

A conversation with type designer Matthew Carter

Frank Romano

This conversation took place on 12 November 2022 at the Museum of Printing, Haverhill, Massachusetts. The interviewer, Frank Romano, is President of the museum. The conversation was recorded in three parts, which can be viewed on YouTube.¹



Frank Romano (FR): We are here with Matthew Carter, one of the few people I know who has his own Wikipedia page. [holds up a printout of the page] I have no written questions. What I've decided to do is essentially go through your Wikipedia page. [both laugh]

Matthew Carter (MC): I hope it's accurate.

FR: We can find out.

You were born in England, and as you were growing up, it was the time of the blitz in England. Do you have any memory of that?

MC: Um, yes! I do remember bomb craters in the street. I remember the contrails of . . .

FR: German planes?

MC: Yeah. I don't remember exactly what they were, but like dogfights. I remember being warned not to pick up any interesting-looking thing that might be in the garden, because it was probably an incendiary bomb. And I remember my grandmother's house having all its windows blown out by a doodlebug² which landed in the front yard. Yeah, I remember. I remember the feeling that people were actually trying to kill me and my mother in our own home.

FR: Your father was away during most of the war?

MC: Most of the war, yes.

FR: So when did you realize what he did?

¹ www.youtube.com/watch?v=vXFdNLPEC9s,
www.youtube.com/watch?v=LvOPG5KosiA,
www.youtube.com/watch?v=k60MjUhBeDA

² In WWII, this is what the English called the German V1 flying ("buzz") bomb.

MC: What an interesting question. I have *no* idea. My dad was not a very anecdotal person. He didn't bring his work home. When he was home, he was in the garden; he was a keen gardener. So he didn't talk about his work, at all, really. So I guess it was just a gradual process of osmosis. I mean, he had books, of course, at home, which told me what his interests were, and some of them were very interesting to me in time. But I don't remember a sort of lightning-bolt moment of thinking, oh my God, my dad's a typographer. It must have been gradual.

FR: I would assume your education was mostly traditional, lower school, reading and writing, . . .

MC: That's right.

FR: What we call high school, and then you went to college.

MC: No.

FR: So you had no post-secondary education after that.

MC: No.

FR: You were then apprenticed, to a company in Amsterdam?

MC: In Haarlem, in the Netherlands, yeah. I left school in '55, in the summer. And then it's September. I started this, we didn't actually use the term "intern" in those days, but unpaid trainee at Enschedé's. And they had this project, welcoming. John Miles, a very old friend of mine, was the first person, I think, to do that. Then I came, and Carl Dair from Canada, followed. So it was a great scheme that they had, and Enschedé's was a very fascinating place. They're primarily security printers; they print stamps and banknotes and so on, but also general printers. And they had their own type foundry, at least when I was there.

You know, I was supposed to work my way around the whole factory. But I started in the type foundry, and I really sort of stuck there the whole year, working with punchcutters, learning a completely obsolescent trade; obsolete, I should say, trade. But I enjoyed that. It's true, I was supposed to go to university at Oxford, but when I went back after that intermediate year, I couldn't face going back into academic life. I expected a problem with my parents, because my dad was very academic, but, to my relief, they had no problem with my dropping out of Oxford before I began. I guess it saved the fees. [both laugh] So then I kind of started trying to work.

FR: So this introduced you to the world of type.

MC: Yes.

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FR: You had no knowledge before that.

MC: Well, as I say, my dad had all the books; well, not all the books, but a lot of the books about type, and I was interested enough in that, and at school, I got caught up in the revival of italic handwriting. And indeed, I taught it for a while; this was at my second school, public school as it's called, private school in other words. And so I taught italic handwriting. And so my dad did give me a copy of Edward Johnston's *Writing & Illuminating, & Lettering*; as you know, it's called "the best manual, on any subject, ever written".

FR: We have a copy in the library.

MC: I'm sure you do. It would be serious if you didn't. [both laugh] So I studied that, as a schoolboy I was interested in that and I drew some lettering for the school magazine and so on, and so, I sort of worked my way into it.

FR: I'm just trying to probe how it all began.

MC: Yeah.

FR: So we have these interesting confluences of you coming together with type. So now you're in Haarlem, and you've learned hot metal. Did you ever make a punch?

MC: Oh yes! I did a few. I did some for the University Press project. I did a couple for Fritz Mardersteig, but I don't think he ever used them. I did more than punches. I cut binders' brasses, which is a very similar thing, and there was more demand for that, because, you know, once you've cut the brass, you can use it, but if you cut a punch, you then got to make a matrix. It's a more elaborate process. But yes, I did a number of engraving jobs of one kind or another, but I learned to make type before I could design it, but I quickly learned I had to design it, because commissions cutting punches and brasses and so on were very few and far between.

