
ATf
Newsletter
№ 13
April 1990

The quotation at right is from Harry Carter's translation of *Manuel Typographique* (1764-66) by P. S. Fournier. Carter's translation was titled *Fournier on Typefounding* and was published by the Soncino Press in London, 1930. The cover illustration is a modification of an original wood engraving of a "typical nineteenth-century type-foundry" from the *Penny Magazine*, London, 1833, modified and letterpress printed by Stan Nelson using zinc engravings. *Thanks, Stan!*

AFTER THE PRIME necessities of life, nothing is more precious to us than books. The art of *typography*, their creator, renders a signal service to society and lends it invaluable support, serving, as it does, to educate the citizens, to widen the field for the progress of sciences and the arts, to nourish and cultivate the mind, to elevate the soul, and, generally, taking upon itself to be the messenger and interpreter of wisdom and truth. It is, in fine, the portrayer of mind. Therefore we may call it essentially the art of all arts and the science of all sciences.... Those who habitually use books should surely not be unfamiliar with the theory of so useful an art. Indeed, it is greatly wished that every literary man were in a position to form a sound judgment upon the typography of his books, for in that case the artists concerned with it would be obliged to have sufficient respect for their work not to disfigure it, as they too often do, with the results of their ignorance and lack of taste.

ATF Newsletter

APRIL, 1990 *American Typecasting Fellowship* NUMBER 13

California Site for 1990 Meeting

The seventh biennial ATF Conference is *on* starting July 19, 1990, to be staged at the now-legendary Typefoundry of Harold Berliner at Nevada City, Calif.

Registration will begin Thursday afternoon, July 19; the Conference will begin Friday morning, July 20, and run through Sunday afternoon, July 22, 1990.

Our able host, Harold Berliner, notes "we will discuss and demonstrate Monotypes, the Super Caster, Thompson typecaster, and the Linotype, as well as the influence of hot metal type design on digital faces, and the current use of hot metal as well as the ways it needs to be preserved and is being preserved."

A two-day technical session will run Monday and Tuesday, July 23-24. Again this year (as at the Terra Alta Conference in 1988), Harry Wearn, a man with over 40 years' experience at the Monotype School in England, will conduct the sessions.

Harold says lodging and accommodations have been set at $46.44 and up, and that 70 rooms are reserved in the Northern Queen, a hotel in downtown Nevada City.

A preliminary announcement already has been sent out by Berliner. It is important that reservations be made as early as possible because of the great interest in letterpress printing on the West Coast.

Full details regarding the Conference will be forwarded to all registrants as they are firmed up.

Those planning to attend are reminded of the group's tradition for keepsakes. Try to keep yours to a 9" x 12" maximum folded size so it can be easily transported.

As with past meetings, time will be reserved for buy, sell and swap (preferably of items related to typecasting and letterpress printing) followed by an auction, hustled by Dave Churchman.

Nevada City is less than two hours from the Sacramento Airport, two hours from Reno, or three hours from San Francisco.

Harold recommends arrival at Sacramento and hints of the possibility of group transportation from that airport.

He notes that accommodations are limited and fears he will need to turn folks away. So, check your calendars and send notice to him now of your intentions to "be there." Write to Harold Berliner, 1990 ATF Conference, 224 Main Street, Nevada City, Calif. 95959.

Taylor Downscales His Out of Sorts Typefoundry

Among the equipment on display at Harold Berliner's shop during the 1990 Conference will be a large portion of the holdings of Pat Taylor's Out of Sorts Typefoundry, Larchmont, N. Y.

Pat hastens to note he has retained his extensive collection of Goudy faces, a comp caster, keyboard, and a Thompson, but he has retreated significantly from commercial activities.

"We were being eaten alive by rent," he says. "We were working like crazy just to meet overhead and that had to stop." He sold the equipment last fall.

Some Solid Advice Before Buying a Linecaster

By Norm Cordes

At the meeting in Indianapolis, Rich Hopkns said, "Those with linecasting machines are as much a part of this group as are those with Mono. equipment." This means Linotype, Intertype and Ludlow. WELCOME!

Let's say you have a chance to pick up one of these wonderful machines and you know little of what you might be getting into. Ask, what kind of work do you want to do? Books? Commercial? Large type? There are linecasters that will do the above but you should know what you are about to acquire. We favor Lino models 5, 8, 31, or Intertype V or C4. Older models will generally show more wear, be apt to break-down with parts being harder to come by. Find out as much as you can about your caster; take a flashlight and go all over and jot down model numbers, serial numbers, and be careful about electrical info on the motor. If it's 3 phase and you don't have it you will need some sort of phase conversion unit or a motor change. While you're looking around, see how it can be removed. Will other equipment have to be moved? Or, will it have to be stripped for clearance or weight if it must be lifted. If you don't know how to take a caster apart, this may not be a job for you.

Ask to see the machine run and cast. If not operable ask why. Talk to the opperator, the owner, anyone who might know something, and make notes. If it's for the taking that's one thing but if money is involved; then how much? Fifty bucks is one thing but $1,000 should get you an exceptional machine. How will your entry be? Up or down a few stairs? This makes it all more challenging and costly. Is it gas fired? Do you have gas? I would favor an electric heat source for ease and better control. Yes you can move a caster with help and some rental equipment, if you have experience in moving heavy equipment. Be careful! Better to hire someone to rig it for you than to get hurt. We had a rigger move our model 31. I didn't know a thing about it, with a little instruction it has been most enjoyable. My son, in high school at the time, quickly picked it up. There are several good books on operation and maintenance.

Sometimes it is possible to hire a flat bed auto truck from a towing company, with an operator-driver that will move equipment for you. Our local tower will do this but you must tell the operator what to do. Prior experience dictates here of course. The best bet as mentioned before is hire a good rigger and let them make the move.

If you currently are setting hand type you will likely have the necessary galley cabinets etc., but if you plan to start with a linecaster with no other equipment then you are in for a big job. I would advise someone to consider expanding if they are printing now, and have adequate space for a machine. This almost suggests that you own your place; a landlord may object to this type of installation unless it's an easy ground level entry such as your garage. Do think about the day you may move and the disposition of your prize.

Let's look at the shop and the intended spot for your machine. How is the floor? Wood? Concrete? Will the floor support the unit? The caster should be level and rest on a sturdy floor. Allow space to work around the unit. Three feet all around should be good unless you load magazines from the rear, then more space must be provided. Be guided by where the machine came from.

Do you have a comfortable source of heat, so you and the machine can operate in comfort? A cold machine isn't the easiest to operate.

What about a supply of metal? Some units have an additional pot mounted on top of the machine that melts and feeds clean metal to the pot below. This is called a Monomelt and is a handy item eliminating the need for a furnace and the casting of bars for the bar feeder if your machine is so equipped. You should have a supplier or smelter you can ship your dross and metal chips to. They reclaim your metal, formulate it to the proper alloy and ship a replacement back, all at some cost. Use metal for linecasting. Used lino slugs, or bars cast into ingots for this purpose. Avoid mono, foundry, battery or plumber's lead. If you contaminate your pot you will not get good slugs. Stick with the proper metal. Skim the top surface of dross and dirt depositing these skimmings in a closed box for this purpose. Avoid dust, handle with caution and wash your hands after handling since lead compounds are poisonous.

Many of the circumstances above apply to the Ludlow. While they are essentially a hand operated system—no keyboard to learn here—you can produce some nice typography. This is the way to go if you need large faces—24 point and up. Smaller faces are also available from 6 point up.

Consider also the possibility of obtaining a caster and sharing time and expense with someone of like mind. Get others interested; produce some for fun printing and nice typography. This is what "ATF" is all about.

Talk About A Bargain!

Ry Robert Schladetzky

It looked authentic, but I never really believed it would do what they said it could. But I couldn't pass up the seemingly logical next step in the evolution of my letterpress printing hobby.

And talk about a bargain: two of these imposing relics, in 'working shape,' with several magazines and mats for $125.00.

The bargain paled a little as I and an unsuspecting friend coaxed the reluctant behemoths inch by inch up an inclined ramp from the basement printshop with a come-along and pipes for rollers. Teetering up the planks and onto the bed of the trailer, they were lashed with chain and tighteners 'til the boards beneath them groaned. Magazines were crammed in here and there and then the whole mountain enveloped in tarps and ropes.

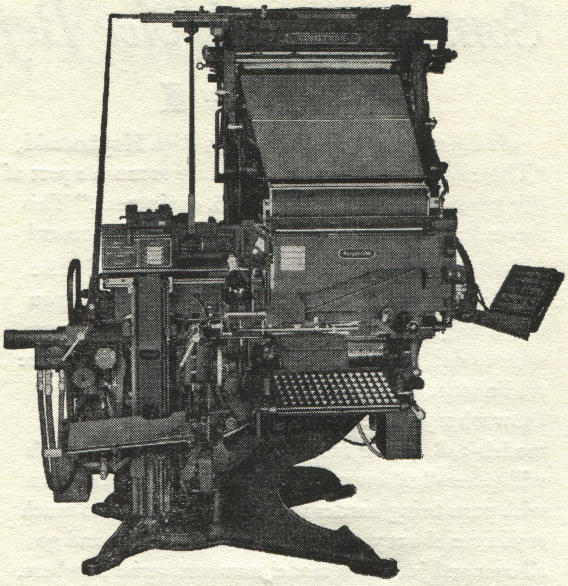
As the gray afternoon darkened and the inevitable northwest winter drizzle wrapped around us, we lurched and clanked from the small hamlet of Bothell, Wash., towards my home across Puget Sound to the Olympic Peninsula.

That was November, 1986. With a small library of Intertype manuals and the naïveté of a Boy Scout at a fraternity panty raid, I sat down in front of the machines several times during the ensuing weeks. With each episode, I became more intimidated.

Odd and deformed partial slugs vomited from the mouth of the thing; the repeated cacophony of brass mats flying out of the vice jaws and from the distributor bar and careening off the concrete floor were a frequent experience. I became as agile as a puma, lunging from my castered chair at the keyboard and pouncing upon the catwalk behind the machine to unjam mats from the distributor screws.

Various belts would fly off a variety of pulleys . . . the sickening moan of the tired motor just prior to a lockup in mid-cast . . . searing my fingers while trying to rescue errant mats from around the pot . . . blackened holes in the left knee of my trousers from hot lead spewing out from a loose line.

I got to where I avoided looking at the machines when passing through the room. One rainy afternoon, slipping into the shop to retrieve a stack of paper, I swore I heard what sounded like a sinister sneer emanate from the shadowy far end of the building.



Since both articles on these pages deal with linecasters, it's only appropriate that this illustration be used, even though it is of a Linotype instead of an Intertype. It is an original electrotype, salvaged from a Mergenthaler ad published in the late 1950s and directed to weekly newspaper owners. I think it's a Model 31 Linotype.

The machines evolved—in my description to curious friends—from 'ingenious pre-computer examples of man's inventiveness' into 'machines requiring constant vigilance, oft' cantankerous assemblages of levers, cams and detents, ludicrous tributes to man's absurd solution to typesetting.' And finally to 'those two black bastards in the back of the shop'!

Never two usable slugs in a row. Coffee cans of assorted mats lined the window ledges. Broken belts dangled like garlands on a holiday tree. . . .

Enter Ralph Babcock, that patriarch champion of letterpress and the hobby printer. I mentioned my disenchantment. Who would have guessed within a few miles of Ralph's home resided a letterpress practitioner actively publishing books, setting type on an Intertype linecaster no less. He turned out to be a willing and compassionate soul. Having made 79 trips around the sun and I suspect 50 of them in newspaper plants drawing lines o' type from linecasting machines, I saw that he had respect for, but was definitely not intimidated by the things.

Mark Adams' sinewy steps are like a 30-year-old man and irritatingly, has more hair than I do, three decades his junior. He looks at you sometimes

(*Contiued to page 18*)

Harry Wearn of Avon, England, makes a point about the pump piston during a technical session. Scott Holt, Nevada City, Calif., behind Harry, assisted during the sessions. Pat Taylor, Larchmont, N.Y., is beside Harry. Others shown are Roy Rice, Atlanta, Ga.; Bob Halbert, Tyler, Tex.; David Holmes, Annapolis, Md.; Ed Rayher, Amherst, Mass.; and Rich Hopkins with the video camera.

Photo by Jim Walczak

An Overview of the TA Conference

Since our 1990 ATF Conference at Nevada City, Calif., will be the first meeting in that part of the country, many interested Westerners will find the meeting to be their first practical opportunity to interact with our group.

What should they expect?

Although academic or "bookish" subjects may be on the agenda, there's always an effort to emphasize the practical and technical aspects of type making.

It is, indeed, an "awesome" experience when you realize you're in one room with a great number of the major players in hot metal typography today. The law of averages demands that we be very few in number, and necessarily widespread across this vast globe.

If it were not for ATF, we'd have no real excuse to come together—and the social aspects of coming together probably are more important to us than the technical information.

