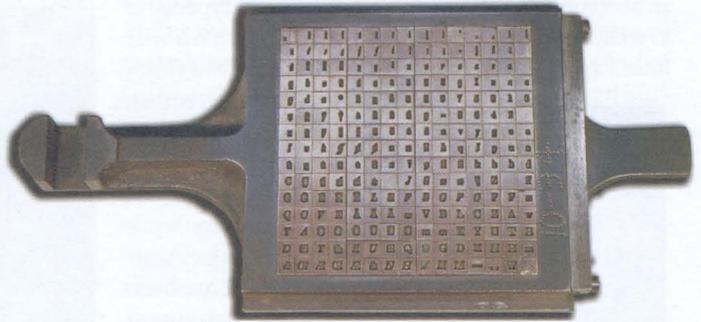
Front and back of a very early Lanston Monotype matrix case. The plate screwed on at the right acted to retain rods which went through holes in the sides of each matrix. Drive was .050". The shot showing the back reveals the matrices themselves. Four screw holes indicate a back is missing which protected the cone holes with some sort of shield as seen in later models. Look closely and you can see the steel rods at the bottom of the cone holes. This style of matrices was recalled in 1904 and replaced with Cellular-style matrices by the American company.
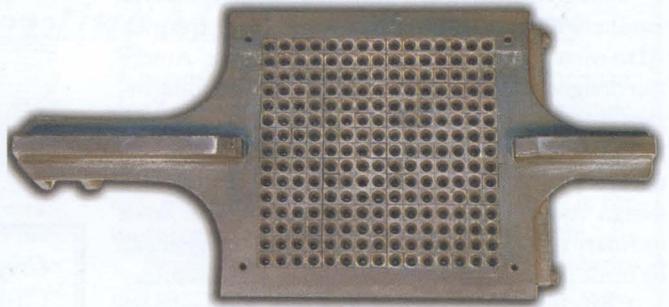
lish precise positioning over the mold during the casting operation). Finally, there was a round hole drilled through the side of the matrix and a steel rod passed through this hole to secure the matrix in the matrix case (sometimes called the die case).

Capacity of the matrix case. Initially, there were 15 rows of 10 matrices per row in the die case, or a total of 150 matrices. Shortly after introduction of the Monotype, the matrix case was expanded to 15 rows of 15 matrices per case, or a total of 225 matrices. This arrangement allowed for cap and lowercase roman, cap and lowercase italic, small capitals, roman and italic figures, ligatures and other necessary punctuation marks. This 15x15 arrangement remained standard throughout the history of the Monotype machine, although variations were developed expanding the matrix case to 15x17 (allowing cap and lowercase boldface to be added to the case arrangement), and later 16x17 (introduced by the English company) and 18x18 (Monomatic, developed by the American company).

Cellular matrices introduced. Around 1910 Lanston Monotype came to the conclusion that its matrices needed to be redesigned to infuse greater precision in their use and manufacture and to facilitate easier changes to be made in matrix case arrangement (changing available pi characters, for example), and to exploit a newly developed Mold, which

divided the body piece into two parts operating independently, allowing the simultaneous casting of lower spaces and quads. Prior to the development of this Mold, all spacing was "shoulder height," meaning the printer had to be very careful in inking and makeready to avoid the inking and printing of these high spaces.

The side hole was eliminated and a series of flanges added to this shape of the matrix to allow a steel gridwork to hold the matrices in the case instead of the steel rods. The new Mold allowed Lanston to reduce the "drive" of the cellular matrix from 50 thousandths to 30 thousandths. Apparently the company also felt the original centering pin was too blunt and thus, not always able to positively control matrix positioning. With elimination of the side hole, Lanston was able to make the taper of the Centering Pin much longer, projecting more deeply into the matrix.

Such a radical change must have been deemed best for everyone involved, for with the introduction of what the company called the "Cellular Matrix," manufacturing was halted on the older style matrices and, indeed, all those already in the hands of printers were recalled and replaced by the company.

Lanston made a very serious effort to get the older style matrices completely out of circulation but fortunately (so articles such as this can be illustrated), a few fonts did escape this purge, though it is likely few remained in use.
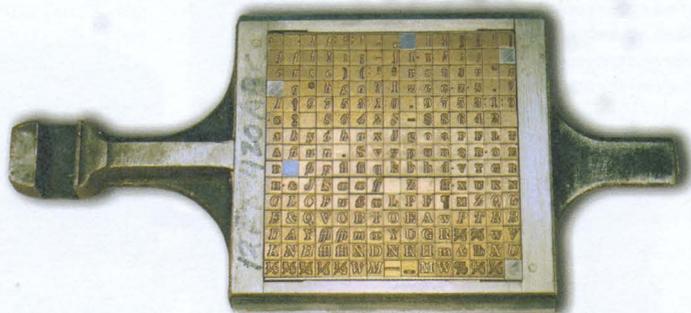

A typical 15x15 American matrix case as patented in 1905 and continued as the standard until the company ceased operartion in the late 1960s. Drive was .030". The back of the matrices was protected with a steel shield held in place by four small screws to guard against damaged caused by mis-alignment of the casting machine's centering pin.
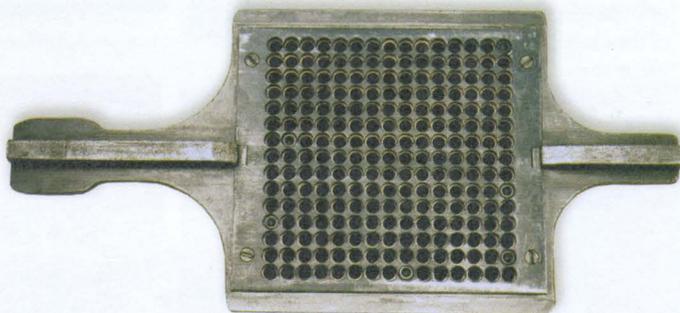
English company rejects the change. About the same time the Cellular Matrix was introduced by the American company, the English company was beginning to manufacture its own matrices. The English firm chose not to adopt the new Cellular Matrix and, instead, incorporated *some* of the "improvements" into its own matrices. A vertical steel rib was added to the matrix case, but the side hole was retained. The depth of drive was retained at 50 thousandths, but alignment was moved to the left a trifle to better accommodate kerning characters such as the f. Thus, from this point forward, Monotype users had to have unique molds and centering pins, and had to make alignment changes to their Bridges when switching from American to English matrices.

The American Cellular Matrix showing face, cone-hole end and side. Notice no side-hole and additional milling of sides to make room for the matrix comb between individual matrices.
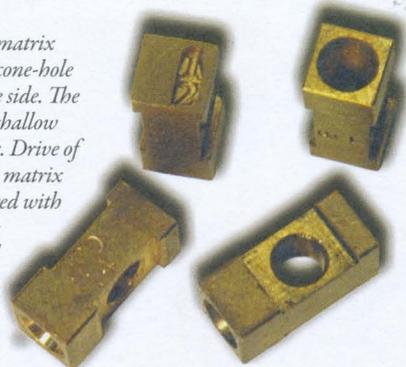
The English Composition matrix shown in four views: face, cone-hole end, flat side and side-hole side. The English cone-hole is more shallow then the American matrix. Drive of the matrix is .050", but the matrix was redesigned (as compared with original Lanston side-hole matrix) to allow for a steel supporting bar to go between matrices on the vertical axis.