FR: And how many years did you do that?

MC: Well, I came back from Holland in '56, and I worked at my parents' home for a couple of years, and then in '58 I moved to London. And in 1960, I came on a visit to this country, which changed my life completely. So, really, when I got back from Holland, '56, I was trying to earn a living doing lettering and anything I could find.

FR: So you're now in the U.S. Who do you visit?

MC: Everybody! It was wonderful! This was the late spring, early summer of 1960. I got handed around, you know. I was at Push Pin, and Lubalin, and everyone, and of course I went to Mergenthaler, and kind of fell in love.

FR: And who took you around at Mergenthaler?

MC: Well, Mike Parker principally. I had met him in England because before he went to work at Mergenthaler, he had had a year's fellowship at the Plantin Moretus Museum in Antwerp, doing a huge amount of work in cataloguing this astonishing collection of 16th century typographic material which survives there miraculously, photographing it, and so on. When he came back, I think in '59, he went to work at Linotype as Jackson Burke's assistant; Jackson was Director of Typographic Development. So Mike could work for him, and when I got there in '60, Mike . . . I spent a lot of time with Mike and it was he who showed me around.

FR: The immensity of that building and all the things that were happening there. The letter-drawing office was gigantic at that time.

MC: Yes, yes. Yeah, it really fired my imagination. And they were all very kind to me. I mean, Jackson was incredibly kind to me, and, I mean, people talk rather glibly about culture shock, but boy, did I have a case of that when I got to New York. You know I'd grown up in a sort of rather cozy situation because of my dad's contacts and so on. I knew Stanley Morison, I knew Beatrice Warde, I knew Jan van Krimpen, I knew all these people. I thought I knew everything. I got to New York but I knew nothing, absolutely nothing. I had to start over.

So that was a shock. And I think my first reaction was rather cowardly. I thought, I'll just go back home with my tail between my legs and pretend that none of this happened. But I really couldn't do that. But I sort of let Jackson and Mike know that I would love to work there, but actually it was a blessing in disguise. There wasn't a place for me there then, and I think that was a very good thing because I really had nothing to offer at that point, but five years later I had done some things in London that did sort of equip me for that very form of experience.

FR: And how did they approach you to retain you?

MC: At Mergenthaler?

FR: Yep.

MC: Well, I'd kept in touch with Mike, and Mike would periodically come to London on Linotype business, and he would come and stay with me in my flat and the Linotype people were horrified because they thought he was consorting with the enemy, which he was, because I was working for Photon/Lumitype, who were Linotype's competition in the photocomposing world. But Mike and I—those of you who knew Mike, he liked to talk—and we had a lot of discussions in those visits to London of his, about the

possibility of my going to Mergenthaler, and indeed, what I would do when I got there.

So when Jackson retired, in I think '63, fairly soon after that the conversations got a little bit more pointed, and we were working towards my actually going there. It wasn't just an idea; that's what we were actively planning. And so in the fall of '65, it happened, and I moved to Brooklyn. I should say, this is occasionally . . . I'm having pleasant recollections.

I should say how it is that Mike got the job of being Director of Typographic Development. Here's what happened. You know, Jackson had had that job for a long time. He had to go into hospital, I can't remember exactly why, and he knew he was going to be out for a while to recover, and so on. So of course he told his boss, Jack Keller, that he was going to be out, that sort of thing. But meanwhile, he had privately decided not to come back. He didn't tell his boss that, so of course when Jackson went in hospital, Mike started picking up all the work. I mean anyone who had questions came to Mike. So as the weeks went by, Mike started doing the work. And when Jackson finally did say to Jack, "I'm not coming back. I'm retiring", they said, "Hey, Mike's been doing the job. He might as well have the title and the office".

I think if Jackson had *not* done that sort of subterfuge, they would have thought that Mike was too junior; he'd been there three or four years. They would have gone into the newspaper trade, hired someone, and we never would have had Helvetica.

FR: There's a story here. Mike did not have the title that Jackson Burke had. His title was Type Designer. And they paid him less than they paid Jackson Burke. It was very controversial at the time, by the way, because I was on the inside, and . . .

MC: Yes. When did you get to Mergenthaler?

FR: In '59.

MC: Aha!