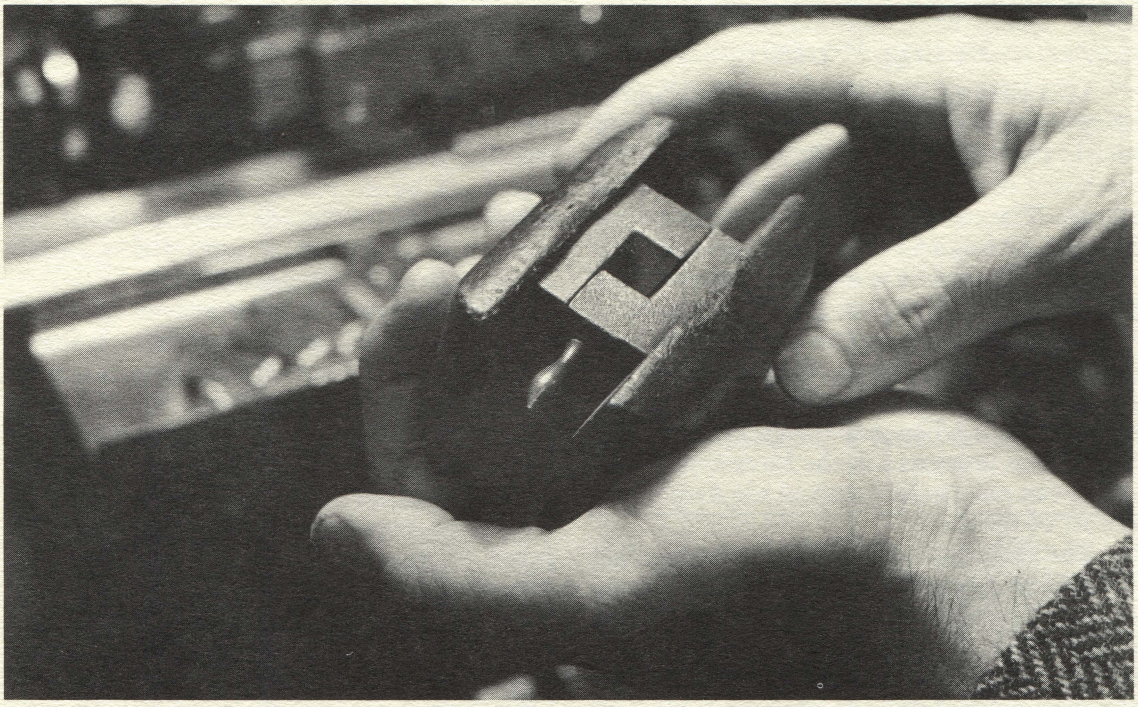
We operate for the most part in a vacuum—as loners in our personal shops valiantly pursuing a technology that's been trashed and scorned by the rest of a world consumed by high-tech computer insanity. We need the reassurance we get by talking with other nuts at least once in a while—like every two years.

To set the stage for the Nevada City conclave, several reports of the 1988 Conference are presented starting on page 22:

(a) A summary of what happened at the 1988 meeting, from reports by Paul Duensing of Kalamazoo, Mich., and Guy Botterill, of Baltimore, Md.; *(b)* A news reporter's coverage of the meeting, published initially in the *Morgantown*

Continued to page 22

Steven at Ho Sun Hing's Man-Nen Caster.



The original brass and wood hand mold which was the Ho Sun Hing Foundry's heart in the early days.

Typefounding in Vancouver's Chinatown

By Jim Rimmer

Vancouver's Chinatown is a fascinating spot to visit—a place alive with colors, smells and customs. Its commercial center of stores and businesses covers an area of roughly four by six blocks. In addition, there is a large Chinese population spread among different areas throughout the greater Vancouver area.

Vancouver is the extreme western terminus of Canada's first transcontinental railway, which was completed about 100 years ago. During its construction, Chinese people came to Canada because of the opportunity of work on the line, and in the gold fields.

As the Chinese worked and prospered, families were later brought to join them. The result of this influx of new citizens is a Chinatown nearly as large as that of San Francisco.

Over the decades there have been many Chinese-language job printers and newspapers, some daily and some weekly. Because of the great distance and the cost of shipping type to Canada from China, some of these printing houses naturally formed their own typefoundries. Beginning about 1952, I came to know three or four printers who possessed casting machines and did casting work for them on a casual basis. There have been periods of perhaps two years at different times when I did not hear from them, but every once in a while I would get (and still do) a call to drop in to do a little work. The following are a few lines about such shops.

Charlie Young Printing

I became acquainted with Mr. Young and his shop in the fall of 1952. As a second-year apprentice in the office of J. W. Boyd & Sons, I had been sent to the Chinese shop to borrow a line of type. The minute I reached the bottom of the stairs to his basement shop on Pender Street, I was hit by the perfume of burning mold oil and the unmistakable sound of a Monotype. A young composer greeted me and handed me the paper-wrapped bit of type. As he was doing so, I was craning my neck in the direction of the sound of the machine, and the compositor asked me if I was interested in the Monotype. I told him I ran one, so he escorted me over to the corner of the shop.

The Monotype room was no more than eight by ten feet. Over the door was tacked a newsprint galley-proofed sign which said "TYPE FOUNDRY." I peeked into the room. Through a heavy mist of smoke, I spotted Mr. Young standing at the caster. He was a very tiny, very thin little man with an immense gold tooth in the center of his broad smile.

Around his feet were strewn hundreds of bits of unwelded strip material. Without looking, the outward appearance of the caster told me it was a low serial number. Although he was having a terrible time with the caster, Mr. Young showed no signs of frustration. He merely kicked a path through the bits of metal and offered his hand. He asked if I knew anything about the machine. I said "a little." He shook my hand harder, pulling me into the room and shoving me up to the caster. "You do him slocks," he said, "time I go for tea. I pay you," he shouted over his shoulder as he headed for the tea pot. Things were slow at Boyd's, so I thought I'd stay for fifteen minutes or so.

The trouble he was having was an incorrect positioning of the fusion point. Fortunately, a Monotype rep had come to our shop a few months before, and I learned how to adjust this fault. I made the adjustment, and drilled out the nozzle. In no time, I had it casting fairly good slugs. It was probably more by luck than skill, but the caster was running in any event.

When Mr. Young came back from tea, he was flabbergasted and pleased. He kicked his way through the typemetal on the floor and shook my hand some more. "I pay you two dollars for hour, you come Saturday." He did and I did for two or three years. Later on, I switched the machine over to American type mats, and still later, to Chinese foundry mats. His need for Chinese type was endless. Because of the vast amount of characters, it seemed that I could never catch up to the demand.

When I came in on a Saturday or after work on a week night, there would be a string of Chinese mats laid out on a galley with a bit of paper under each mat, reading 1, ½, ¼, meaning for me to cast a candy bag either full or half or a quarter full. Mr. Young possessed mats for about 3,500 Chinese characters, all in the common body size popular around Chinatown: 13.8 point. All type is in the mutton format, and for this purpose they had had a 14-point sorts mold blade ground down to the correct size, and the loose side of the mold was brought up against the blade. Although some machinist had lapped the blade down completely by hand on an oil stone (and the job was far from perfect) the mold ran surprisingly well. The type was a little tapered, but seemed to cause no trouble.

His matrix holder was another matter. The same machinist had merely taken a Monotype display matrix holder and attached a lip to one side to come closer to the side of the narrower foundry-style matrix. Between this lip and the mat, you merely wedged a bent bit of spring steel—much like a leaf spring in a car—between the lip and the mat. In some instances, the type didn't leave the mat too easily and this bit of pull would drag the matrix out of the holder and all hell would break loose. Because of this, it was never possible to leave the machine. I always stood there peering at the top of the mold with one hand on the pump trip handle.

The shop operated completely on Linotype metal, and because of this, the type was awful, but Mr. Young was pleased.

Our arrangement went on for three years until Mr. Young's sudden death. Immediately, the shop was sold off to various printers in Chinatown and the doors closed. All the printers I have met in Chinatown are the most amiable of people; I think Mr. Young was the most pleasant of them all. I can't remember a time when he wasn't chattering and smiling, showing his big gold tooth.

New Republic Press

At about the time of Charlie Young's death, I became acquainted with the people at the *New Republic Press*, and began operating their Monotype type and rule caster. The machine had lain idle for quite a long time. Before it was possible to run it, I had to dig it out from under a pile of skids and waste paper. The machine has become covered with a layer of black paper fibre and grease, but a few hours' clean-up, and it was away and running.

The paper was printed on a web-fed Hoe press. I can't recall if it had a pit under it, but do recall that it was very low to the floor, the web criss-crossing back and forth through the printing cycle and winding up in the folder and cutter. The press printed directly from the locked-up type forms. As the name implies, the chief piece of printing was a daily newspaper.

Like the *Chinese Times*, they possessed a massive stock of text type, which stood in angled stands, face out. These two-sided stands were in sections of about 24 feet in length, much like the ones in the picture of Ho Sun Hing's shop.

My main function was to cast Chinese type for the paper, which I did for some months until I was able to teach one of the comps to run it.

Like other shops I worked in, the *NRP* used Linotype metal in the caster. As a result, the soft metal made rather short-lived type and it was necessary to cast constantly. Since their caster had not been in operation for years, the type they set the paper with had become very mushy. As the new type was stocked up, they became very happy with the result.

The paper operated on a vocabulary of over 4,000 characters, so one could imagine what a task the caster operator had ahead of him.

About a year after I left *NRP*, I got a call for help, and when I arrived at the shop, I was shocked to see that part of the speed rack had fallen out on the floor. At first glance I assumed that the caps had merely worked loose and the split shaft and main drive gear had fallen out. A closer look showed that the cross-pieces that were part of the caps in the speed bracket had actually broken and the caps came with the shaft. With the help of the casterman, I placed the shaft back in place, matching the broken faces, and we jammed it together by driving some lengths of wooden furniture under it to serve as props. I told him to call in a welder and see if he could do anything with it, and the casterman smiled and nodded in agreement. We started the caster up, and it ran with no trouble, and I though he might as well go ahead and make some type, since he couldn't damage it any more than it was. A long time after that incident, I was called back for some reason, and was pleased to see the old Monotype casting away in the corner. When I went over to look, there were the wooden props still in place. No welding had been done.

One day, while I was operating the machine, I noticed something that looked like a casting machine, but I couldn't figure out what it was. It was obviously intended to be bench-mounted and I noticed that it had about a fifty pound pot full of type metal. There was what appeared to be a mold of some kind, but I couldn't figure why it should have one part on a long hinged arm. The main frame of the device had Chinese characters cast into it, and it was quite fancy—almost like a Singer sewing machine frame. At the time, I had never heard of the Bruce caster, but I am certain it was some sort of adaptation of the Bruce. In the late sixties the *NRP* decided to switch from the old process, and the Monotype was cannibalized by Ho Sun Hing Printing for parts.

Ho Sun Hing Printing

Ho Sun Hing Printing has been in operation since 1906, operating in very much the same manner. Even today the shop is predominantly letterpress. The business is a family operation, and they all take an immense pride in the shop and its long history. On the wall hang pictures of the crew dating back to its earliest days. The senior member of the family is now retired, but nonetheless spends the better part of his day at the shop. The duties of operating the two casters falls to one of the sons, Steven. My first meeting with the Ho Sun Hing company was in the summer of 1954. At the time Steven was just beginning to walk and toddled around the safe areas of the shop in diapers. The family works long hours, spending most evenings at the shop.

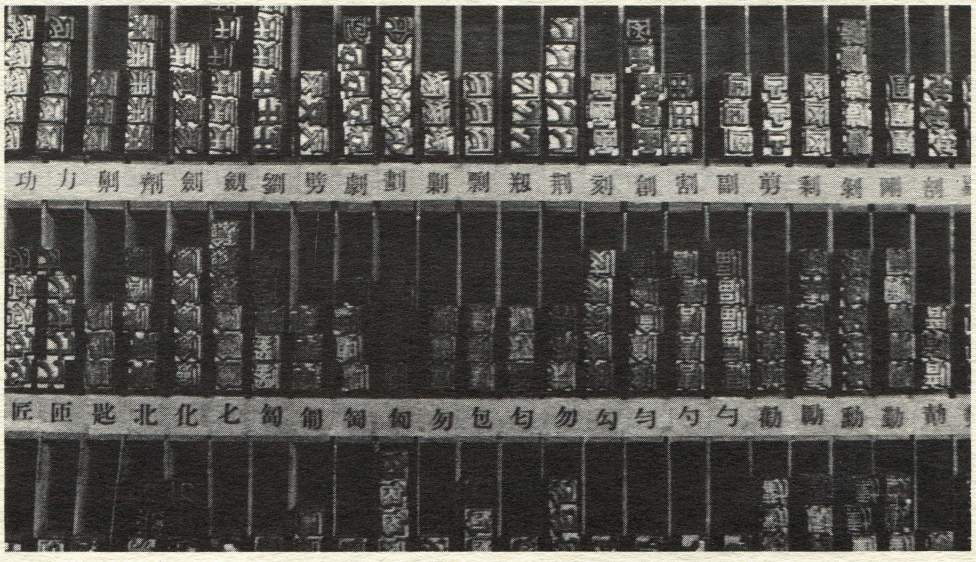
Although I was never more than a casual employee at Ho Sun Hing, I did spend a lot of time running the Monotype, and eventually taught the caster to Steven. In the fifties, the Monotype type and rule caster was split about half time casting 13 point Chinese type and the other half casting strip material. These days its main function appears to be to supply strip material, only rarely being used to cast English type.

A newer caster is truly a prize. Ho Sun Hing bought it when it was landed in the United States, but not accepted by the buyer. As a result, Ho Sun Hing got a great deal and a complete set of mats. The only drawback was that it had no instruction book. They brought the caster in, and Steven soon learned how to operate it by his own initiative. This machine, called a Man-Nen, is capable of casting up to 18 point only. It came with two molds: a 10 point and a 13 point (Chinese measure). They have mats for the 13 point size, and this seems to be the standard text size for most of the work they do. Although they use only Linotype metal, the Man-Nen casts wonderfully dense type.