An English 15x17 matrix case shown from front and back. At first glance it is difficult to distinguish it from one of American manufacture, for the mechanism for holding the matrices in the case is the principal difference. Of course, the English matrices have an .050" drive and the discerning eye can detect this difference.
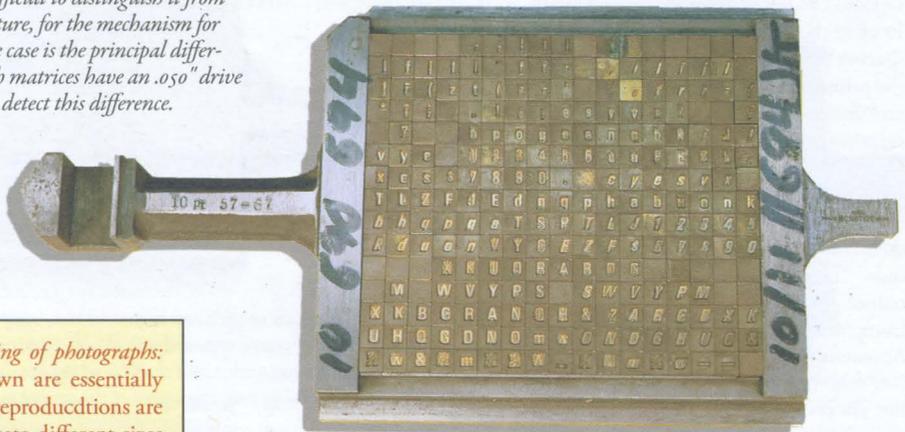
Note regarding sizing of photographs: All matrix cases shown are essentially the same size. Photo reproducdtions are not intended to indicate different sizes of the cases. The same is true of individual matrices shown. In most instances they are shown larger than actual size so details can be discerned.
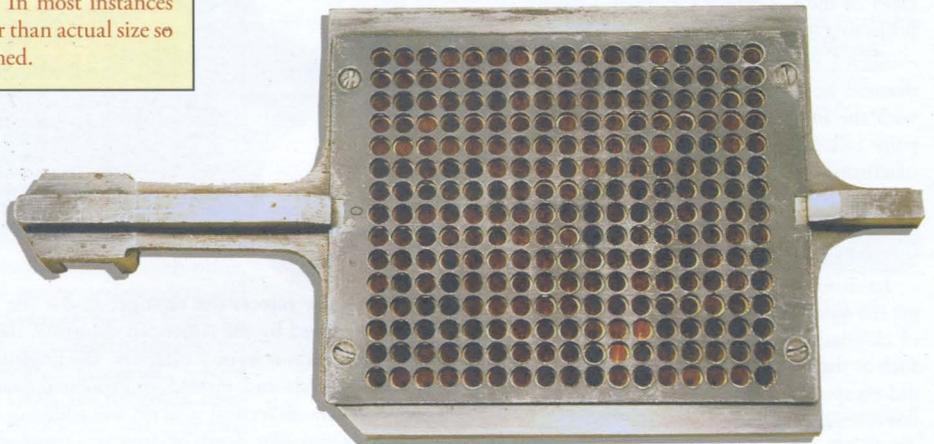
Viewed from the end, it is easy to detect the difference. The three matrix cases on the left are American. The three on the right are English, which show 15 holes along the edge of the case, the result of drilling in the sides of the cases to hold the steel rods which go through all the matrices and secure them in the case. The holes do not appear in the three American cases shown to the left.

A confusing mass of "hybrids." Probably until the end of World War II, very little "cross-the-ocean" matrix purchasing was done so these differences weren't too problematic. But after the War, as the English company got its aggressive type design program into high gear, a significant number of English matrices were imported into the U. S. To accommodate the U.S. market, the English company often offered its faces manufactured to the familiar American Cellular form. Often, too, the company offered its own side-hole matrices milled to 30 thousandths drive. And on other occasions, the English company allowed the American company to manufacture English designs in the U. S., of course to U. S. standards. Here's how it came to be possible to have the very same type face in four different configurations:

1. Times New Roman 327 manufactured as standard .050" English side-hole matrices by English company to English alignment.
2. Times New Roman 327 manufactured as English side-hole matrices milled to .030" depth by the English company, made to English alignment.
3. Times New Roman 327 manufactured as American-style Celluar matrices with .030" drive by the English company to English alignment.
4. Times New Roman 362 manufactured as American-style Cellular matrices with .030" drive made using English patterns by the American company to American alignment.

It is important to note that one *cannot* interchange matrices between these four variations.

The problem of larger point sizes. When the Monotype was first developed, the standard size for newspapers, etc., was about 7 point. But as things progressed, preferences migrated to larger and larger body type sizes. The standard composition matrix size of $^1/_5$ inch square was just barely large enough to accommodate a 12-point design ($^1/_6$ inch), but anything taller than 12 points, or wider than 12 points, created special problems. On wider characters, both companies often made the letters occupy the horizontal space of two matrices. On characters kerning excessively to the right, they made special "hangover" matrices which allowed the matrix to accommodate the kern and "steal" the extra space from the left edge of the matrix beside the kerning character.

Larger point bodies (13 and 14 point). Great minds were busy trying to figure how to accommodate type bodies larger than 12 points. An ingenious new mold was developed for 13 point 14 point called a "dog house" mold—so named because the top portion of the mold tapers in as the pitched roof of a dog house. Still a 14 point body, these molds were only 12 points wide at the top, meaning all 14 point characters in the matrix case which did not have descenders could still fit the $^1/_5$ square and be cast. Characters with descenders were made to occupy either two vertical positions, or "hangover" at the bottom, much as the too-wide characters mentioned previously. When called into play, the great velocity of the metal coming into the matrix would curve around the tapered portion of the mold and fill the face, casting a letter which appeared to have a flange at its uppermost portion. This system worked well and allowed a lot of 14 point to be cast using a standard caster setup and a matrix case which still could offer most (not all) of the roman and italic and small cap fonts users expected.

This piece of type was case in a "Doghouse" mold. Notice the taper at the top right edge and the letter itself hanging over this taper.
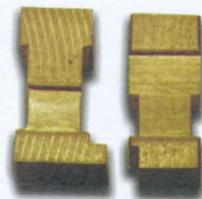
Overhanging and cutaway matrices created to take advantage of the Doghouse mold and yet not sacrifice positions in the matrix case.

Assembling mats together in a matrix case where some letters exceed the $^1/_5$ inch dimension becomes a true jigsaw puzzle. Notice the f exceeds both height and width. The italic j exceeds height but is made narrower to allow the wider f. The c and r are undersized. The parenthesis exceeds its size both at top and bottom.


Double- and quad-sized matrices were made when letters exceeded the single matrix width or height—or both.

Double mats on the vertical axis were necessary to accommodate long descenders in 12-point type. Notice the g and y at the top, and all the other descenders in this case. Accented characters also required double mats in 12 point and some other sizes.