FR: I graduated high school in June, and I went to my guidance counselor and I said "I need a job", and he said, "Oh, there's this company Mergenthaler." I said "What do they do?" and he said "Something to do with books." I said, "Sounds interesting." It was in the shipping department. But then I worked my way up through mail boy, clerk, . . .

MC: You were mail boy when I arrived, there, only a couple of months after I arrived, when I . . .

FR: That's correct. So you came on my radar because you had a cubicle on the eighth floor, I think.

MC: Yes! This was a really, really nice office! It was a corner office, and it was carved out of the steno pool and the filing department, beyond which was the order department and the mail room, by the way. And it was a very nice office. Mike and I found some old furniture in a warehouse that we used in my office.

And it was there, only a couple of months after I arrived, when I got there, I worked all hours, every weekend. I stayed with the Parkers and I didn't find an apartment for weeks and weeks and weeks and weeks because I didn't have a single day off to look for an apartment. We just worked the whole time. So I was working one evening about this time of year—I think it was the 9th of November—when the lights went out. I thought oh crap, the fuse is blown or something, so I looked around and the building seemed to be kind of dark, and I looked out the window and the Navy Yard down below was dark, and I looked over to Manhattan midtown . . . dark. And I thought, hello, this is not a fuse. [laughter] This was the famous blackout of the whole Northeast. It went down as far as Maryland, I think, and Ontario in Canada, caused by what was called cascading of the electrical grid. You know, one unit failed; that overloaded the next one, and that failed, and . . . cascade.

The typeface I was working on when the lights went out we didn't have a name for at the time, so it's called Cascade. [laughter] And if you can find . . . naming typefaces is a lot harder than designing them, so if one falls into your lap like that, you're very grateful.

FR: Well, you can copyright the name, you can't protect the typeface. That's the problem in America.

MC: That's true. Don't get me started on that. [laughter]

FR: So you came on my radar when I noticed that people were going into your office with these big sheets. [holds up a large sheet of paper on which is the drawing of a letter]

MC: Yes.

FR: I had no idea what this is. I knew these were from the London drawing office . . .

MC: Yes.

FR: And so what did you do? What were they asking you to do?

MC: I never made these drawings. These are what are called . . .

FR: You didn't make them, but they asked you questions about them.

MC: God knows.

FR: Really! Okay, that's interesting.

MC: No, these were produced by the letter-drawing department at Mergenthaler, and had been in that form, not exactly from the foundation of the company, because we once found some of the original forms . . .

FR: We have all the original ones here, by the way, and they're very similar, but not the same.

MC: Yeah. These, they're like engineering blueprints, they're dimensioned, and so on. In the intervening time between my visit to New York in 1960 and my going down to work in '65, part of the time I had spent working at Crosfield Electronics in London, who were the manufacturing agents in Britain for the Photon machine, Lumitype so-called in Europe. They made the machines, but all the fonts were made in Paris, by Deberny & Peignot, which meant, happily for me, I spent about a week out of every month in Paris, and got to meet and know well Adrian Frutiger and all the other designers in the office. And they were not drawing like this. They were drawing positive. I mean, these are all wrong-reading, as required in the factory. But at Deberny & Peignot, we drew right-reading, and we drew a reasonable scale, maybe caps were four or five inches high. And originally we used scratchboard, but that's not a very good medium; it's not very stable. So eventually we discovered a mylar drafting film.

So when I, in these preliminary conversations I had with Mike, I said I'm not gonna make the things, because I've become very familiar with . . . So Mike explored in the grid-making department where they had a number of cameras, specially built cameras. They were very beautiful things. They were built on a granite slab, to be dimensionally stable. And they found one that had been made for a certain purpose, but it was no longer in use. But it was too big to get rid of, so it was sitting there in a corner.

So Mike figured out what the ratio was between the object and the end of the proper lens, and so we did a little math and we came up with a drawing scale, so we could use this camera which was standing idle to make the plaques. (I don't know if you've got a plaque there, perhaps not. This was a sort of intermediate thing in making Linofilm grids.) So I was able to continue to draw black ink on mylar drafting film.

From the minute I got to Brooklyn to Mergenthaler, to my huge relief, because I didn't want to work in this way [indicates the paper still being held by FR], and also the drawing office was, of course, a union shop, and the letter drawers were only allowed to do two drawings a day, whether they were double-

ligatures or whether one was a period and one was a colon. So that was the day's work. So that was rather limiting in a way. So I walked into a very agreeable, amenable, congenial situation at Ryerson Street, which in a way had been constructed in my honor, because, as I say, no one had worked in that way before. But it was quicker, and more direct, for photocomposition.