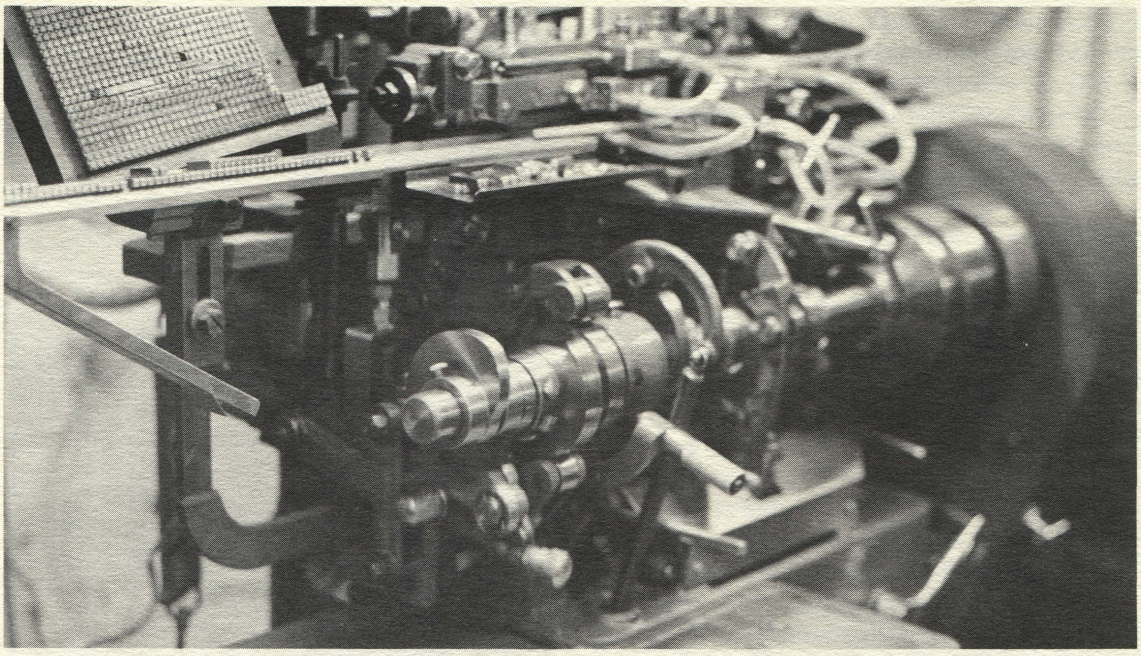
Like the *New Republic Press*, Ho Sun Hing has an immense holding of Chinese type, as accompanying photographs attempt to show. It seems that the bulk of their type is cast in the shop. They use but very little from the Orient.

They do have a large stock of larger sizes, up to what is roughly equivalent to 72 point. These larger characters have been imported, and like most of the imported Chinese type I have ever

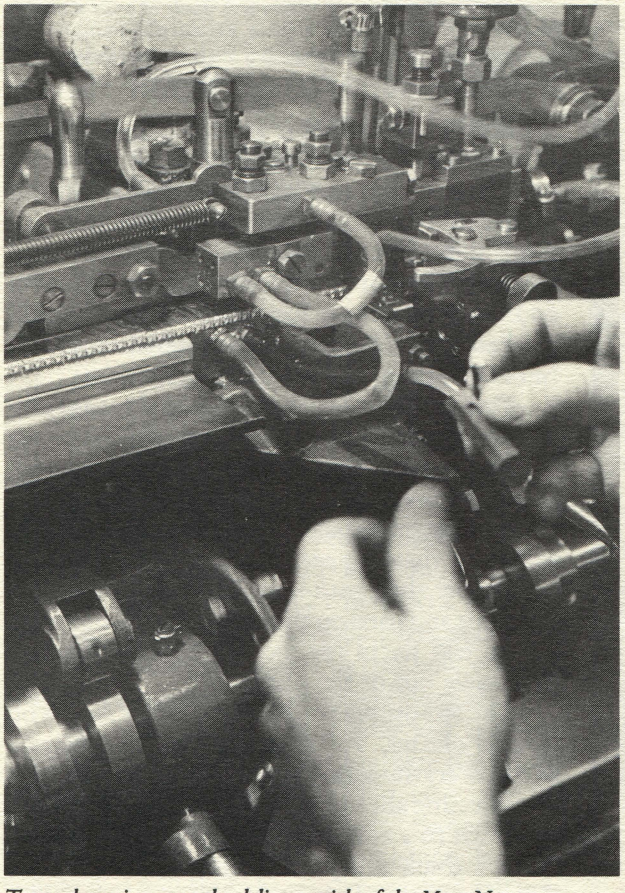
Steven at one of the long two-sided standing cases. This is the common type of the printing house and is all cast on the premises. There are three or four rows like this one.



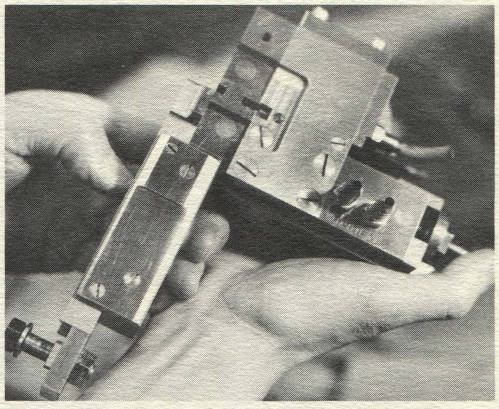
A closeup of part of one of the leaning type stands holding type cast at Ho Sun Hing.



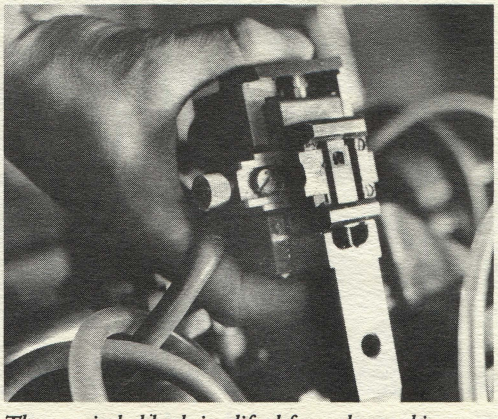
The exposed cam system of the Man-Nen. Note the fine finish of the cams.



Type advancing onto the delivery stick of the Man-Nen.



One of the individual point size molds for the Man-Nen casting machine.



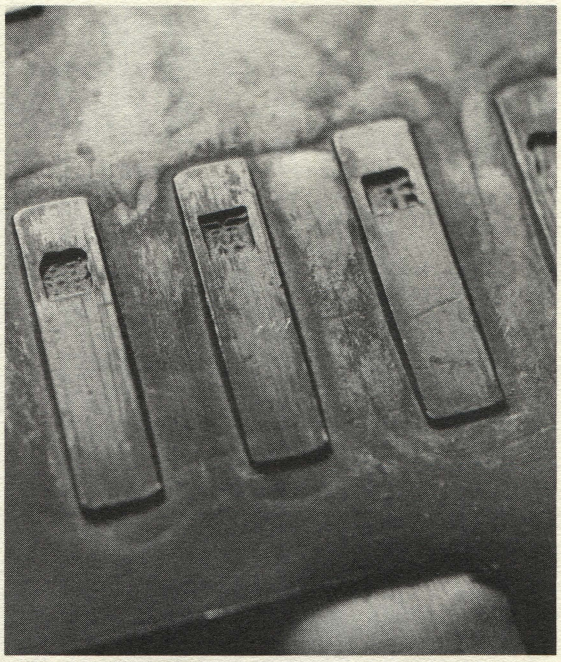
The matrix holder being lifted from the machine.

seen, the alloy is almost completely lead. In spite of the sluggish quality of the soft metal, the type is very dense and heavy. The face on some of the larger characters has a few wrinkles caused by the flow pattern of the metal, and the sides of the quad are very rough and wrinkled.

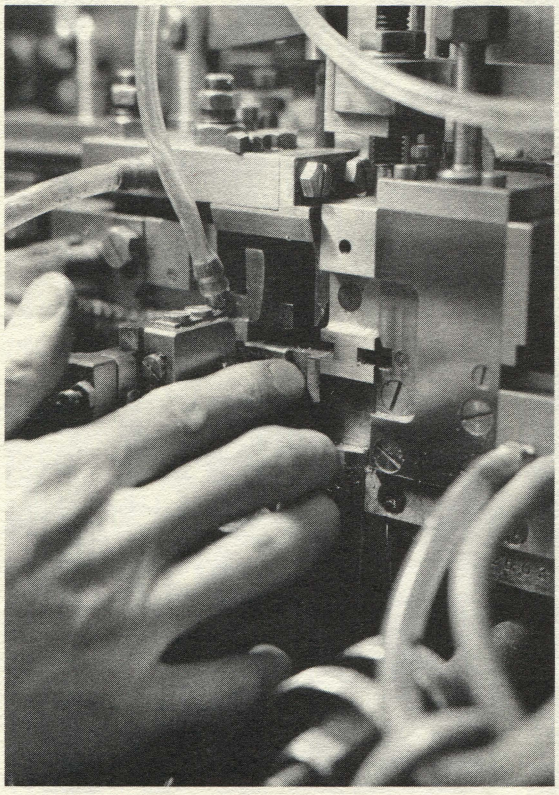
The Man-Nen caster is a marvelous piece of engineering. Every machined surface is polished to a finish like chrome. The cams which run across the front at waist height are beautifully finished. Though each point size requires its own separate mold, the changing of the mold is accomplished by undoing only two screws. The caster is very much like the Thompson in configuration, and operates on the nozzle and choker principle. Unlike the Thompson, the Man-Nen has a roomy work table at the left of the machine, and a neat little angled galley at the left of the machine and at shoulder height.

Like the other Chinese shops, Ho Sun Hing's matrices are of the foundry style, having been electroplated in copper, and dovetailed into a brass blank.

Many years ago, I recall coming across a box of bits and pieces while searching for a pin wrench. In the box was a most beautiful little brass and wood hand mold. When I visited to take pictures for this article, I asked about the mold and they quickly found it covered in thirty years of dust. Steven recalls that his father once cast all their Chinese type with the mold, but he could not recall ever having seen the mats that worked with the mold. We searched for them, but were unable to find any trace of them.



A method once used at Ho Sun Hing to copy borrowed matrices—a Bakelite impression was made of several matrices. Then it was dusted with a conductive powder and electroplated. The copper shell was backed up with lead, and the individual matrices then cut apart and finished.



The matrix holder and its relationship to the mold.

One other curiosity that I found among the dust was an electroplate about six by seven inches in size. They had obviously borrowed some Chinese mats, and rolled them through an electro matrix moulder, making a Bakelite or wax mat, then copper plating this and backing the copper shell with lead. The mats were then sawn out and used on the caster. This is obvious, as you will see in the picture, because one has been sawn out of the plate.

The atmosphere of Ho Sun Hing's shop is of general clutter, but everyone knows precisely where everything is. There is a very friendly and warm feeling about the shop. The concrete floor has worn to a marble smoothness in the traffic areas. I think the paint on the walls has been there for at least fifty years.

The Chinese Daily Times

The *Chinese Times* is the only Chinese shop I never had the opportunity to work in. They have been in the same corner location for seventy years. The corner shop is more or less a store front, with windows running around the two sides of the building. Pages of the paper are hung daily on wires in these windows. When there are no papers in the windows, it is possible to see the printing process from a very good viewpoint. Sadly, the paper is now offset, and has been for about five years. At one time it was possible to see the compositors rushing up and down the rows of type stands with their wooden composing sticks, and to see the Hoe (like the one at the *NRP*) operating. A few years ago the press was offered to a friend, but he was unable to find a home for it. It went to the scrap yard.

The shop has a small job printing section, and they have a Heidelberg platen and a small stock of type, but largely, even the job work now is done offset.

In the early days, the *Times* cast its type with hand molds, and there is rumor that they once owned a Chinese Bruce caster and later a Monotype, but I never saw either.

I do remember that in the early sixties they rolled a brand new casting machine onto the floor. I remember seeing them installing it, and was always curious to ask if I could have a look at it, but hesitated because they didn't look as though they would appreciate a visitor.

When I approached the *Times* to let me shoot some pictures for this article, it was difficult to get any co-operation, and I had to persist to finally get past the front end of the shop. As I was taking pictures of the caster (which had happily survived the hot metal purge), the shop foreman came up behind me and tapped me on the shoulder. He said he would be willing to sell the caster if the price were right. I now own it!

The machine was made in Taiwan, and is called a Hua Nan Casting machine. I am told that the machine is still being manufactured, and that molds are available, as well as any parts one would need. This particular machine has only one mold—a 12 point. The main drawback is that the mold's height is completely incompatible with any kind of English or American matrices of either composition or sorts style. A person could make a holder for .050 drive English composition mats, and this would work because the mold would have to be ground down to 868. There is no possible way to cast American composition mats, because the mold isn't tall enough. What I intend to do is create a 12 point display mat at .050 drive with a right hand side bearing and cast these on it. This will work well since I have neither a 12 point body piece or 12 point mats for my Thompson. When I get some hard metal into the pot, I'll get good type from the caster. The piston on the Hua Nan is almost 1½", which seems like overkill for a 12 point mold. Generally the engineering and finishing of the Hua Nan is much inferior to the Man-Nen, the Monotype or Thompson. Even the mold is not of the best finish or hardness. However, I feel that with a little careful handling, the machine should stand up well.

One ingenious thing about the caster is the melting pot heater. Unlike all other casting machines, the heating elements are not immersed in the melting pot, but are outside and under the pot in a special compartment. All that is required is an ordinary electric stove heating ring, and when this burns out you just go to the appliance store and get another one. It takes about five minutes to change the element. If one wanted to switch to gas heat, all that would be required would be an ordinary gas stove heating ring in the compartment under the pot.