Wider characters required double mats on the horizontal axis. Notice almost everything on the bottom row is a double mat, and three cap W's elsewhere also are double mats.
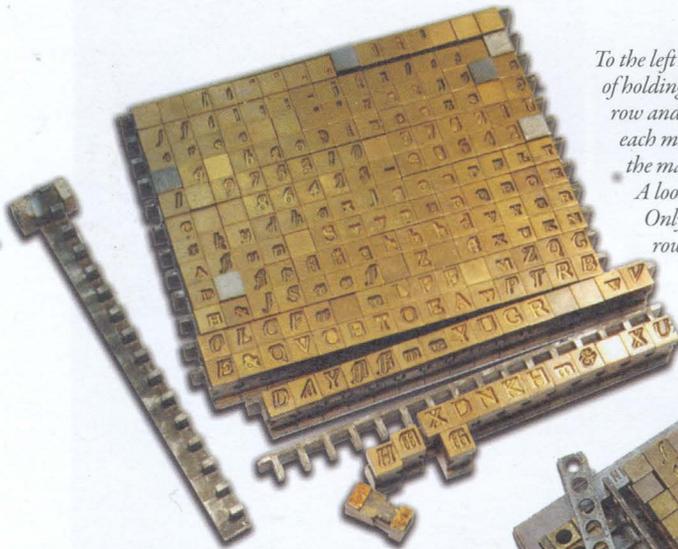
To the left is an American Mat Case opened up to show the method of holding the matrices. Steel "combs" go between each horizontal row and each comb has steel nibs which extend vertically between each matrix vertically, thus providing a four-sided frame when the matrix case is complete. Mats are loose on the botom comb. A loose comb is shown at left with a single matrix in place. Only the protruding ends of the combs are visible on all other rows of matrices.

The Matrix Case to the right is of English manufacture, opened up to reveal the horizontal rods which go through all matrices. Additionally, a rib also goes between all matrices on the vertical axis. One rib is shown on its side, another is loosely in position. This font of matrices is resting on a special tool English Monotype provided to assist in changing or manipulating matrices in the case, but even with the tool, changing mats in the case still is a tenuous process.
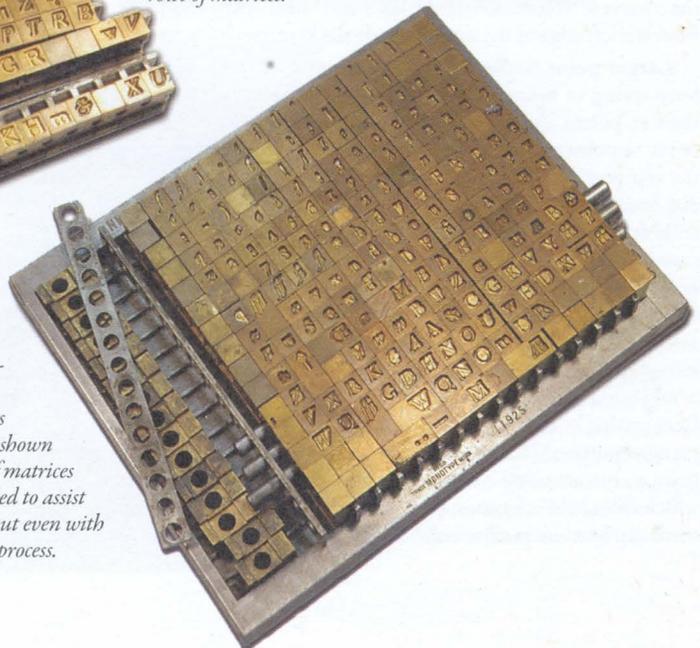
Large Composition Matrices

Even larger bodies (up to 24 point). The cry for even larger composition sizes forced Monotype to consider alternatives which would accommodate the larger matrices. In the process, the five-alphabet arrangement had to be abandoned and only a double (cap/lowercase) alphabet would be available, meaning the keyboard operator could not include an italicized word in his work—he would allow for the space and the italics would be hand-set and inserted into the form later on. Reducing the matrix case to one cap and one lowercase alphabet freed up sufficient room to allow matrices to occupy two vertical positions, two horizontal positions, or both. Generally this is referred to a "large comp" by Monotype people, and as noted above, faces up to 24 point could handled with such an arrangement. Both the English and the American companies manufactured large comp matrix arrangements.

English Large Comp Mats. The left two occupy four standard mat case positions. The two at the right occupy two. Mats are held in the mat case utilizing steel rods spaced ¹/₅" apart.

English and American Large Comp Mats are configured precisely the same. The only differences are where the identifying marks are stamped on the mats, and the depth of drive: Ameridcan .030" and English .050".

To the right is a "Large Comp" matrix case which reveals the limited alphabet range of such a case—generally only caps, lowercase and figures of a single style. Note also that all matrices conform to the 15x15 grid, as evidenced by the standard back plate on the matrix case (pictured below). Each character is an exact multiple of the ¹/₅-inch composition matrix with no "half sizes" allowable. This design was used both by the American and the English companies. American large comp mats were .030" drive and English large comp mats were .050" drive. Both utilized side-hole matrices, held in the case with steel rods.

The back plate of a Large Comp mat case is drilled out as if there were the standard 225 matrix positions. You can see the positions utilized are represented by cone holes. You also might notice the horizontal rods are visible through the cone holes.
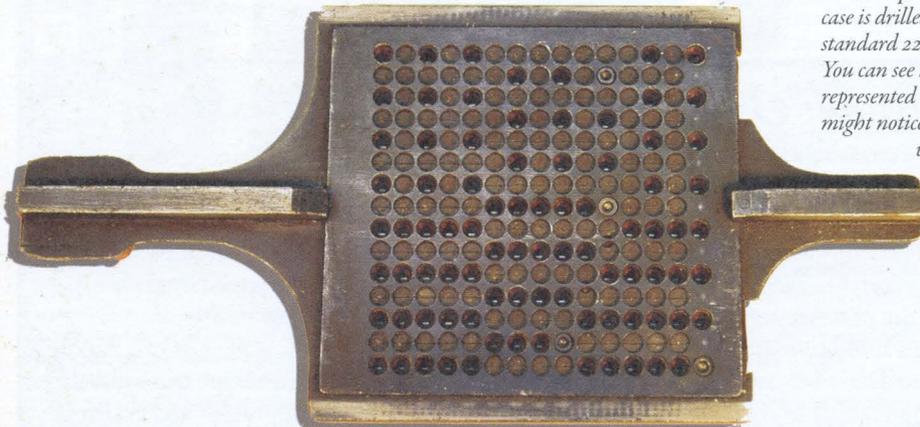
A failed American experiment. Lanston Monotype sought to retain four alphabets in the case offering larger sizes and came up with an ingenious idea of allocating space both horizontally and vertically in 1½-size matrices. Thus, the matrix case ended up having 10 vertical rows instead of 15. Some horizontal positions also were allocated for these 1½-size matrices.

Theoretically this arrangement was a good idea and, indeed, Lanston manufactured many designs to this configuration. However, the Monotype machine's character-selection mechanism construction was *fixed* at increments of 15. Though Lanston tried to retrofit devices to allow the machine to accommodate half-steps, such arranagements never worked well and instead, succeeded only at tearing up the machines—and matrices too. The 1½ matrix concept existed probably no more than 10-15 years beginning in the late 1920s.