Mergenthaler factory building at 29 Ryerson Street, Brooklyn (before 1920). Additional buildings were constructed later. archive.org/details/linotype-factory-brooklyn-pre-1920

FR: So, from these drawings, they would trace them in a pantograph, and they would create a pattern plate. And by the way, we found three pattern plates in the black boxes, and they were M O P, which is interesting. Then, when they did this, they would trace it in another pantograph and they would produce the punch. And that's what made the matrices which ran in the Linotype machine.

FR: It was . . . the number of people was gigantic.

MC: Yes.

FR: There was a whole floor of people, then there was another floor where people did ancillary work. The whole company was really revolved around these, because this is where they made their money.

MC: Yes, absolutely.

FR: We processed a hundred thousand of these [holds up a matrix] every day, and they sold for an average of 31 cents apiece, and they wore out. I fact, Ottmar [Mergenthaler] once wrote to the company and said, "I can make them so they don't wear out", and they said "Nah, never mind." [laughter]

MC: Yeah, the punch presses shook the building!

FR: Oh, yeah, I was just going to say, when they were casting, you *knew* they were casting. They were punching out stuff.

So [picks up the letter drawing] we have all of these drawings, by the way, in the type vault in the back. They went to the Smithsonian, and the Smithsonian didn't want them, and so we [the Museum of Printing] wound up with them, and they are, this is the history of type. Now, no designer of type ever did these. You gave drawings to the letter-drawing office, and they produced these drawings. And the notes on these, some of them are really interesting. There'll be little notes that say "per Mr. Griffith" ...

MC: Yes.

FR: ... or "per Mr. Jackson Burke", and there were other notes on it. When they converted to phototypesetting, they read the notes. This is from 1943, and it was designed by Dorothy Abergard.

MC: I don't remember her.

FR: I don't know her either.

MC: Each of these, these drawings were all kept in a folio box, and at the bottom was a sort of cheat sheet that told you a breakdown of the essential dimensions and any little bits of history, what Mr. Griffith said to do, and so on. So they give you a little capsule history of how this face came into being.

FR: We found phenomenal notes in them. By the way, it all started about 1917. Chauncey Griffith was a salesman for Linotype in Kentucky. And he wrote to the company and said, "Our type is terrible." And so they brought him to Brooklyn and said, "You're in charge." He wiped out everything they did before and started from scratch. And he created a world-class typographic library. In fact, if you look at the typefaces we use on a regular basis, they go back to most of the Linotype typefaces of the 20th century.

He was succeeded by Jackson Burke, and he was succeeded by Mike Parker. Mike eventually got the title Director of Typographic Development ...

MC: Yes.

FR: ... and he had the best office at Linotype.

MC: Yes.

FR: He had these wonderful built-in bookcases, and he had all the archives of the company. He had Ottmar's notebooks and he had these big white sheets of paper on his desk. I was delivering the mail to him one day, and I had read a memo about Clarendon. And I said, "Mr. Parker, what's a Clarendon?" And he clears his desk and he draws the history of the serif for me. [laughter] He was that kind of a man. By the way, there's a picture over there of Matt and Mike. So, we're in the hot metal era, but now you see that they're getting into phototypesetting.



Matthew Carter and Mike Parker at the Mergenthaler office.

MC: Indeed ... I think it was, at the moment I arrived, the letter-drawing department had broken the back of the work of converting the metal library to film. They hadn't finished it, but most of it was done. And so a lot of the things that Mike and I talked about before I got there, and obviously after, were kind of concentrated on, were there styles of type that had never been made for slug machine use, for technical reasons—you couldn't kern, you couldn't so—so you had to duplex them. But you *could* do it for photocomposition. So that was really, I think, what got me hired. There was an opportunity to take advantage, technical advantage, of photocomposition, in certain respects.

FR: Now, Matthew mentioned duplexing. This is one of the limitations of the Linotype machine, because every matrix had two typefaces on it. One was the regular and one was the bold or the italic, which meant that the bold or italic had to be modified to match the width of the regular font. When we went to phototypesetting, we no longer had that limitation.

MC: Yes. So much of the work that I just mentioned that the letter-drawing office did of adapting the

metal library to film was taking the italics off the same widths as the roman and putting them on their own natural widths, which obviously greatly improved the phototypesetting italics.

FR: So when they moved to phototypesetting, they had to produce the first fonts for film, and that was the Linofilm machine. [holds up a square grid] And this is a grid from the Linofilm. And by the way, these were pricey. You put them in a little unit that revolved and then picked them up and then put them in the line for photography and then had a way of selecting the character and exposing that through a lens to size it and then exposing photo material, film or paper. To make these, there was an entire room, which Matt mentioned, in the basement. And it was on hydraulic lifts with a granite block, I think. One end was these plaques. By the way, we don't have a plaque; I should find one at some point in time.