When I bought the Hua Nan caster, I got about 6,000 12-point Chinese mats. I have traded these to a member of the American Typecasting Fellowship, who will no doubt do something surprising with them.

In a world that is fast abandoning a valuable part of man's technological history, it's comforting to know that the pieces at Ho Sun Hing Printing seem to have a safe and welcome home. This collection and the caster now in my possession are all that remain of a once lively typefounding scene in Vancouver's historic Chinatown.

Acquisitions, Gripes, Museum Notes, Comments

Clippings from Correspondence Received

William Danner of Kennerdell, Pa., noted after receiving some new type from the Hill & Dale: "I found *one* 'x' in your font that had no face. Big deal. Do I get a refund? The wonder is not that these things happen but that those marvelous machines turn out billions of precise die-castings that all work together so perfectly."

Regis M. Graden of Castaic, Calif., makes an unnecessary apology for his "typefounding" efforts: "You may look down on my casting activities—I have a Ludlow. I have 40 fonts of mats and I am, of course, looking for special refinements and swash in smaller sizes."

"After 20 years with Mergenthaler Linotype, ending as vice president, engineering," W. Otto Grube of Cutchogue, N. Y., writes, "I am now retired and printing as an amusement with an American Monotype and a Model L Ludlow in operation." He also has expressed a strong desire to work on the personal computer drive for a Monotype.

"I do still have an interest in getting a caster from you, but I should tell you what I've acquired in the meantime," reports Gregory J. Walters of Piqua, Ohio. "I bought the hot metal equipment which was at Bethlehem Steel mentioned at the ATF Conference. The heavy iron consisted of two Intertypes, four composition casters and a material maker. I also have an 'Orphan Annie' which belongs to the Cincinnati Historical Society. I have fired it up but have not succeeded in casting good type because everything is out of alignment. My comp casters include three 15x17 American casters built in 1950 and rebuilt by Hartzell in the 70s, and a newer English one, perhaps from the 60s."

"How about putting me on your mailing list. I'm the last type metal manufacturer east of the Mississippi—from Maine to Miami—established in 1885 and still getting the lead out."

Werner Meier
Pittsburgh Metal & Equipment
Jersey City, N. J.

Ralph Babcock, in his *Weaker Moments 312* displays evidence that beautiful ornaments were not the sole domain of the typefounder. He displays several lines of Linotype Fairfield ornaments, cast by Martin Beilke, Quintessence, 356 Bunker Hill, Amador City, Calif. 95601. Beilke has hundreds of Linotype border matrices and border slides.

Francis J. Cardamone is in the preliminary stages of developing a museum devoted to preservation, restoration and operation of various industrial trade machinery of the late 19th and early 20th centuries. Typecasting equipment in his possession includes a Monotype keyboard and caster, Thompson, and a Monotype Material Maker. If you are in his area and can offer technical assistance, contact him at the Iron Age Machine Museum, 160 Canal Street, Staten Island, N. Y. 10304. Phone (212) 448-3732.

"Many thanks for your splendid *Newsletter.* Simply amazing. You Americans have everything. A burning question: Could one of my Intertype Model C4's be modified to cast individual characters? My mechanic believes not because of the ejector blade would have to be a pin and would not survive the push. Any ideas? Has anyone ever tried such an experiment?"

John Setek
7 Wills Court, Paradise Point
Queensland 4216, Australia

"Someday I hope to find a Thompson Caster and mats for Goudy Text and Lombardic Caps. Wishful thinking? I know, but I have found the unexpected before. The above faces are favorites of mine, and fit well with my printing in a religious vein. Goudy's text face is one of the few "readable" to we moderns. To cast one's own surely is to reach a noble height in the works of men, but for now I enjoy by proxy."

Alan Waring
Fairfield, Conn.

Hot Metal Support Coming to End at Monotype

When members of the American Typecasting Fellowship visited British Monotype in 1982, all were told the Corporation had a commitment to support hot metal equipment for another ten years. That time is rapidly running out.

A letter sent in 1989 by Duncan Avery, Spares Manager, indicated the company was giving notice production of new molds and matrices would cease this year (1990).

"The supply of recognized composition caster and D keyboard spare parts will not be affected at this stage, but we suggest you consider likely requirements for everything as soon as possible," Duncan noted.

Another turn of events also may severely affect the company's commitment to hot metal. Word is out that the firm has been acquired by a conglomerate of U. S. investors who, at this stage, pledge to keep the present management and policies in place. But for how long?

The Monotype Lasercomp, first introduced in 1976, is a key component to many present electronic imaging systems and the group acquiring Monotype already has control of key electronic imaging companies in the United States.

Both English Monotype and American Type Founders, it should be noted, have jumped on the bandwagon making their original type designs available in digital format for Postscript and other desktop typesetting systems driven either by the Macintosh or IBM-compatible equipment.

Linotype, Compugraphic (now Agfa), and Varityper, among others, also make their fonts available for such systems, bringing to an end the age-old situation whereby certain type designs were tied to specific typesetting systems. Somehow, real Gil Sans on Lino seems like sacrilege....

Production & Subscription Info

This thirteenth edition of the *ATF Newsletter* for April, 1990, is produced by Richard Hopkins, Post Office Box 263, Terra Alta, West Virginia 26764, for associates of the American Typecasting Fellowship, an organization of persons devoted to the preservation of the paraphernalia and technology involved in metal typecasting and design. The *Newsletter* is published only as time permits. The cover and all pages utilizing Caslon were letterpress printed; pages utilizing Garamond were offset printed at Hopkins' commercial shop, the Pioneer Press of West Virginia, Inc., also at Terra Alta. The *Newsletter* will be sent to any enthlsiast willing to send a minimum of $10.00 ($20.00 for overseas) for five future issues. Institutional subscriptions are discouraged because of paperwork.

Talking About a Bad Dream? Here's One!

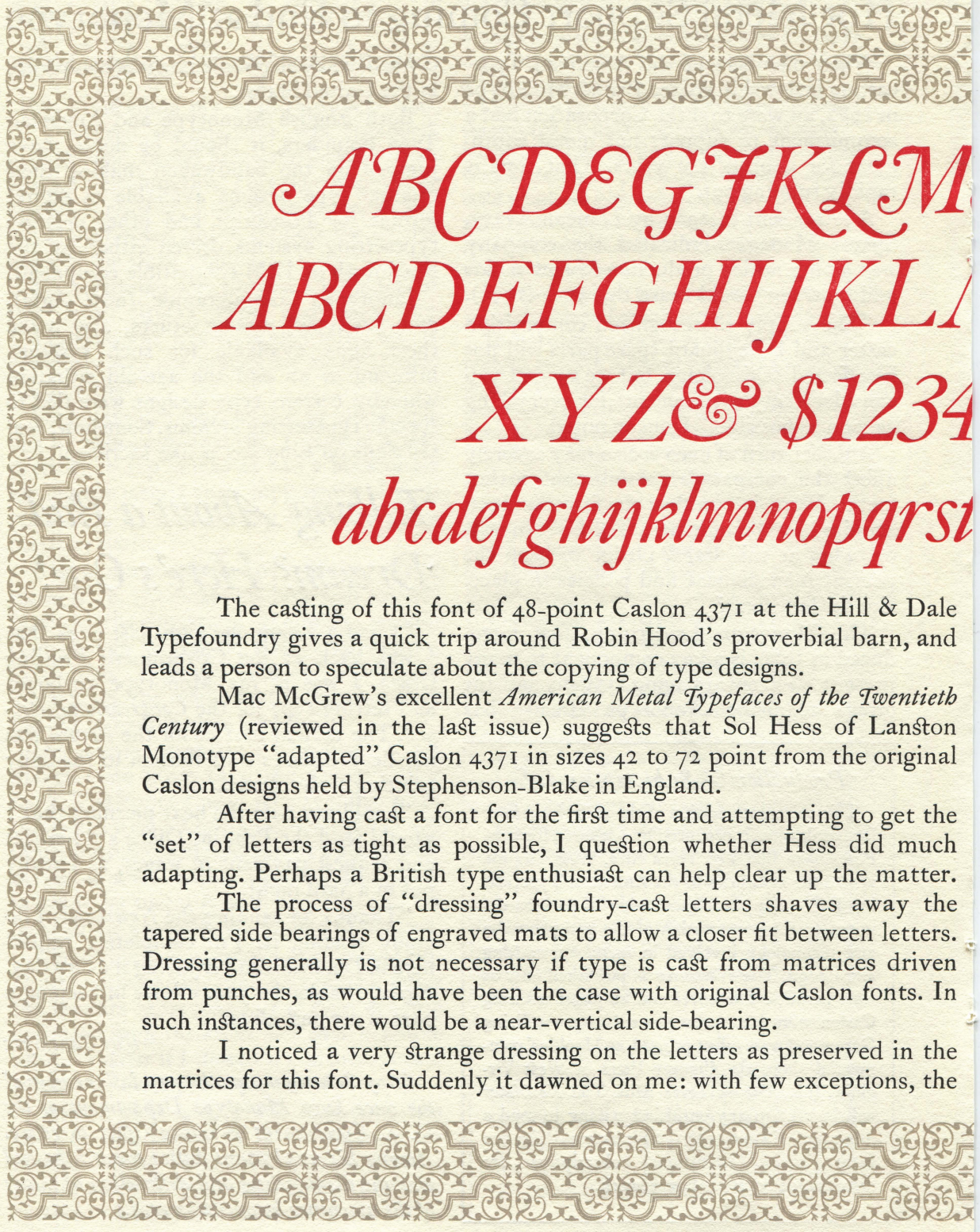
"I had a dream one night last week that I was back at the Government Printing Office. I was at my Monotype keyboard and setting type for the *Congressional Record*. The tabular matter for the *Record* was our department's contribution to the daily printing of the *Record*.

"I told my wife the next morning that I should send the Printing Office a timesheet and request payment of wages, as I really put in a hard night.

"Thanks for sending the *Newsletter*. I do enjoy reading it. I'm completely retired here in Delaware and enjoying it every day. Again, thanks for your efforts in keeping a part of my past alive."

—Roy Santmyer

(Roy Santmyer was the very last member of the once huge Monotype Department at the U. S. Government Printing Office to retire. Among his unpleasant duties toward the end was the dismantling and destruction of many of the machines he once operated.)



The casting of this font of 48-point Caslon 4371 at the Hill & Dale Typefoundry gives a quick trip around Robin Hood's proverbial barn, and leads a person to speculate about the copying of type designs.

Mac McGrew's excellent *American Metal Typefaces of the Twentieth Century* (reviewed in the last issue) suggests that Sol Hess of Lanston Monotype "adapted" Caslon 4371 in sizes 42 to 72 point from the original Caslon designs held by Stephenson-Blake in England.

After having cast a font for the first time and attempting to get the "set" of letters as tight as possible, I question whether Hess did much adapting. Perhaps a British type enthusiast can help clear up the matter.

The process of "dressing" foundry-cast letters shaves away the tapered side bearings of engraved mats to allow a closer fit between letters. Dressing generally is not necessary if type is cast from matrices driven from punches, as would have been the case with original Caslon fonts. In such instances, there would be a near-vertical side-bearing.

I noticed a very strange dressing on the letters as preserved in the matrices for this font. Suddenly it dawned on me: with few exceptions, the

Text composed in 12-point Caslon 337 (with

letters were dressed to an angular configuration, suggesting perhaps that electrotyped mats were made from letters dressed to an angle body. If you have S-B fonts, will you let me know whether the *italics* are on angled bodies? If so, the question of "adaptation" is resolved. I suggest the letters were copied precisely with no adaptation whatsoever.

If this be the case, then my font is strangely unique. It is the original *English* version of Caslon, cast from *American*-made matrices—on an *English* Super Caster using special matrix holders to modify the machine so it can take American Giant matrices.

The swash-appearing *T*, *J*, *Q*, and *Y* are original Caslon designs. I suspect Hess did the *T*, *J*, *Q*, *Y* and aligning figures, and that was the full extent of modification. All other letters, including the swash characters, are precisely as the English specimen shown in my *Caslon Old Face* specimen book published by H. W. Caslon & Co., Ltd., in 1924 wherein it was stated to be an exact specimen of original Caslon letters done before 1750. When comparing my type with this specimen, you will find my letters fit more tightly. Otherwise, the letters are precise reproductions. Do you agree?

long descenders) using two points of ledding

Has Anyone Ever Considered Air-Cooling Thompson Mats?

Upon installing my English Super Caster, I noticed the machine was equipped with a single, rather lonesome looking compressed air connection. Having composition machines already, I did have access to air, but almost opted not to connect the air because of the extra trouble.

My reasoning was simple: I intended to cast only display type and since my Thompson was not equipped with air, it obviously was not mandated on the Super Caster either.

Fortunately, I decided not to follow this line of reasoning. Instead, I gave it a try. After all, comp machines had a blast of air hitting the matrix case, supposedly to keep mats cool, so why not try it with display matrices too?

I have operated the Super Caster many times since. It amazes me how well the airblast works—matrices generally remain cool enough to handle with your fingers, even after extended casting. With the Thompson, the whole mat holder becomes too hot to handle after a while.

One minor complaint: The blast of air makes more noise than the Super Caster itself. The Super Caster is very quiet when compared with a Composition Caster or the Orphan Annie (sorts caster). My Thompson makes an awful racket (because the motor is inside its metal stand), and thus, added noise of air probably would not be noticed.

The airblast is constant—no off and on. It hits between the mold and matrix when the two are separated as the type is being delivered from the mold. It's such a simple idea, I wonder if I should try to incorporate it into my Thompson operation?

Toward that end, I ask if anyone has tried or has known of an air hookup for matrix cooling on the Thompson. If so, I would welcome your description and discussion in a future *Newsletter*.