The American company eventually *abandoned* this scheme in favor of the full-size multiples of large comp shown on the previous page. This would imply that the American plan was developed independently of the English large-comp idea and that once it was proven impractical, the Americans adopted the English plan. These are only assumptions—details and dates are now lost to history.

The failed American arrangement included 15 vertical rows and 10 horizontal rows. This meant that all positions along the vertical axis were 1½ steps when compared with the standard matrix case. The first seven rows conformed to the standard matrix case, but to further complicate matters, the wider matrices in the bottom three rows were 1½ steps wide too. These partial movements of the matrix case proved to be impractical.
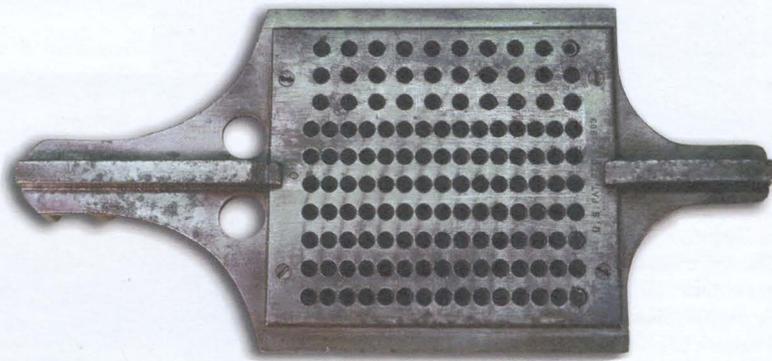
Matrices for the failed American experiment were oversized versions of the standard American Cellular matrix. They were .030" drive and had no side holes.

Notes Regarding Display Matrices Shown on Next Page

The critical question is whether you can cast type from matrices on hand. As you can see from the display on the next page, there are many different matrices available for casting. Three factors control whether they can be cast:

(1) Do you have the necessary mat holder?

(2) Do you have a mold to match the drive of the matrices to be used?

(3) Is the machine capable of handling the mold and matrix holder available?

There's no doubt the Thompson is the most versatile. In addition to being able to handle all the matrices shown 48 pt. and smaller, special holders and molds allowed the Thompson to cast individual types from Linotype & Intertype matrices, as well as from Ludlow matrices.

Perhaps the Supercaster is next. It can handle all English & American Monotype mats and also foundry mats if all components are available. Some Giant mats are too wide for the Supercaster.

Display Matrices for Individual Casting

All matrices are shown actual size.

7 Largest possible American Giant matrix 108 points wide cast sideways on 72 pt. body. .065" drive.

8 Electrodeposited matrix made by original Thompson Type Machine Company before absorption into Lanston organization. Made to Linotype (.043") drive.

9 American standard electrodeposited chamfered mat .050".

10 American standard chamfered matrix driven in aluminum. .050". These largely replaced the electrodeposited matrices after World War II.

11 Electrodeposited matrix made and sold by Baltimore Matrix Co., commercial mat-making wing of Baltotype. .050" drive.

12 Engraved in nickel for internal use only. Made by Baltotype. .050" drive.

13 Engraved in brass for internal use by Monsen Type Service, Chicago. .050" drive.

14 Matrix made for Composotype machine by that company before it was absorbed by the Thompson Type Machine Company. Drive uncertain, but probably .043".

15 Original foundry matrix made for hand casting and here modified for use on pivotal caster. Drive and dimensions vary from one font to another.

16 Original foundry matrix made before advent of American Type Founders. Drive and dimensions vary from one font to another.

17 American Type Founders electrodeposited matrix. Drilling on side makes the matrix usable with two different Barth-style casters. Drive varies from font to font. Dimensions vary greatly.

Legend

All matrices are 7 points (.096") thick unless shown with side view, which is provided to show unique configuration, where it exists.

1 English display matrix 1 inch square. Drive .050" except all over 36 pt. .065".

2 English display matrix 1¼ inch square for larger characters. Drive same as 1 above. Chrome plated copper.

3 English-style display matrix 1 inch square. Drive .050". Engraved in nickel by the firm Experto Industrial in India.

4 American Lanston flat matrix made for Thompson caster in 42 and 48 pt. only. Drive .050".

5 American Giant punched in aluminum 42 pt. and larger .065" drive. Matrix dimensions became larger as the image itself required.

6 Engraved (in nickel) matrix made to Giant Caster specifications by Baltotype.

Paul Duensing Touched Us All

If Paul Duensing hadn't signed on to help me put together the first meeting of typefounders back in 1978, the American Typecasting Fellowship might never have happened.

Stan Nelson and Pat Taylor also were instrumental in helping me put the meeting together, but without Paul's blessings, we never would have gotten started. Paul Duensing represented all the superlatives of our private typecasting craft. He was our mentor, our guide, our top cheerleader, and above all else, he was humble and soft-spoken and never sought center stage.

For nearly 40 years, I had the distinct pleasure of knowing and corresponding with Paul Duensing. He entered my life helping me research and write my book on the *Origin of The American Point System*, and his life ended with him still advising me and serving as the ultimate inspiration for all of my private press and typefounding activities.

His passing has left a huge void in our fellowship for Paul Duensing managed to touch us all. It's a shame the end had to come. Paul had so much talent and so many projects yet to do.

Paul was the first to volunteer for the faculty when I proposed "Monotype University" (the name wasn't mine, it was Paul's). He was such a great man, but always so modest, tweaked with a fantastic touch of humor. When asked what he wanted in return for serving on the faculty? "A faculty parking pass." And when it was time have graduation, he rushed to the piano and began playing (he studied to be a concert pianist, by the way, and put himself through college playing the piano in campus watering holes) his rendering of "Pump and Circumflex," a play on words so typical of Paul's conversation.

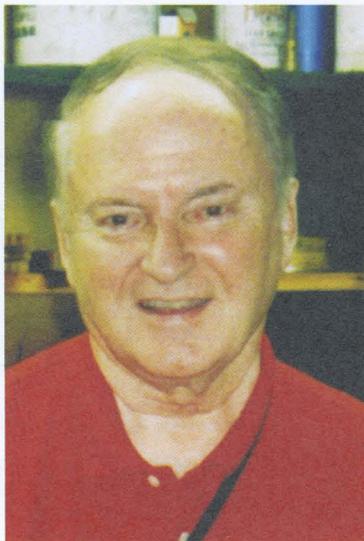*Paul Duensing (photo taken at the 1994 ATF Conference).*

Paul put massive research and time into projects where he perceived a need. He developed a thick manual on the Monotype system when he taught Monotype at Carnegie Institute of Technology in the 1960s. That manual he maintained, revised and enlarged as the years passed, and he brought it with him to Monotype University.

He receives all the credit for bringing together a massive and diverse amount of information regarding typefounding and matrix making, especially the technical aspects of matrices. He called his document a *Matlas*, and it is, indeed, worthy of the name. Therein he has brought together a mass of obscure facts which otherwise would have been lost forever. Those making Monotype matrices today can thank Paul for finding and delineating details regarding letter placement on the matrix, depth of drive, etc. His *Matlas* spans the whole range of typecasting equipment from American Type Founders standards to both Monotype companies, and the diverse other manufacturers of matrices over the years.

If Paul had a fault, it was that he viewed typefounding and private press activities with such great reverence. He loved and respected the equipment involved and deeply studied the allied processes from type design and type making to operating a Vandercook press. The texts he chose and his writing reflected a profound knowledge of English, as well as six or seven additional languages including Japanese, French and German.

The first hint of his fatal illness, Parkinson's disease, was noticed in 1997 when a group of us were touring Germany (a fantastic trip which Paul largely arranged himself). Having worked amidst doctors and pharmacists in his

❡ The Purpofe of the Private Typefoundry, then, is to make poffible a kind of typographic ecle&icifm vvhich vvould not othervvife obtain.

24 PT. NO. 13003   9A. 16A 824
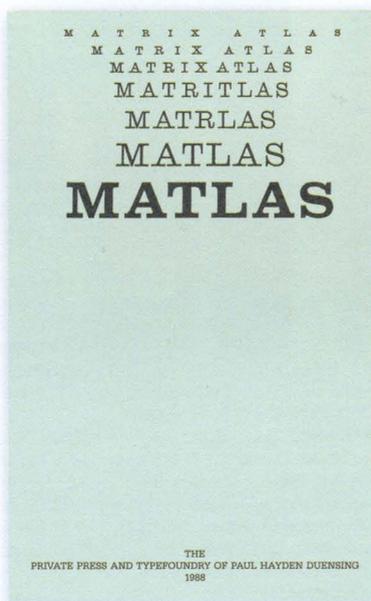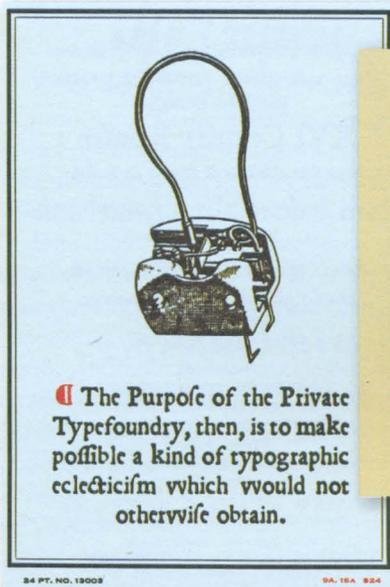
✠ **Rectitude: 1987** ✠

As Our Country and Our Times reel from the shock of one moral or ethical transgression after another, one should bear in mind one major positive fact: No hint of scandal, no self-serving turpitude, no microscopic deviation from complete probity has attached itself to the character or activities of the Private Typefounders of the United States. ✠✠✠ *Let him who is without Guilt cast the first Type!* ✠✠✠

Support them! Admire them! Cheer ✠ them on: they're All we've Got!

The Private Press and Typefoundry of Paul Hayden Duensing
A PATRIOT
AM 421

QUADRATA

A FOURTH-CENTURY LETTER FORM RECLAIMED FOR THE TWENTIETH-CENT. READER

ABOUT 1967 I EXPERIMENTED WITH A LETTERFORM CALLED 'QUADRATA' WHICH ORIGINALLY FLOURISHED IN SOUTHERN EUROPE BETWEEN THE FIRST AND FIFTH CENTURIES. MY FIRST VERSION (USED HERE), ALTHOUGH AUTHENTIC IN FORM, WAS QUITE DISAPPOINTING. RECENTLY, HOWEVER, RENEWED INTEREST HAS PRODUCED ANOTHER ATTEMPT TO RETAIN THE SPONTANEITY AND VERVE OF THE WRITTEN CHARACTERS.

professional job with The Upjohn Company, Paul was keenly aware of his prospects once the disease was diagnosed.

And thus, over his remaining years he made it his singular goal to properly dispose of all his equipment, placing machines, matrices, books and personal files with those individuals whom Paul considered worthy of carrying on in his absence. He didn't seek "top dollar," though his collection was priceless by all measures. His primary goals were (a) to make sure the equipment got into good and loving hands, and (b) to do all in his power to dispose of everything before his passing, thus freeing his lovely wife Ginger of such a fearsome task. I am happy to report he succeeded splendidly.

It is altogether fitting that the book now underway commemorating private typecasting, to be published by Henry Morris's Bird and Bull Press, is dedicated to Paul's memory and many of Paul's proprietary designs and other favorites have been utilized and displayed by the various participants.

Paul was the moving force behind so many significant projects. He's the one who arranged the photography and got the color separations made for that marvelous and treasured poster depicting the hand mold and William Caslon's Specimen, done to commemorate the second ATF Conference held jointly with the Printing History Association and ATF at Oxford, England.

Being fluent in German, Paul took great interest in bringing to the English-speaking audience some of the more remarkable German texts. One in particu-

lar comes to mind, an ambitious 11¾x17½ book of 24 pages showing woodcuts of all phases of the typefounding trade marvelously illustrated by Karl Mahr (1890-1949) accompanied by Paul's careful English translation of the original German text. First published by the Bauer Type Foundry over 50 years ago, Paul hand-set his translation in his beloved Wilhelm-Klingspor Schrift, and carefully retouched Velox copies of the original woodcuts. His careful mechanicals were eagerly taken by an academic institution here in the U. S. with a pledge to publish the volume.

Paul waited patiently for 10 years but nothing happened. Knowing his illness was deepening, he had to beg that the boards be returned so he could publish it himself. By then yellowed and starting to fall apart, together Paul and I rebuilt the mechanicals and the volume was completed in 2000.

TYPE SPECIMEN BIBLIOGRAPHY

PRIVATELY PRINTED
KALAMAZOO
1972

Paul was a patient person, but he also had an abiding determination to see projects to completion. He collaborated with Hermann Zapf for over 20 years (starting in 1971) in the development and completion of Zapf Civilite, a face for which Paul engraved all the matrices. And of course, Paul also developed several type designs himself, some of which are shown herewith.

There's so much more which should be said about Paul, but no matter what is done, my efforts will fall short. Let me conclude, then, by saying simply that Paul Duensing was our greatest inspiration and his passing is something which will be lamented forever by those eager to pursue the ancient and honorable craft of typemaking in all its ramifications. He died November 9, 2006, at the age of 77.

Above: About half of the diverse fonts Paul created or modified over the years. To the left is the Zapf Civilite font which he engraved.

Students, faculty and guests gathered to salute Paul Duensing (seated with cane) during Monotype University 5 in August, 2003. This was Paul's last session of MU, having been there from the start. SHOWN SEATED Paul Brown, Paul Duensing, Rich Hopkins. BACK ROW Pat Taylor, Craig Malmrose, Bryce Knudson, Scott King, Brian Bagdonas, Lisa Beth Robinson, Sky Shipley, Howard Bratter, Dan Jones. MIDDLE ROW Greg Walters, Stan Nelson, Dave Peat, Mike Anderson, Jim Walczak, Rebecca Gilbert, and Ian Schaefer.