TALK ABOUT A BARGAIN *from page* FOUR

through his glasses and sometimes over the top of them—usually when driving home a point. His sense of humor runs deep.

I led the way to the back of my barn-museum to the two dusty hulks standing defiant and smug. Mark didn't take the time for formal introductions. With authority, he pulled open the maw exposing the mold wheel and mouthpiece. Further opening up, he pulled gobs of wayward metal and gunk from countless crannies and proceeded to deftly tweak the various mechanisms.

I rattled on about hair-raising episodes attempting to run the things. I wasn't sure he was listening.

Then the lessons started as he pointed out this problem and that. Cleaned out gear teeth and peered deep into the bowels of the thing. 'Oh, gawd,' uttered under his breath. I quit talking, awaiting horrifying news. Nothing. He resumed probling and cleaning. Then Mark seemed satisfied.

He sat down at the keyboard and brushed across the keys like a concert pianist. The mats rang musically as they filled the stick. The little finger of his left hand artistically stroked the spaceband key. He cautiously raised the line to the delivery slide, eyes scanning the machine for any truant activity.

The line slid smoothly to the first elevator. Heavy metal parts slammed here and there doing their assigned tasks. I wasn't breathing. Before I could follow it all, mats were clacking back into the magazine and Mark was inspecting a perfectly cast slug. Mark didn't appear particularly impressed, but I sure was. I glanced up to the large cast nameplate at the top of the machine that said 'Intertype' and I said to myself, 'now take that, you black bastard.'

Once humbled by these machines, I now can look them squarely in the pot and savor a taste of victory.

(*The article above was first published by Robert Schladetzky, 6121 Beaver Valley Rd., Port Ludlow, Wash. 98365, triumphantly set on a 1930 Model C Intertype. His leaflet, "Notes from A Horse Doctor's Linecaster," dated October, 1989, was circulated in the National Amateur Press Assn. bundle.*)

JUST FOR YOUR COMPARISON, the two articles on linecasting were done as follows: *Norm Cordes* did his piece on the Intertype in 10 pt. Caslon Old Face with one point of leading. The article by *Robert Schladetzky* was done on the Monotype in 9 pt. Caslon 337 with long descenders and two points of ledding. *How do they compare?*

When Discarded Equipment is Discovered We're Obliged to Go and 'Check It Out'!

There's no question but that the supply of discarded Monotype equipment still floating around has all but dried up, and there's no question that many of us have no need for additional equipment. Yet when calls come in, we must respond.

I got such a call before Christmas from a guy who had picked up a bunch of Monotype mats from Westinghouse Electric's in-house printing facility near Pittsburgh. For a change, this man knew Monotype. Fred Fruden's father started the first successful Monotype plant in Pittsburgh before 1910 (called Mono-Lino). Indeed, Fred had atended the Monotype School in Philadelphia in the 1930s.

But he'd left his dad's shop to his brother, and had ventured into the printing equipment business many years earlier. His recollection of Monotype was a bit rusty.

Somehow, he'd gotten Paul Duensing's name and had called Paul. Paul didn't want to run clear to Pittsburgh, so he referred Fred to me.

I would have turned down the deal without inspection, but he mentioned "405" as being written on the end of several of the boxes. Knowing this to be American display mats for Bembo, I had to check them out. I ended up buying over 40 boxes of Giant and flat mats to get five fonts of Bembo mats.

But after getting home with the "loot" and inspecting it more closely, I found most of the Giant mats were virtually new with shiny faces—in much better shape than the ones already in my inventory. So I had to transfer all these fonts into my collection.

And in another box I found several fonts of Helvetica comp mats in Monomatic I mat cases (all coated with rust and dirt). They cleaned up nicely, but served to suggest that other fonts should have been in the lot.

So I headed out for another scavenger hunt at Westinghouse to see if additional stuff could be salvaged.

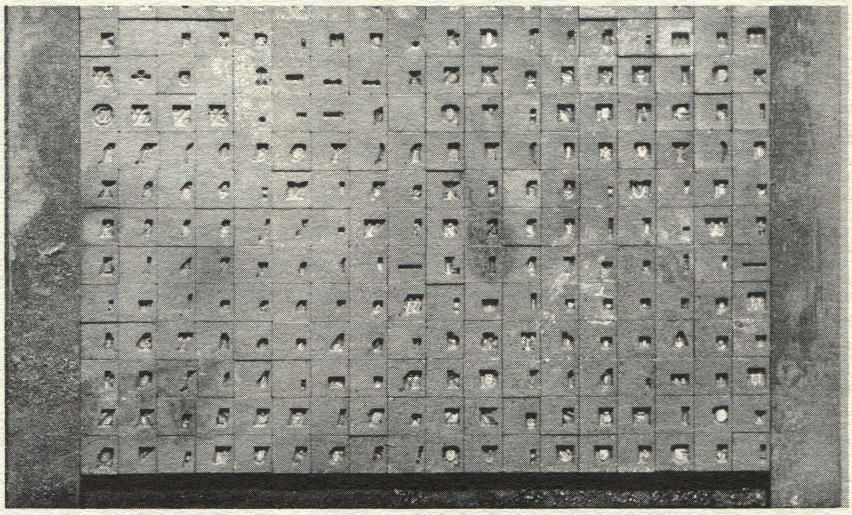
I was successful at locating three more fonts of Bembo Italic, and one font of English large comp Garamond, along with lots of parts for the Monomatic keyboard.

Upon returning home, I compared and found the Monomatic I parts matched my Monomatic II keyboards and this has started me on a semi-active venture to get my Monomatics running (Monomatic I and II are *not* totally compatible).

And I have a few more fonts of American display and Giant mats in my collection.

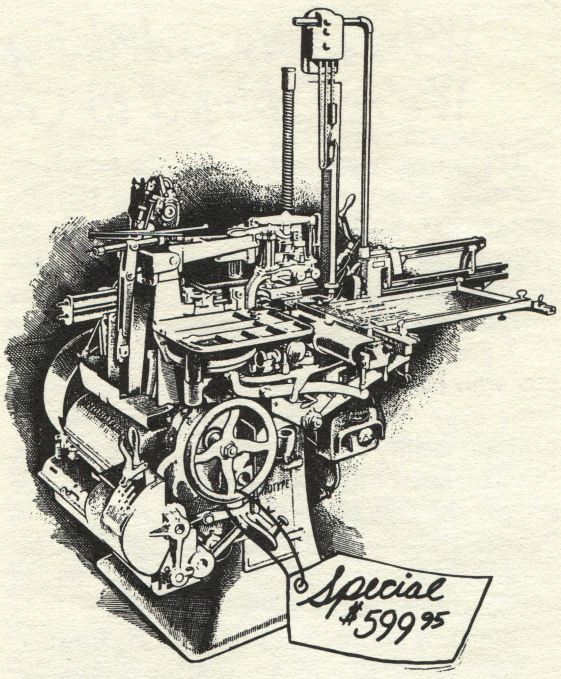
Keep mind, boys and girls: It is our sacred obligation to save as much of this stuff from oblivion as humanly possible. That's written in our *oath of insanity* which we took upon entering this avocation "back then."

I'd like to hear of your "finds" for publication in future *Newsletter*s.



Here's what one of the Monomatic mat cases looked like before being cleaned up. Fortunately, most rust was from something else and the crud on the mats was little more than dirt. (Monomatic I cases were a straight 18x18. Monomatic II cases had a divider between the left and right quadrants.)

They've Offered Me A Machine . . . Should I Take It?



On several occasions, letters like this have arrived in my mailbox. Since the answers are of general application, I reprint my response completely.

Question: I will be getting a Lanston Monotype next week from a dealer in Omaha. The machine number is 1377. A plate says, among other things, 8 pt. 3E3877R. Do you have any information on the operation and maintenance of this machine? Also, where are supply sources for repairs and the paper, etc.?

Reply: Yours is a most difficult letter to answer because the few questions you ask can be answered only by posing additional questions.

You imply that you are getting only a machine. A machine by itself is of very little value. I must ask whether you also are getting a keyboard, any matrices, any spare molds, and/or the associated components such as justification scales, wedges, stopbars, keybars, keybanks, etc. These questions all hinge upon the supposition that you are getting a composition caster, which requires all these components in order to be operated.

I make that assumption based on the fact that the machine has mounted an 8-point mold (you give its serial number as 3E877R). Such a mold could be mounted in a sorts caster, but it is far more likely for it to be used with a composition caster.

This point is made because a sorts caster, which has a large gearbox and a couple of hand levers on the left end of the machine (as you stand in front of the galley with the mold numbers you mention facing you) does not require a keyboard and all its associated paraphernalia for operation.

Outside the caster and its components, you will need an air compressor to provide air for the caster and keyboard (not mandatory for a sorts caster), and you probably will need to devise a phase converter for the three-phase motor which most likely is on the machine. A phase converter is far more easily constructed than getting a single-phase motor which will fit the machine. If yours is an electric pot, you will need 220-volt power, and if it is gas, you'll need natural gas or you'll have to reduce the gas orifice so you can use propane fuel.

The four-digit serial number you give indicates a very old machine. My oldest machine has a number 4774 or thereabouts, and I know it was up and running about 1925, so you really have an antique on your hands.

That is not to imply that the machine cannot be operated. Quite the contrary. Lanston Monotype Company, which went out of existence in the late 1960s, supported even its earliest machines up until the 1950s, and most improvements made to the machine could be (and often were) retrofitted. The mold you have, for example, is a 3E mold, which came out (I think) in the 1940s and is a better mold than the earlier 2E molds. The 4E molds are newer. Nevertheless, any of the molds mentioned will work in your machine and produce good type.

Lanston Monotype was eclipsed by outside vendors with regard to many parts and supplies; chief among these suppliers was Hartzell Machine Works of Chester, Pa., which actually purchased much of Lanston when it went on the auction block. Realizing the extremely limited demand for parts, Hartzell no longer restocks as parts supplies are extinguished, but does have a

sizable quantity of parts on hand. I know of no one in the U. S. who seeks to do maintenance and/or repair work on Monotypes. That is chief among the reasons for our informal American Typecasting Fellowship—ATF provides a forum for hobbyists and professionals using the equipment, and allows us to barter and exchange parts as needs arise.

Lanston's counterpart in England, Monotype International, thrives in the cold-type market, and still supports its hot-metal customers in a limited way. The English machine had numerous interchangeable parts with the American machine, but one must know a lot about each machine to know what parts can be interchanged. It would be grossly unfair to expect English Monotype to provide such information, for personnel are not too familiar with machines made in the U. S. *(See article on page 15 regarding English Monotype.)*

You ask about literature. It's essential. Knowing more about the machine certainly enables you to better know and understand the components you'll need. If the dealer has no manuals, I recommend you check your local library for starters. *The Monotype System* was published twice by Lanston and is a great overview of the entire machine.

A second reference would be *Casting Machine Adjustments*, which is the only mandatory manual on the caster. Similar manuals were done for the keyboard, as well as other machines made by Lanston.

I recommend that you re-negotiate your arrangement with the dealer. A machine by itself is virtually useless. Unless your dealer can also provide the many parts, accessories and other components, especially matrices, you have an item which is worth very little indeed.

If you already have the machine, I suggest you put out the call to ATF members. Many of us have duplicates on various parts and components and surely one of us can help you get all that is necessary to be up and running.

There are a few shops still for sale and that certainly is the best way to go—buy the whole shop and take everything. That especially includes the drawers full of parts, components, and paperwork. Drag it all with you for certainly you will find the paperwork will tell you what is supposed to be there and how it works together. Each Monotype operation was "custom" to a degree, and without the paperwork, it often is impossible to reconstruct how things worked together. This is especially true of keybars, wedges, stopbars, and mat case arrangements.

Do not take this response as discouragement. I am living proof that with the manual and necessary components, a person can teach himself/herself how the system is supposed to work, and can actually get it to work. My first contact with professional Monotypers was nearly 18 months after I had successfully cast my first galley of type.

By all means move ahead. And keep us appraised of how you are progressing. Other members of ATF want to know how you succeed.

From New York to Idaho

Perhaps most folks on the Linotype and Intertype scene already are aware that Merle Langley, owner of Marlboro Mats, has moved his whole operation from upper New York to Coolin, Idaho.

Everything now is housed in a 40x70-foot steel building erected for the purpose. He says he moved 114,000 pounds of matrices westward, but was forced to discard over 23,000 pounds of brass matrices before the move.

"You just can't keep everything," he reported.

The first truck load of matrices left Marlboro, N.Y. in August of '86. Each of the 2,300 galleys had to be carried, one at a time, by Merle and his wife and loaded into the tractor and trailer. After loading the huge truck—35,000 lbs., Merle said: "My wife is still speaking to me," adding that, "she's up for sainthood."

The move was further complicated when Marlboro purchased the huge stock of mats from the Government Printing Office in Washington, D.C.—about 31,500 lbs. of brass matrices. They had to be sorted and unuseable ones discarded.

Contact him at P. O. Box 188, Coolin, Idaho 83821. Phone (208) 443-2715.

An Overview of the TA Conference

Continued from page 5

(W. Va.) *Dominion-Post* and written and photographed by Nancy Abrams, who (I must admit) was once an employee and perhaps an understudy a dozen years ago when I owned a weekly newspaper; and *(c)* A discussion of how two newcomers viewed the Conference, written by Greg Walters of Piqua, Ohio, and Ed Rayher of Northampton, Mass. Both came to the meeting with no prior knowledge of what might be in store.

1989

Born moon goad among man
and gnomon good ardor hoard
honor dragon madman or hag

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

At left, a first showing of a figure font which punchcutter Dan Carr of Ashuelot, N. H., has produced. Dan looks on as Stan Nelson (another punchcutter), Columbia, Md., critiques the specimen at the 1988 Conference. Photo by Nancy Abrams

A Newcomer's View of the ATF Conference

By Greg Walters

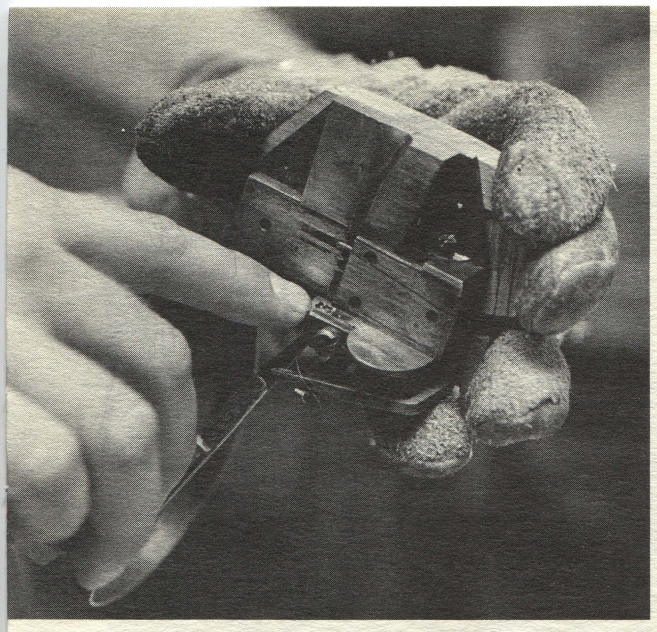
As preparatory supervisor at a large printing company, I have daily opportunities to witness the unrelenting efficiency of high-tech equipment. I appreciate offset/cold type for its pragmatic usefulness, but my heart belongs to letterpress and hot type. Modern printing is my second language; letterpress is my mother tongue. Thus, I looked forward to my first ATF Conference like an immigrant vacationing in the old country.

Letterpress involves turning back the clock to another era, and what more fitting introduction than a harrowing drive down West Virginia byways in the wee hours of the morning? The speed limit was 55, but the tortuous road invoked certain laws of physics which ensured that no automobile could hug the asphalt long enough to get a speeding ticket.

Rich Hopkins started the Conference by discussing the hot type bug which causes victims to accumulate unconscionable amounts of lead and iron. I pondered the question, "Have I been bitten?" Hmmm. I just drove half the night on a West Virginia roller coaster to get here. I guess that's a sure symptom. . . .

Some people get the type bug worse than others. Many attendees do not own any casting equipment, but are entranced by type and its history. And then there are people like Berliner, Churchman, Halbert, Hopkins, and Taylor. They are paragons of typecasting megalomania. Where will I fall in this scheme of things? Hmmm. I think I could squeeze five, maybe six, machines along the garage wall.

I was astonished by the range of interests and talents our members displayed. I had no idea that people still cut punches by hand, so it



Stan Nelson demonstrated the ancient art of casting type with the hand mold during the 1988 ATF Conference. With the mold open, Stan shows where the matrix is positioned. The heavy glove protects his hand from stray molten metal during the casting process. Photo by Nancy Abrams

was a revelation to discover the "craziest of the crazies," Dan Carr and Stan Nelson. The West Virginia byway system had propelled my mindset back in time, but I had no idea that I'd be this far back. The 1980s returned the next day when three members discussed projects to use computers for input to Monotypes. I think it is a great idea. Hmmm. I think I'll interface the computer to a punch, and then I can run the tape on any of the six Monotypes that will be in the garage. . . .

The sell-n-swap meet and the auction proved quite worthwhile for me. I had no idea what hot metal equipment sold for. The prices were most reasonable, and I very much regretted not bringing more cash.

The technical sessions were great, even for a neophyte like myself. I have never seen a Supercaster before, but I came to understand its operation and capabilities. Nor had I ever seen a composition caster in action. I was mesmerized. Then I thought back to Harold Berliner's discussion about disposing of your shop. My roommate, Jack Murphy, thought the problem moot, predicted that in another fifty years, the typecasting hobby would probably die out. Hmmm. In fifty years I'll be 84 years old; maybe I'll be the only one left, and there won't be any cars in the garage, just rows and rows of Monotypes and shelves of mats; oh, I just hope I don't go overboard on these Monotypes. . . .

A Low-Key Diversion Or A Boost to My Obsession?

By Ed Rayher

To be honest, when I set out for West Virginia, I figured a nice, low-key diversion from my obsession with my 15x15 comp caster would do me good.

Terra Alta seemed like a good idea. The previous winter, I had bought a Thompson (fire-engine red, no less) from Rich. I arrived with a late-model LTD and a U-Haul trailer.

The driver's window fell into the door during the trip, which didn't bother me until we passed over the Cumberland Gap to find ourselves immersed in snow. Philadelphia had been dry and warm, but at Terra Alta, we were blinded, frozen, and in turning in front of Rich's house, the wheel of the trailer fell into a snow-covered culvert. With the Thompson holding the trailer close to the ground, we were surely doomed, until passers-by literally lifted the trailer back onto the road.

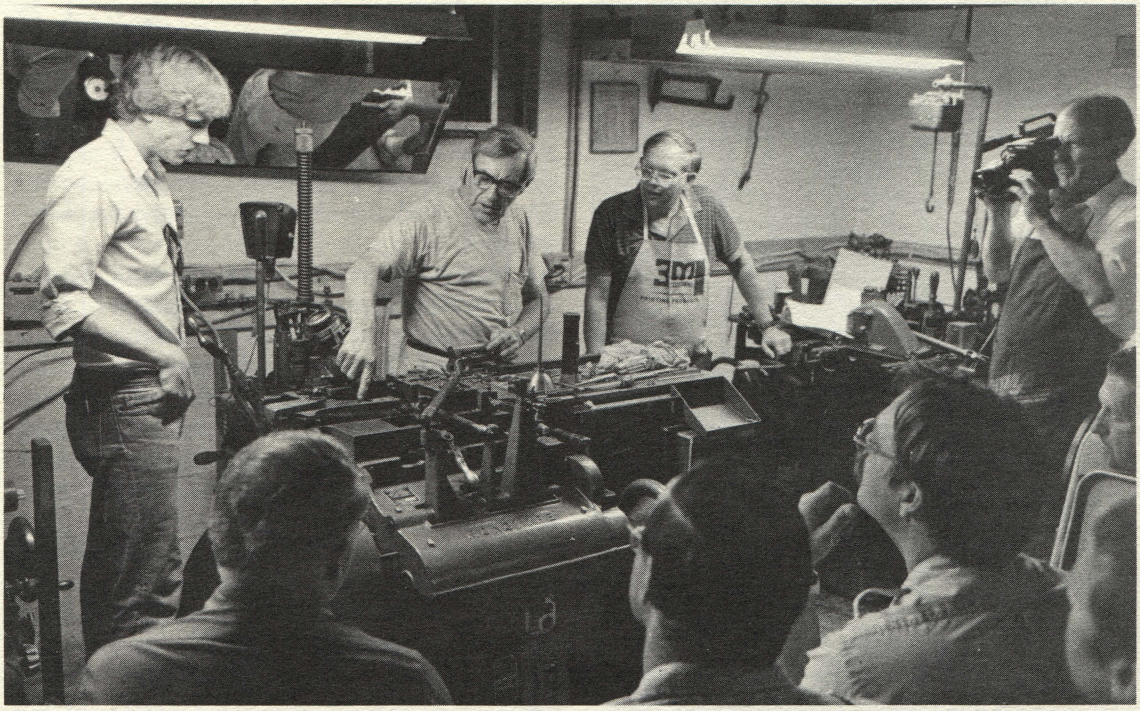
I figured this trip, given it likely would not snow, had to be a piece of cake. Well, the lecture sessions were too interesting to sleep through. That meant I didn't get much rest. And then there was the jewel I had not anticipated. Harry Wearn. The technical sessions made me realize my obsession was about to be given a boost.

Up to this point, I avoided doing anything not absolutely required for the functioning of my caster. Harry broke the mystique of the machine. Whereas I was terrified of taking anything apart, it now became clear that if you are going to make type, you've got to take the machine down, and adjust it for perfection (or at least for damn good type). I couldn't wait to get home so I could adjust my pin jaws and best of all, the pump and nozzle.

After my excited dismantling and re-assembly, the application of new parts and the dawning inkling about how the pump actually works, I realized this caster was never going to make another piece of type. The nozzle froze up. The pump lever pin never revolved freely, no matter how I adjusted the crosshead. My days with hot metal were over.

I cursed, I oiled, I readjusted. Finally, I called Dan Carr, hoping he could put me out of my

Continued to page 27



Mirror on the wall helps observers during the Super Caster technical session. Scott Holt (left) and Dave Peat, Indianapolis, Ind., look on while Rich Hopkins records on video. In foreground: Paul Duensing, Kalamazoo, Mich.; Chris Rule, London, England; David Holmes and Bob Halbert. Photo by Jim Walczak

"They Crowded Into Rooms . . . And Melted Metal"

By Nancy Abrams
Morgantown (W. Va.) *Dominion-Post*

They're in love with the printed word.

They're in love with the *printed* word.

They're in love with printing.

Members of the American Typecasting Fellowship (ATF) met on a recent hot weekend at Alpine Lake in Terra Alta. They came from England, New Jersey, California, and other places, sharing a passion for an ancient and dying art, the use of metal type.

They crowded into small, warm rooms and melted metal, flourished papers. They admired each other's work and learned.

The movable metal letter is the basis of printing. The paper, the ink and design are also important, but the entire character of a printed piece can be determined by a typeface.

An example: *Panorama* is printed in Souvenir. Compare it to the rest of the Sunday paper, which uses Times Roman body copy.

All this type is computer generated. ATF members might appreciate the typefaces but sneer at the technology of it all.

They prefer to be machinists/artists, tinkering with Rube Goldberg-type apparatuses and fingering pieces of tiny metal to produce impressions.

For some ATF members, their art is their living. They are commercial printers. Others are hobbyists. All of them, they admit, are crazy.

"We all have to be crazy to do what we're doing," said Bill Riess of Honey Brook, Pa. "That's why we have to find people as crazy as we are to hang around with."

"The social aspect is far more important than the technology," agreed Pat Taylor of New York. "It's lies, stories and sociability and a certain amount of expertise."

The ATF was founded 10 years ago by Rich Hopkins of Terra Alta, W. Va. "I called the first meeting almost by accident and it's grown from that," Hopkins laughed.

The group has also met in New York, Washington, Indianapolis and Oxford, England.

The ATF by-laws were created by Harold Berliner of Nevada City, California. A lawyer, Berliner works with type just for fun.

"It's difficult to claim that I'm the craziest in this crowd," Berliner said. "I've got a big ego but I wouldn't go that far."

Berliner scowled, trying to remember the by-laws he claimed to know by heart. Then he recited:

"1. The name will be the American Typecasting Fellowship.

"2. There will be no officers.

"3. There will be two committees, publication and meeting, and they are encouraged to raise money as best they can.

"4. There shall be no further by-laws."

Hopkins, a former West Virginia University journalism professor, uses the latest technologies—computers, phototypesetting—in his business. But, as "head honcho" of the ATF publications committee, he buries himself in a basement filled with "at least a million" matrices, or type molds, drawer upon drawer of type and enough machinery to nurture his art.

Hopkins has edited and published the ATF *Newsletter* for 10 years.

Three hundred and fifty copies of each tract circulate "all over the world," Hopkins said.

Dan Carr of Golgonooza Letter Foundry in New Hampshire and Stan Nelson of the Smithsonian Institution crouched over a table, studying papers.

Nelson started making type "when I was a kid." He twisted a matrix as he spoke, fingers familiar with the gadget.

Carr is "the craziest of the crazies" at the convention. He is a "punch cutter," an artist who designs and casts new typefaces. He showed a sample of his work, a typeface called Genesis, created for a collector's edition of the Book of Genesis.

He pointed at another page, also printed with type he has carved. "That one hasn't quite told me what it wants to be named," he said.

A great hulk of a man, he shows slides of his workplace.

"To be able to cut punches is to allow the eye of the printer creativity," Carr told the group. "My interest is in the touch of human hands."

The social aspects are far more important than the technology.

—Pat Taylor

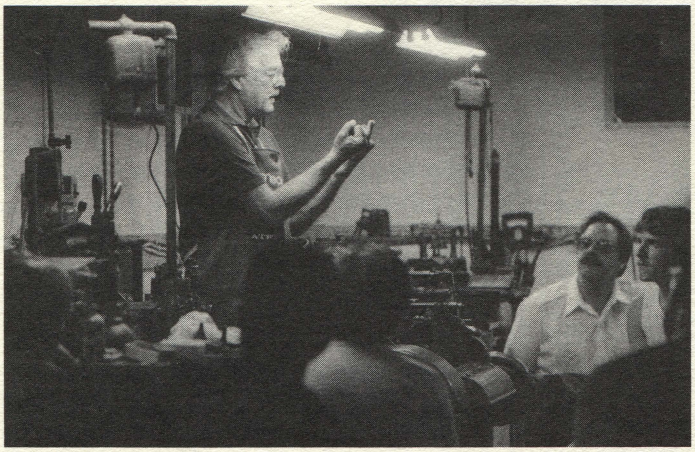
One Sunday night, the group gathered in Rich Hopkins' basement. They watched Pat Taylor twist the innards of a Thompson Caster. They spoke at length on the merits of particular lubricating oils for the machine.

In the back of the room, Harry Wearn watched. Wearn, a guest from England, was the last instructor of the Monotype School. He was with the Monotype Corporation Ltd. for 47 years.