Be Patient When Starting Up a Caster

What follows is a rather non-technical discussion of running a casting machine, designed to give the novice operator a better knowledge of what he or she should be expecting with regard to the quality of the work being produced.

One might assume a machine is ready to go the moment the pot gets up to the proper temperature (which would range from 680 to 750 degrees depending on the size of the type, etc.). There's no doubt you can start making type at that time, but be aware you'll not be happy with what you're getting. Most likely the face of the types will appear "frosted" and the bodies will give a very uneven and stratified appearance. Especially with electrodeposited (copper) matrices and composition matrices, there will be a tendency for metal to cling to the bearing surface of the matrix. As casting ensues, the buildup increases ultimately causing the type itself to get "fins" around the top edges of the letters. This is especially true when you're using composition matrices. First types cast from them often have "fins" and lousy faces and after only a line or two you'll find a lot of metal adhering to the bearing surfaces of the mats themselves.

This, of course, is very frustrating and you are inclined to start the routine of adjusting the bridge, thinking there's not adequate contact between the mat and the top of the mold. This can not be ruled out, but there's a more likely answer: *cold matrices.*

An excellent practice is to get the machine up to heat, turn the pot up into position under the mold, put the mat case or the mat holder in the machine, and then let everything sit for half an hour. This gives the mold opportunity to heat up, and also gives the mats a chance to absorb some of the radiated heat.

I can't count the number of times over the years when I have proceeded too early, producing marginally acceptable type. And as my work continued, the quality of the type being produced improved immensely even though I had done no readjusting of the machine. The type got better as the machine got warmer, so much so that often I have found myself discarding all my first 30-40 minutes of work and casting it over. If I had not been in such a hurry to get started—if I had allowed the machine to get nice and warm—I would not have wasted that initial effort.

With the Composition Caster I often have blamed the fin problem on "lousy mats" or "worn mold." As I continued to cast, I would have to stop and clean the mats after every few lines. Then almost miraculously the fin problem would go away

and the intervals between cleaning the mats would improve to where half a galley or more could be cast with no stops to clean mats. Metal tends to adhere to cold mats. If the mat case is so hot you *can not* hold it in your bare hand, that's a good sign it's now warm enough for trouble-free casting.

So the recommendation? Don't be in a hurry to start casting. Close the machine up so all components are very close to the hot pot and let that heat radiate through the entire caster for more than a half an hour. You'll start off making much better type, and you'll not get so frustrated either.

By the way, these hints are valid for the Composition Caster, the Sorts Caster, the Supercaster and the Thompson. Always let things get warm before starting to cast.

Casting "Mortised" Characters

We who run Monotype equipment think we are the first to think of doing things like casting capital letters to narrow sets to effect kerning for combinations such as "We." I've done it for years but had never seen a published guideline until one of our readers forwarded this comment published in *The Printing Industry*, dated March, 1937.

"When casting display type 18-point and larger, cast the capitals A, F, L, P, T, V, W, and Y on a narrower body than standard width. Line up a cap P to hang over the cap A so that it is snug. About one-fourth of the above-named capitals should be the proper proportion to a case. You will reduce mitering time on the floor. Those overhanging characters do not break off if properly locked."

The hint was submitted to the magazine by Charles Broad of Detroit, Mich. You may recognize that name as being the man who later moved from Chicago to Phoenix and became known as "Mr. Antique" by reviving numerous Victorian typefaces at his "Typefounders of Phoenix" in the 1960s.

Mac McGrew Truly Knew His Type!

Saying goodbye to Mac McGrew is difficult. He was no stranger to the pages of this publication. His article "My Life with Type" was published in the *ATF Newsletter* 24 (November, 1999). He attended a few of our biennial conferences, and although not a typecaster himself, he probably knew more about type than . . . well, anybody! I had known Mac since way back in the 1960s. While he was still working in the advertising agency in Pittsburgh, he hosted more than one group of my students (I was teaching at the time) during their field trips to Pittsburgh to visit (a) the agency, (b) a typographer, (c) a photoengraver, (d) an electrotyper, and (e) a small commercial litho shop. I doubt any of those business exist today.

Mac was a quiet person who loved the work he did. Early on, he realized he had a great need for additional information about type, because he was buying it on a regular basis from a variety of sources for his agency's many clients. You must be reminded that back then, the only option was hot metal and if an advertiser specified Trajanus as the font they wanted to use, Mac had to find it quickly, and get the job set. Though there were several typog-

Photo of Mac as shown on the dust jacket of his book.

raphers in Pittsburgh, he often had to go all over the country to find typographers with enough type to set the job in question—sometimes pooling the resources of several type shops in different cities!

That need was the inspiration for Mac to start gathering little 3x5 cards with detailed information about the various hot metal fonts. Those cards ultimately served as the foundation for his triumphant book—a lifetime of work—*American Metal Typefaces of the Twentieth Century.* I am certain there's no other source of information about type as extensive and thorough as Mac's book. His love for the subject sent him in all directions seeking details. He spent time at American Type Founders, he talked with many type designers and type directors, gathering first-hand information that is recorded nowhere else.
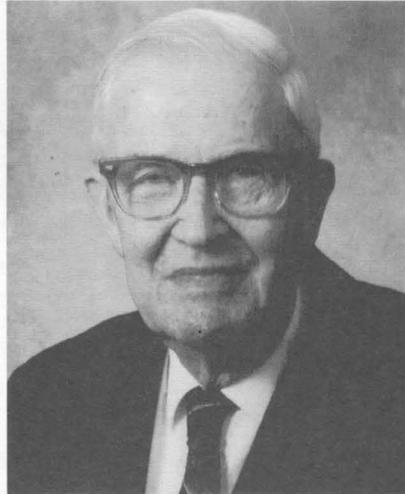
Obtaining adequate specimens of the various faces took many, many years and the help of so many people who still are associated with our Fellowship. Mac didn't have the instant ability to scan, touch up, reduce or enlarge, etc., which those familiar with computers today take for granted. Each step was an agonizing effort to preserve fidelity and the high quality of his book is a great testament to his insistence on quality and his perseverance.

His almost infinite knowledge of the details involved in hot metal typography is evidenced by this off-the-cuff statement he made to me one afternoon. I paraphrase: "You know I always had a particular affection for Monotype Baskerville. I know the American version was largely adapted from the English version, but even so, I preferred it because the English setup mandated a 19-unit EM and that made things much more difficult for the keyboarder, especially when working with tabular

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BENTON   ATF No. 566

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz.,-:;"!?)&
$1234567890 Pack my box with five dozen jʊ

Designed by Morris F. Benton, as a modern interpretation of traditional types, combining refinement and legibility. Introduced in 1933 as BENTON, the only one of more than 200 faces by this designer to be named for him. Discontinued after a few years, then reissued 1953 as WHITEHALL. We prefer the first name.
Held at The Press of the Licorice Cat in 8, 10, 12, 14, 18, 24. Wanted: 6 and more 8 & 10.