Wearn spoke softly. "They're fantastic, to preserve this as they've done, with this type of craftsmanship. They go to any extreme to keep it going."

Although hot metal type is still popular in Third World countries, where undependable power supplies prohibit photo-typesetting, its use is "dying in Europe like it did here 20 years ago," Hopkins said.

But play no funeral dirge yet. As long as there are cluttered basements, creative minds and "crazy" type-freaks, hot metal type will live.



"Thompsons can be dangerous," Pat Taylor, Larchmont, N.Y., relates during his technical session, showing a partially missing finger to prove his point.
Photo by Nancy Abrams

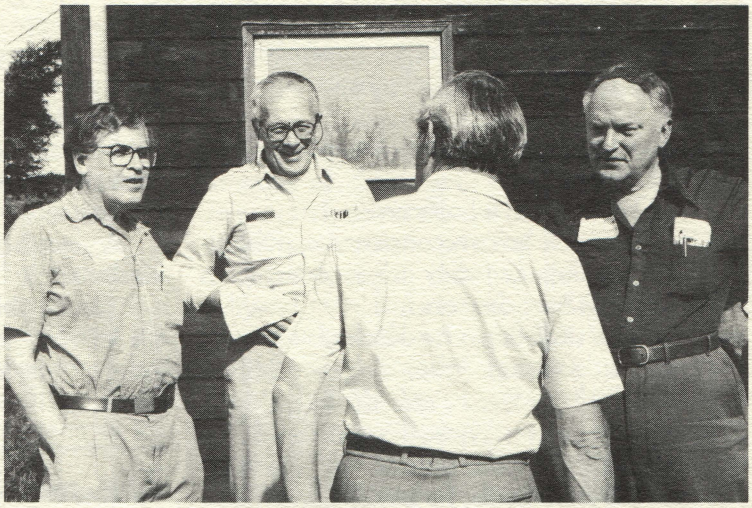
(This article, along with all photos herein attributed to Ms. Abrams, first appeared in the "Panorama Sunday Magazine" of the *Morgantown,* W. Va. *Dominion-Post,* July 31, 1988.)

"Opportunity to Interface with Like-Minded Souls"

By Paul Duensing

The high country of the West Virginia hills was not immune to the high temperatures prevalent throughout the U. S. in mid-July, 1988. But neither temperature nor humidity reduced the high levels of interest and enthusiasm of the 78 attendees at the tenth-anniversary meeting of the American Typecasting Fellowship in Terra Alta, W. Va.

The first evening opened informally with a showing of slides taken in the shops and foundries of the attendees, narrated by their owners and accompanied by free commentary from the audience.



Enmeshed in casual conversation during the Friday picnic: Steve Saxe and Chuck Klensch, both of New York City, and Paul Duensing. Guest of honor Harry Wearn has his back to the camera.

In the general sessions which followed, there were lectures by Dan Carr on hand punchcutting; Stan Nelson on casting type in a composing stick; provisions for the continuation of your shop by Harold Berliner; Harry Wearn on English Monotype history; Jim Walczak on waterways of the Thompson mold; bringing computer technology to the Monotype by Roy Rice; and Dave Peat on old-time typeface patent applications.

There were also less structured sessions devoted to the informal interchange of information; status of research-in-progress; and exchanges between those with spare parts available and those in need. For the semi-adventurous, there also was a free ride in a tethered hot-air balloon.

The general sessions were followed by typecasting workshops devoted to detailed lectures on operation and trouble-shooting of the English Super Caster and Composition Caster conducted by Harry Wearn, and on the Thompson typecaster by Bill Riess and Pat Taylor.

The informal interchanges of anecdotes, information, specimens of work and the more formal exchange of printed keepsakes provided—for many attendees—a most valuable opportunity to interface with like-minded souls.

The auction of type, matrices, specimens, tools and parts provided both valuable source materials and high comic relief in the selling patter of "Col." Dave Churchman.

Attendees voiced great satisfaction with what they heard, saw, learned, and bought. They came from both coasts and throughout the U. S., as well as Canada, Austria, and England. They brought questions, commitment and enthusiasm; they departed with new knowledge, friendships and strongly renewed enthusiasm to practice and preserve the craft of metal typecasting.

Trip to Germany Cancelled

One of the few true decisions to come out of the 1988 ATF Conference at Terra Alta was the resolution to take a trip to Germany in 1989 at the invitation of our typecasting correspondent Mr. Schumacher-Gebler of Munich, as extended to the group by Paul Duensing.

Mr. Schumacher-Gebler had registered to attend the Terra Alta Conference, but was stopped because of a last-minute complication at his office.

To spite Duensing's vigorous efforts to pursue the matter, group arrangements could not be made and the trip had to be cancelled.

"From Hot-Air Balloons to Colonial Williamsburg"

By Guy Botterill

Marvelous! Seventy-eight hot-metal crazies roared into Alpine Lake Lodge for American Typecasting Fellowship Conference No. 6 on Thursday, July 14, 1990. The dynamic affair literally blasted off with an exciting hot-air balloon ride—memorable!

After drinkies, we had fascinating slide talks: Chuck Klensch on European foundries; Paul Duensing on his shop, typographic library and foundry, the 1980 tour through ATF in New Jersey, Ludwig & Mayer foundry in Germany, Stephenson-Blake foundry in England, and Plantin Museum at Antwerp; Stan Nelson on his unique basement shop and the Smithsonian Graphic Arts Section; and John Kristensen on his Firefly Press.

Early Friday morning we had seminars by Nelson on casting sorts in a composing stick, and Dave Peat on Victorian type patents. Keepsake packets were distributed, including a Matrix Atlas by Duensing, reprint edition from the Colonial Williamsburg Printshop, two-color poster from Charlie Hinde, a Hadriano broadside from Bruce Washbish, large folder with three specimen sheets from Kristensen, two-color lino cut folder from Nelson, and many other goodies.

Dan Carr gave a magnificent slide demonstration on punch-cutting—pure craftsmanship. Next we were treated to an intriguing talk by Harry Wearn on his career with English Monotype. Later we had a delicious buffet dinner at Rich & Lynda Hopkins' Open House featuring a keg of cold Carling beer. Pat Taylor and Bill Riess were casting new souvenir ATF logos on the Thompson. We were amazed at Rich's extensive mat collection and delighted by a video of attendees at the 1986 Indianapolis Conference. Socializing continued into the night.

On Saturday, Rich conducted a charming Video Quiz, and Roy Rice gave his seminar on computerized Monotype technologies. After lunch, Duane Scott showed interesting videos; also John Horn with his 1837 Hoe Washington hand press. Carl Schlesinger presented his talk on the Mergenthaler Linotype.

At the Saturday-night banquet, we were treated to a slide show of the Colonial Williamsburg Printshop, presented by Dale Dippre and Peter Stinely.

After Sunday brunch, a short business meeting and a tailgate party, the wild ATF auction swung into action with Dave Churchman and Peat in rare form, assisted by recorders Steve Saxe and Klensch.

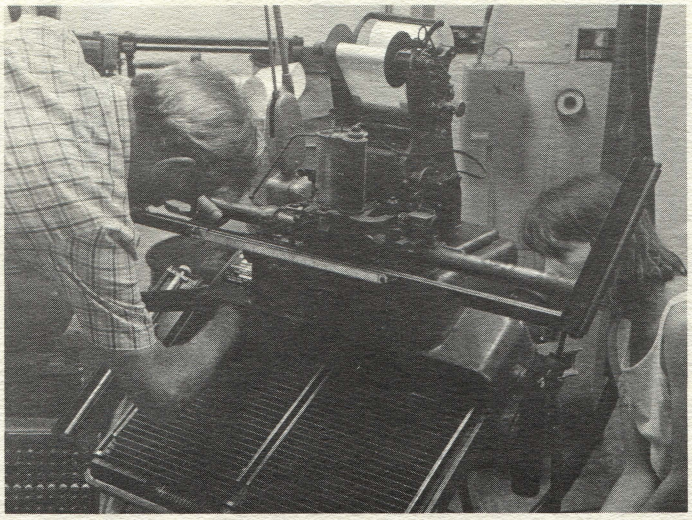
(Botterill did not attend the technical sessions.)

A Boost to My Obsession *(From page 23)*

misery. Dan explained the virtue of patience, and I went back to work.

In the end, I added another caster to my collection, a Type and Rule Caster. By then, I had gotten the 15x15 to make beautiful 14-point type. By borrowing the display bridge, the wedges, etc., I started casting 14- and 18-point display on the comp caster.

I still think of Harry, and what he would say if he saw my machine. (All those worn parts, lack of perfect timing and adjustment.) He made me realize what a fine art typecasting is. Watching him work made me realize that it will take a lifetime to get this thing under control. In the meantime, I do the best I can, and enjoy it.



Harry Wearn and Julia Ferrarie, of Ashuelot, N.H., seek out a problem with Rich's keyboard prior to a technical session. Julia attended the Monotype School in England, taught by Harry, prior to his retirement. Photo by Jim Walczak

Sycamore Type Foundry Gets a New Home

Here's visible evidence of what Jim Walczak has been doing since retirement from government service late last year. He's built a separate building to house his Sycamore Type Foundry to the rear of his home at Oxon Hill, Md.

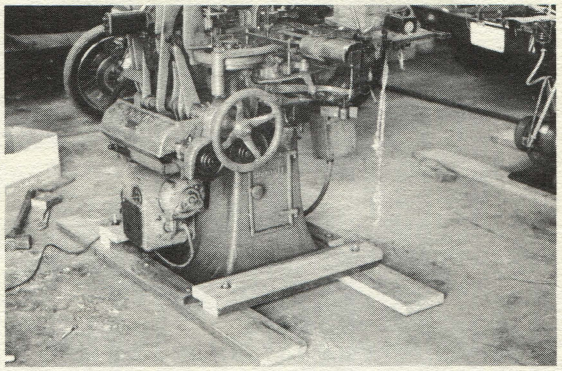
Jim has taken to heart the experiences of others. Note first the door, cleverly designed to offer a full four-foot opening by the removal of a semi-permanent panel on the right side. Reason for the width is obvious in the photo showing Jim inside with his Orphan Annie half way through the opening.

Two other photos show what Jim calls the "Roy Rice Skidding Method," designed to facilitate rolling Monotypes on pipes and to overcome the top-heavy nature of the machines.

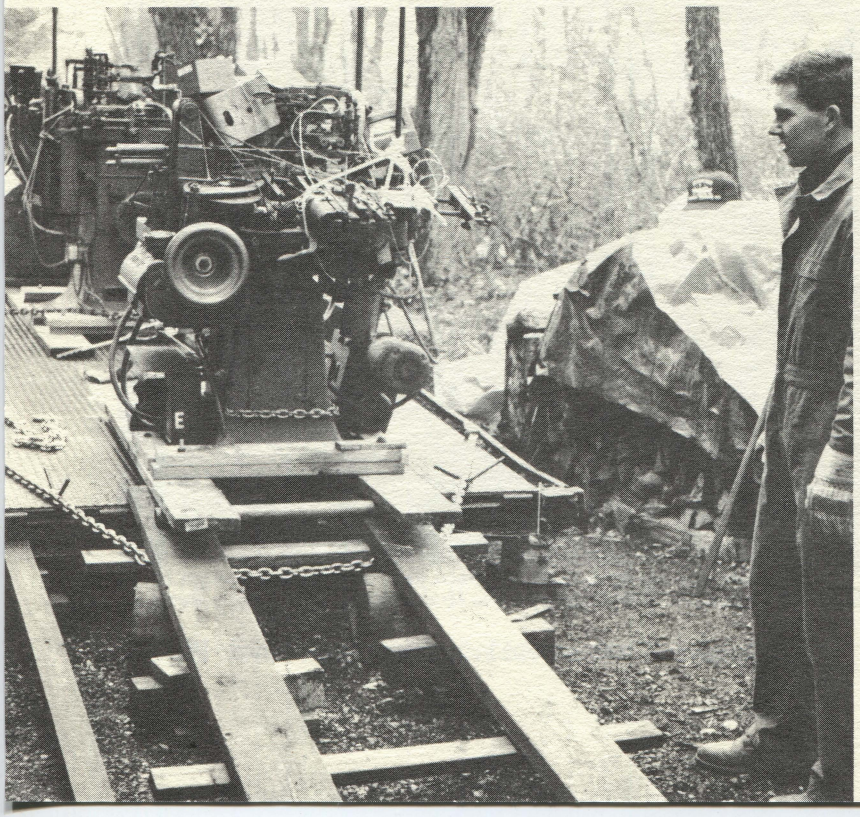
Jim reports "we were overly cautious moving the first machine in. Then we realized how easy it was and the others were in in no time."

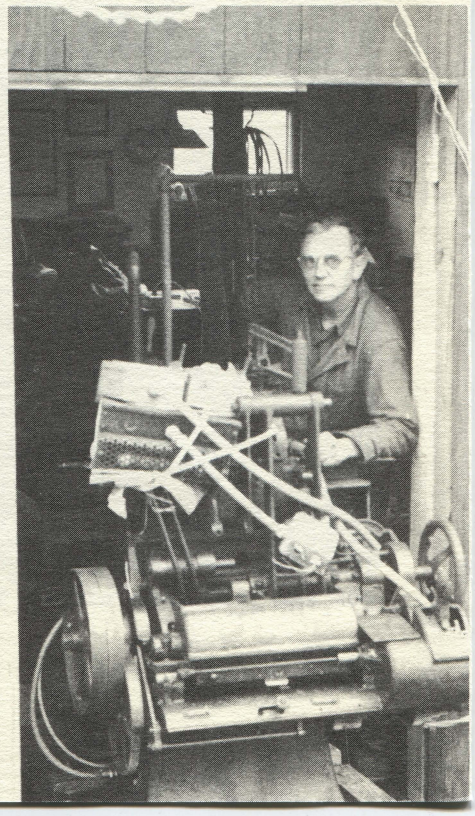
He acquired equipment from Mike Dorsa of Cincinnati, Ohio. He now has a Thompson, "Orphan Annie," an English Composition Caster, and most of the display mats from the U.S. Government Printing Office. Andy Carson, an NAPA member, helped make the move.