THE PRESS OF THE LICORICE CAT
Mac McGrew, 181 Mt. Lebanon Boulevard, Pittsburgh, Pa. 15228 ☎ 412-563-4074—APA 521, AAPA 2-83

Mac seemed to favor this face chiefly because ATF chose not to allow it to carry Benton's name. This is one of many specimens Mac printed for hobby printer friends over the years, and is representative of his conservative design style.

material in financial work—which we often did." He not only knew the trifling differences between the two versions, he also understood their ramifications in the work-a-day world of typesetting.

I relate another incident which will give you a better feel for how dedicated Mac was toward getting precise details on everything. He and Laura were visiting Terra Alta for an annual family gathering of Laura's clan at nearby Alpine Lake. Mac put in his appearance at the gathering, but then excused himself to come and visit me. We were talking about the progress of his book and somehow got to the issue of Linotype faces. "There are so many holes in my information about Mergenthaler's early offerings," Mac told me. "Surely you've checked their 1915 specimen book?" I inquired. He stood there bewildered and confessed he did not know of the volume.

Immediately, I pulled it (a huge volume about 3 inches thick, landscape format 13"x 8¾") from my shelf and handed it to him. He was amazed that he'd not known of its existence. Thereupon he excused himself to an easychair for over an hour of intense study, complete with pencil and notepad. I went to my shop to allow him to concentrate on his work.

Finally, he came to me and apologetically informed me that he absolutely had to take the book back to Pittsburgh so he could thoroughly digest it. I agreed and I believe he had it a little over a month. When he returned it he said the book had allowed him to fill in virtually all his unanswered questions.

I am certain this sort of thoroughness was represented time and again with anyone and everyone who had any knowledge of type. That's the stunning essence of his book. I've already said it was Mac's lifetime accomplishment and I fear the world simply doesn't realize what a seminal accomplishment the volume really is.

Mac and Laura raised two children and lived many years in Mt. Lebanon. He rode the trolley to work each day and was quite involved in the Pennsylvania Trolley Museum. After retirement they moved to a retirement village where home upkeep, etc., would no longer plague them. It was then when Mac disposed of his small shop of marvelous fonts.

Laura preceded him in death and he once referred to the village where he lived as "God's waiting room." Sadly, macular degeneration caused Mac's eyesight to diminish to the point where reading was no longer possible. But as long as he was able, he always was willing and anxious to help anyone with a typographic question. He was 94 when he died in 2007.

This is one of hundreds of articles on type written by Mac over the years. This one, published in 1978 by the International Typographic Composition Association, might have been Mac's copy, but I doubt he approved the display, a jumble of Benton's Hobo, Stymie, and everything else.

PERSPECTIVES:
BY MAC McGREW,
TYPE DIRECTOR, KETCHUM,
MacLEOD & GROVE, PITTSBURGH

THE BENTONS FATHER & SON

Typefounding and typesetting in the 1880s were essentially the same as they were when Gutenberg invented movable type more than 400 years earlier. Machines had replaced hand methods for actually

LINN BOYD BENTON

MORRIS FULLER BENTON

Linn Boyd Benton had started his working career

workable model was completed in 1884, and the

joined to form American Type Founders Company. Benton, Waldo & Com-

Master of the Monotype Computer Interface

The Hill & Dale Private Press and Typefoundry enjoyed a brief but delightful visit with Harry McIntosh of Edinburgh, Scotland, in late May. The whirlwind meeting included a brief visit to the Hill & Dale shop, a demonstration of Harry's latest version of his computer-driven Monotype system tagged MacTronic, and lots of talking and visiting.

Harry was in the United States with his wife Dianna, visiting Harry's sister in Waynesboro, Va., when the decision was made to make a day trip to Terra Alta. The distance was greater than anticipated, which reduced the amount of time they could spend at Terra Alta. Nevertheless, it was a great opportunity for two Monotype nuts to get together and talk—Monotype.

I first met Harry when he was a guest speaker at the ATF Conference at Buena Park, Calif., in 1998. At that time he demonstrated his CPM-based system which he was using on a daily basis to generate Monotype composition for many clients.

Several persons associated with our Fellowship have attempted interfacing the Monotype with the computer, but it's my studied opinion that no one has mastered the process as thoroughly as Harry. He says his MacTronic system finally is to the point where he is willing to consider selling it to others and this is a most encouraging development.

His principal advantage is more than 40 years of solid Monotype keyboard and casting experience, which afford him very thorough knowledge of the Monotype systems capabilities. He has combined his profession as a Monotype operator with an intense hobby of dabbling with computers and programming.

Harry's adventure began while the English Monotype company was still functioning. He spoke with them about the logical step of interfacing with a computer, but the approach they took was both expensive and extremely limited. In 1982 the 272 system was introduced by English Monotype. It was totally oriented to mimic the Monotype keyboard and. had *no facility for importing text from files already existing*. There was an unwillingness on the part of the corporation to endeavor to develop a more practical interface. "Well, I'll just have to develop my own system," Harry resolved.

His first successful work involved a CPM computer driving jerry-rigged keyboard components to
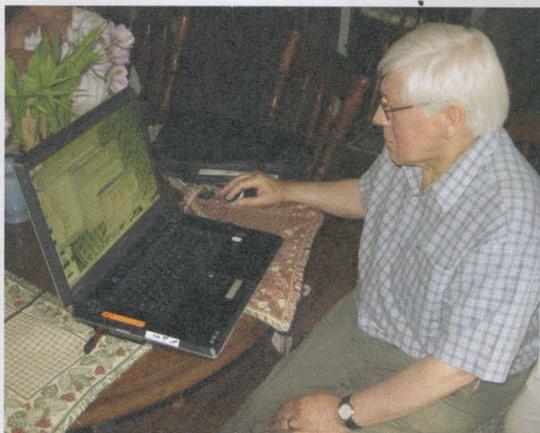
Harry McIntosh demonstrated his entire Windows-based program using a laptop computer.

punch a Monotype ribbon. That system has evolved now to being Windows-based, and fully capable of extracting text from files prepared either for a word processor, or for popular modern-day graphics programs including Pagemaker and InDesign. One has the option of either punching a ribbon, or driving a caster directly from the computer.

If you have investigated the complexity of writing software for Windows, the enormity of Harry's accomplishment is much better understood.

To better focus on the great refinement of Harry's software, one must understand one of the basic functions of the Monotype caster—its ability to produce spacing and/or characters with widths modified from those pre-defined by the normal wedge. Character widths are controlled by three separate wedges. The normal wedge, the fine justifying wedge and the coarse justifying wedge. With all three wedges in play at the same time, one can cast a letter to precise values either narrower or wider than otherwise specified by the normal wedge. That is how the Monotype system is able to accomplish such feats as letterspacing small capitals, composing lines with word spacing less than the minimum unit value (generally four units), or even bringing specific character pairs closer together (kerning). All this can be accomplished at the Monotype Keyboard, but it is a major exercise in memory and calculation, further complicated by the fact that there is *no visual preview* of what has been accomplished once keys are pressed, and no