The new foundry building, erected to the rear of Jim and Francesca Walczak's home, so more room would be available to accommodate more casters.



Three casters await their new home in the foundry. "We were overly cautious on the first one," Jim says. "The other two were quickly pushed off."





In Working with the Monotype Composition Caster:

Proper Diagnosis is Key to Successful Operation

A problem Composition Caster operators have with increasing frequency as matrices continue to wear is the appearance of burrs on letters caused when metal leaks between the top of the mold and the matrix.

Some reasons, such as matrix or mold wear, are obvious. Others escape even the most experienced operators and since I just located one of those elusive reasons, I have decided to share my ordeal.

First a generalization:

If you're using new matrices, try also to use a new mold. The two flat surfaces complement each other. The converse of this is also true: if you're using worn matrices, try to use a mold which also is beaten down at the top. The two semi-rounded surfaces tend to work together to prevent burrs—within reason.

Obviously, you should check the pressure being exerted by your centering pin in holding the matrix against the mold at the instant of casting. Procedure for doing this is well explained in the various manuals. Get 'er set so two pieces of controller paper are too tight, yet one thickness pulls out with a little resistance.

In analyzing my problem, I deducted that (a) the first letter of every line had a cold face, (b) there were excessive burrs considering the condition of the matrices and mold, and (c) I had excessive spitting underneath, between the nozzle and the bottom of the mold.

In fact, I thought the excessive spitting was causing the other problems, so I went through the manual procedures designed to to correct this problem. I was thrilled to find that the caster *did not* improve at all after I got all the adjustments made.

Could the caster be pumping the metal an instant before it should? That would explain the spitting and it also would explain the burrs. If the mats weren't completely seated before the cast, obviously a burr would result.

Well, I decided to closely follow the procedures found on pages 159-164 of *Casting Machine Adjustments*, that erstwhile manual produced by Lanston Monotype. The procedures relate to piston adjustments.

My machine was badly out of whack and once these adjustments were corrected, the spitting and the burring were virtually eliminated. The cold face on the first letter of each line also disappeared.

It truly was exhilarating to experience such an *instant relief* from problems which had been tormenting me for months, and it goes to prove the age-old adage that proper *diagnosis* is 90 per cent of the cure!

What Standards Are Standard?

Sometime very basic information about the Monotype system is hard to find. For example, until recently I had not found a comprehensive reference of "standard" line standards which were to be used for various sizes.

The information below was found on a tiny envelope which contained one steel standard which accompanied a new mold back in 1939. What it says is something I suspected, but never had a definite reference for. So I pass it along:

"*Monotype line* cellular matrices must be cast on the line standard of the mold with which they are used. Thus: If an 8-point face be cast on 8-point body (solid), use line standard .085; if cast on 10-point body (two points of ledding) use .105 line standard.

"Object: All faces cast on the same size body will align.

"Exceptions: Certain faces are not on *Monotype line* and require special line standards owing to the extreme height of these faces."

POINT SIZE MOLD

5	5½	6	7	8	9	10	11	12
.055	.060	.065	.075	.085	.095	.015	.115	.125

Each Typecasting Effort 'Jinxed'

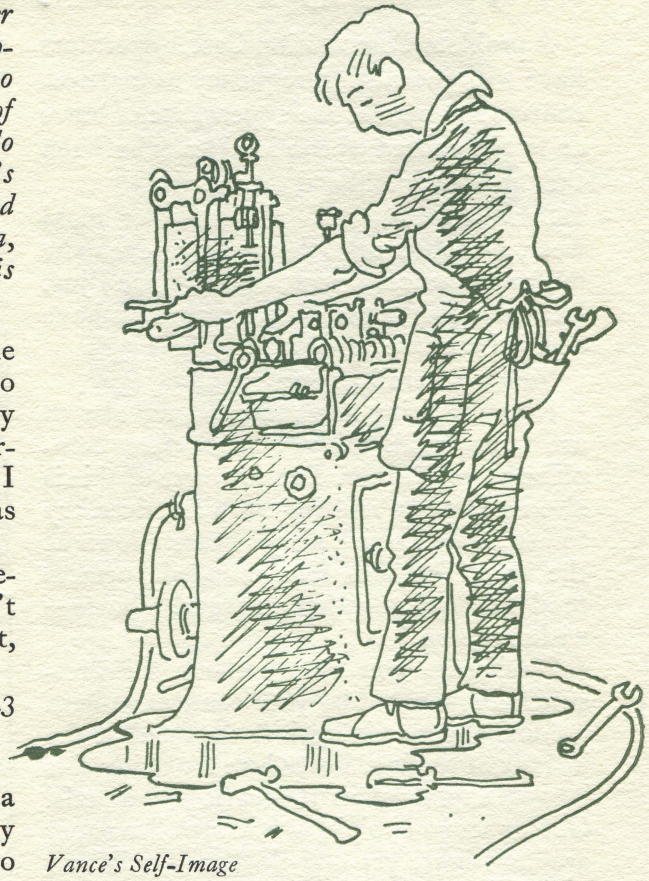
EDITOR'S NOTE: *This publication never would speak negatively of the vocation (or avocation) of typefounding. Yet those of us who actually make type sometimes feel a sense of frustration when non-typecasters ask us to do tasks which appear to be "so simple." It's amazing what obstacles we're confronted with, like those Vance Gerry of Pasadena, Calif., recently encountered trying to get his Thompson active once again.*

One can have a lot of dreams over the years, but to actually put the projects into something tangible sometimes is virtually impossible. When Experto of India advertised their services at matrix making, I decided to have mats made for some ideas I stole from Wanda Gäg illustrations.

After a lot of correspondence and my redrawing some of the designs which didn't look so hot when blown down to 18-point, 30 beautiful mats finally arrived.

Experto apparently couldn't do an .043 drive, so the drive was .050, which was acceptable. I'd get LA Type or some one else to cast the type. (I have only a mold to accommodate .043 mats for my Thompson.) I hadn't been too specific as to thickness, thinking the flat-mat holder for the Thompson could accommodate about anything. The mats I received were too thick to fit any holder I had or anyone else had. LA Type was too busy to help, so a local machinist, with what I took to be a German accent (and thereby gaining my trust as to his skills) machined the hard-brass mats to a thickness we could all live with, as well as taking enough off the face to make the mats a .043 drive.

Weeks and months of my life have gone by—God doesn't want me to have proprietary decorations. A local typefounder tells me he can't cast the type because his Linotype mold (for the Thompson) can be used only for Linotype mats and doesn't want to disturb the situation with experiments.



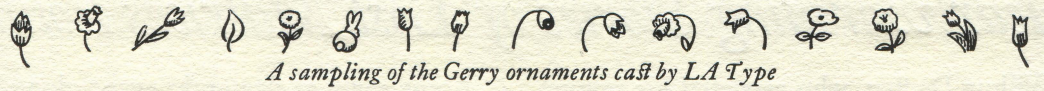
Vance's Self-Image

LA Type seems to be going out of business too. So I have decided to do the casting myself.

My old Thompson is set up in Perris, Calif. With an extension cord of almost unmeasurable length, and some garden hoses, it might be made to work. That accomplished, I was ready to make type. But the machine needed some adjusting.

My over-zealous adjustment of the knife blade broke the casting supporting the adjustment nut and had to be taken to Los Angeles to a welder who did a fine job joining the casting back together.

A few weeks later, I drove again 60 miles to Perris whereupon the broken part was more easily installed than I thought—after



A sampling of the Gerry ornaments cast by LA Type

a side trip to buy a set of box wrenches at the only store open on Sunday.

I confess that I hadn't properly aligned the joining of the pot to the mold and the pump lever was keyed in incorrectly. What I thought to be a little stiffness was overcome by my exceptional strength and the pot frame broke at its locking point. Time to go back to the welder.

The once-brilliant welder this time was struck blind the instant he joined the broken casting. Another trip to Perris (where the temperature was now nearing 100 degrees) revealed the welder's affliction since the clamp for the pot frame tang would, in no way, be entered into. The welder (back in LA now) has recovered his eyesight enough to tell me he aligned the broken castings perfectly before welding and therefore, rewelding would be done at my expense.

I agreed to this and some weeks later, returned to the Thompson. In 90-degree weather, inside a cargo container where the machine resides, I attempted to reassemble the pot and frame. The amount of filing so fatigued my arm that I was forced to hold my elbow like a person freezing in a prison camp. I hide my eyes in embarrassment for all the shimming I had to insert to get the blasted thing back together.

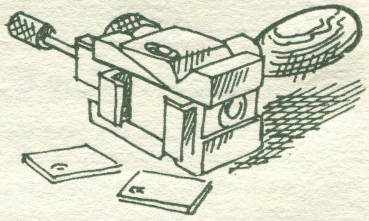
While the pot was heating, I busied myself cleaning up months of mess resulting from repairs to the caster, and I connected the hoses. Then I relaxed to eat lunch in what little shade I could find.

When I returned, I knew instantly that the metal had melted—the choker valve had opened and the metal had run freely into all the most difficult recesses of the machine. Another lengthy delay cleaning away all the metal.

Finally, I was ready to make my first cast! The machine stopped dead at the casting position and would not go further in its cycle. *I called it quits!*

Except for one piece of type, cast by accident (I think), the marvelous matrices remained virgin until I was able to get them cast by LA Type. I still am waiting the return of fortitude enough to try using my Thompson again.

—*Vance Gerry*



Was It Difficult Dealing With an Overseas Company?

The firm mentioned in Vance Gerry's article as a supplier of engraved matrices is Experto Industrial Engravers Pvt., Ltd., No. 18–4 Hadaspar Industrial Estate, Pune 411 013, India. Managing director is Vasant Bhat, who contacted most ATF casters by letter in 1987.

In addition to doing custom engraving on order, the firm has engraved complete matrix fonts including the complete Souvenir series.

A sheet with that solicitation indicated the firm could engrave genuine foundry matrices, single- and double-matrices for the Super Caster, English Composition Caster (not American), continuous border matrices for the rule-casting machines, Ludlow matrices and American Thompson matrices. Obviously, however, the firm is not very familiar with American matrix configurations. A detailed diagram or a sample matrix might help avoid some of the problems Vance experienced.

See articles on the next page relevant to another source for matrices. Vance had delays and had trouble with monetary exchange to India, but was impressed with their skills.

Heartwarming Stories of Lost Matrices Found

Wilbur Doctor, who reported his revival efforts on Updike's private Montallegro type design in *ATF Newsletter* No. 11, has a fascinating story to tell regarding a single missing matrix from the original font.

In October, 1986, on a visit to the Bay Area, he met Roger Levenson, esteemed scholar-printer and authority on the Merrymount Press. They got together at the Bancroft Library on the Berkeley campus of the University of California. As they chatted in the library's treasure-crammed printshop, he told of the missing matrix.

"Now that's odd," Levenson responded. There's an undientified 'va' mat around here. I'll look it up." He found it and it was Montallegro. The mat most likely got to California when Merrymount Press items were donated to the Bancroft by the son of an Updike associate. Eventually, the mat was returned to the Providence, R. I., Library to rejoin the rest of the font.

A not-early-as-dramatic event along the same vein happened recently when I remembered finding a lowercase 'g' matrix in the matrix holder of the Super Caster I had acquired from the Government Printing Office. Remembering also that Jim Walczak eventually ended up with most of the GPO display matrices, I sent the 'g' to him.

"As soon as I received your package, I grabbed the ladder and scrambled to my 'north loft' in the foundry," Walczak wrote. "The inventory sticker on the carton containing Century Expanded said, '30 point missing g.' Down on the workbench, I cut open the carton, pulled out the box of mats and returned the mat to the open slot."

Jim sent the "missing g" note to me as a souvenri. The font and the mat had traveled quite different paths for only about five years. The Montallegro mat had been separated from its font much longer—well over 30 years.

Here's a New U. S. Source for Custom-Engraved Matrices

Mention on the previous page of a matrix engraving source in India might suggest no such services are available in the U. S. Such is not the case, and your attention is directed to Kayenay Graphics, 149 Fourth Street Southwest, Mason City, Iowa 50401. Telephone is (515) 424-2535.

John Henry, general manager, is a long-time letterpress hobbyist. His firm bought the engraving equipment from Carl Solomonson, formerly of New York, who had offdred custom graving equipment from Carl Solomonson, formerly of New York, who offered custom matrices for typecasters and linecasters for many years prior to retirement.

Kayenay's primary motivation for acquiring the equipment was to gain the capability to engrave brass embossing dies. Nevertheless, John is thrilled at having the ability to continue the matrix engraving service too.

Kayenay requires very accurate artwork sized at least 200 per cent of the reproduction size. The more details you can provide to them regarding what type of mat you want (depth of drive, position of image on the matrix blank, kind of matrix, etc.), the more responsive they can be. Keep in mind all is new to them.

Pricing for matrices cannot be established easily unless artwork is in hand, because the art's intricacy directly relates to cost.

Matrices for the border around this article were engraved by Kayenay. I sent art sized at 300 per cent. These are engraved matrices and therefore, if tight fitting is necessary, the castings will require hand dressing, as was the case with this border.