chance to correct a mistake. Old-time keyboarders mastered these processes, but I'm convinced *they all were geniuses.*
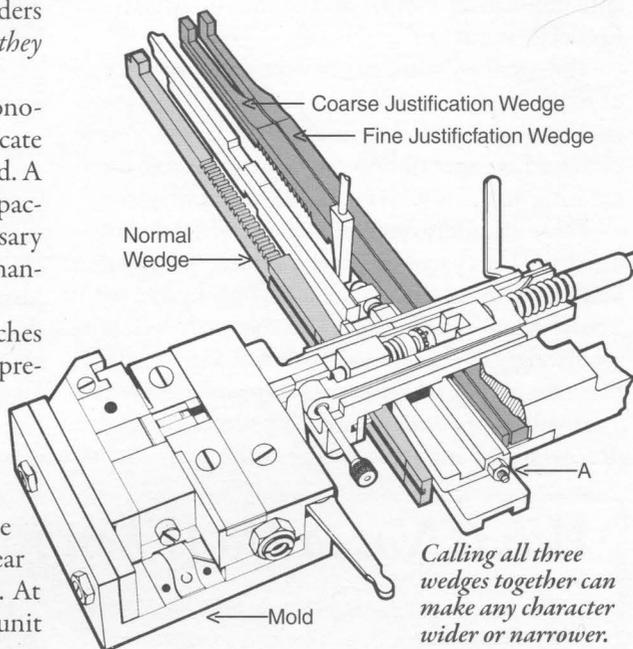
Harry knows and understands how the Monotype system works, and he's been able to replicate these processes in the software he has developed. A simple computer command will initiate letterspacing, for example, with all the calculations necessary for proper word spacing and line justification handled by the computer.

He has a routine which automatically searches for ligature conditions and substitutes the preferred ligatures as appropriate.

As the Monotype system evolved, often characters wider than the maximum allowable by the normal wedge were accommodated by underpinning such characters with requisite high spaces. For example, the "W" might appear in a unit row of 15 though it is 20 units wide. At the keyboard, the operator knew to key a five-unit high space prior to keying the "W" to get the appropriate letter width. With Harry's system, these conditions are delineated with the entry of matrix case arrangement information into the computer. Thereafter, whenever affected characters are called in the manuscript, the needed high space will be inserted automatically. The routine comes into effect only when it is called for by the matrix case arrangement. Thus, changing a manuscript from one font to another does not require removal or addition of coding for these conditions within the text itself.

In these later days of Monotype operation, often one finds himself not having the necessary normal wedge. Perhaps you have one which matches except for one unit row? Harry has established a routine which will work around the situation. Whenever a character is called from the erring row, his program will call for needed coarse and fine wedge settings to reduce or increase the width of that wedge position to cast the character to its appropriate width. This does slow the caster because changing the width of the character requires five revolutions of the machine instead of one,* but excellent work is a result; otherwise, using the Monotype Keyboard, the work would be impossible.

Kerning characters are handled in the exact same way. To tuck the "e" under the "T" might require

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* In one revolution the caster turns off the pump and repositions the coarse justifying wedge. The second revolution sets the fine justifying wedge and turns the pump back on. The third revolution casts the character. Then the fourth and fifth repeat revolutions one and two.

Calling all three wedges together can make any character wider or narrower.

the "e" to be cast two units narrower than usual, Harry's program will take care of the situation with no intervention within the manuscript.

His software accommodates Monotype matrix case arrangements from 15x15 to 15x17 to 16x17, and his font definition routine allows for easy construction of a matrix case arrangement to include all roman, italic, boldface, small cap and special characters as available in the Monotype mat case itself.

Most Monotype users are aware that large composition (generally 14 pt. and larger) can accommodate only one cap/lowercase alphabet. This means italicized words cannot be keyed directly into the job but instead, spaces are randomly inserted where those words go, and the italic type is cast separately and inserted by hand. This, invariably, involves manual line justification. Harry has developed a routine which not only removes and prepares a separate ribbon for all the italic, it inserts the precise amount of dummy characters in the original text to allow for the later insertion of the italic wording. The the italic wording is cast separately, but with the word spacing appropriate to the lines where it will be inserted.

With Fontographer, Harry also has modified many digital fonts to conform to Monotype hot metal width specifications and thus, he is able to produce WYSIWYG proofs of work prior to going to the casting machine. This proof can be completely reviewed with the goal of correcting errors

and eliminating widows and orphans—before the first letter is cast!

The resulting work can be sent direct to a caster utilizing Harry's nifty little paper tower insert (thus eliminating the need for a punched ribbon), or if preferred, a paper ribbon can be generated to drive a casting machine with no modification whatever.

There are additional capabilities which are outlined on Harry's website. The outline of features listed therein is easily understood only by one with a solid Monotype background. Nevertheless, you are strongly advised to visit this site. Go to *http://www.the-old-school.demon.co.uk/speedspools.htm.* >

If you have contemplated (or even begun) the process of driving a Monotype caster with a computer, I urge you to contact Harry about obtaining his interface. Why reinvent the wheel? Very obviously he had put a tremendous amount of tender loving care into his product and it deserves widespread distribution. Hopefully, its development will help extend the lifespan of Monotype hot metal composition for years to come.

At the Hill & Dale, I have successfully operated Monroe Postman's MacCast interface since 1999. Monroe's software does not incorporate most of the features mentioned herein, but it absolutely has proven to me the greater accuracy of Monotype casting when aided by a computer. Thus, acquiring Harry's program is most enticing. Perhaps I shall travel to Scotland to check it out!

What Not to Do When Repairing a Thompson

This little e-mail message came in from Jim Rimmer of New Westminister, B. C., Canada, a long-time ATF associate, master casting machine operator, an extremely skilled machinist, designer, printer, and . . . well, he can do almost anything!

After moaning to you about my Thompson woes I had to let you know how it all turned out.

About ten years ago I was drilling out the broken-off back end of a choker valve which was stuck in its channel inside my Thompson pot crucible. I drilled too far and the point of the ⅜" drill went into the back wall of the choker channel and made a ⅛" hole through to the well under the piston.

I knew I had done it, so I made a tapered plug *from steel* to fit the hole and made an annular cut around the circumference. I looked down the piston well and made sure that the plug was clear of the piston on its downstroke. Then I tapped the plug home and then waggled the steel rod until it broke off at the annular cut.

Louis Mitchell at M&H Type, San Francisco, told me the other day that every piece of metal in the pot must be cast iron to survive any length of time. When we spoke, I was having trouble with my Thompson not moving enough metal to cast a good character.

I mentioned how, years earlier, I had stupidly tapped a rod against the end of the choker channel and knocked the back out of it. Louis knew right away that was why there was no metal being picked up by the piston. My plug had come loose, so that any metal in the well just blew past the choker valve when the piston came down.

Once I knew this, I made a slightly oversized *cast iron* plug on the lathe and tapped it (greased) firmly but gently into the back of the choker channel, effectively sealing off the channel from the well.

My Thompson is casting like new again. The type is dense and heavy.

—*Jim Rimmer*

The illustration which accompanies this article is, indeed, a Thompson casting machine. In fact, it' is reproduced direct from an 8x10 studio photograph of the machine done for Lanston Monotype in the 1950s. This is the precise photo used in printed Lanston literature for the Thompson published during that era. The original print came to me via Paul Duensing. No, the photo does not show the inside of the Pot Crucible. I searched for a drawing but was unable to find anything suitable. So feast your eyes on what a new, clean Thompson is supposed to look like.