MC: Yes.

FR: And each one was a different letter, and it was high; it was like eight feet high by eight feet wide, and they would put all these plaques in there. And there was one for every letter. And at the other end of the room was a camera where they had film in it, and they would . . . No, no, it was a glass that had silver halide coating, and they would expose it. And that's how they created these grids, which made them extremely expensive.

MC: They had to have this room because Ryerson Street was very close to the Brooklyn–Queens Expressway, so the vibrations were phenomenal. This room was called the “floating cloud”, and the whole room was on the springs.

FR: That's right.

MC: [takes hold of the grid] Here, let me handle this. There were four of these on a kind of windmill, and they were each brought into the path of the light with a bicycle chain, weren't they?

FR: That's correct!

MC: Yes. So, these machines, I mean, they were full of thermionic valves and clattering relays and so on, but there was also a mechanical part of them that was very strange.

FR: By the way, they were later sued for patent infringement, and paid a million dollars to Photon over some of the patents involved in all of this. Now, other companies that were getting into phototypesetting created artwork in different ways [holds up several examples] and I've got a whole collection here of some of the different ways they created artwork for phototypesetting. And again, they would pho-

tograph these in various kinds of cameras. Some of this comes from Intertype, some from Compugraphic. They were all different in that regard.

MC: But all more or less the same scale that I was working at. I mean, this is a very handy scale to work. Big enough so you can get the edge quality right, but it's not too big that you can't see what you're doing. The problem with those ten-inch drawings is, it's really hard to visualize what this is going to look like at eight point . . .

FR: And so they got through the Linofilm, then they created a cheaper machine called the Linofilm Quick, which really bombed; it didn't do very well at all.

MC: Yes.

FR: But the machine that made Linotype was the VIP. The VIP — Variable Input Phototypesetter (and we have one in the back, by the way) — and this was the font for it. [holds up a smaller, rectangular film grid] By the way, this was the text one. There's another version of this that was bigger for doing display type. And this is where Linotype really excelled. This is where they made their money, if you will.

However, there was another guy who made as much money and his name was Leonard Storch, and he also made these, and Linotype sued him. and they lost! [laughter] So he made a fortune making fake fonts, if you will, but they were cheaper than Linotype's.

But this was a phenomenal marketplace, and this is how I got into publishing. I published a newsletter for VIP users called VIPPY. [laughter] And by the way, Linotype didn't like it, because I could tell things about the machine that no one else would tell you. So they sued me for 13 million dollars. [laughter]

MC: I never heard about that.

FR: It never went to trial because when we did the discovery phase, they discovered the terrible mistake they made in suing me, and so they settled by giving me a lot of money, \$80,000, to go away. So I built an addition on my building and called it the Mergenthaler wing. So in any case, the VIP to me is a very special machine in many ways.

MC: It had very significant consequences of a technical kind. You know, designers are not supposed to like engineers. You know, there's supposed to be one of those sides of the brain problems, but I've always liked engineers enormously and liked working with them. And one of the best experiences had to do with the VIP. Without getting technical about this, the Linofilm, the big Linofilm we called it, the

big blue Linofilm, you could not have a zero-width character. I could explain why, but I won't.

On the VIP you could. I've never been 100% sure whether the engineers really understood the significance of that typographically. The reason was that the writing prism in the VIP was driven by something called a stepping motor, which was fallout from the space program. You could send pulses of electricity to it and it moved, you know, jerked along, but you could also *not* send a pulse, so it stayed still.

Suddenly you could do Greek with accents, you could do Devanagari, you could do a whole range of non-Latin scripts (as we called them at that time) that were really not possible by previous means. So I had a very nice period of going to Athens a number of times because a very energetic agent in Greece realized that this machine was perfect, he could sell a lot of them, but there were no Greek types. So I did Helvetica Greek, Baskerville Greek, Century Schoolbook Greek, ... [laughter] Hermann [Zapf] drew Optima Greek at 36 points; he drew everything at 36 points. (I made the production drawings.) So this took several nice trips to Athens to do this. And it was successful. They sold a lot of machines.

So that sort of interaction between the technology and the design is something that has always kind of fascinated me. And I have had several experiences of that, of working with the engineers or telling the engineers things that we wanted them to consider, that would be very advantageous to us typographers and so on. So that's always been kind of contrary to what designers are supposed to ...

FR: Now when they went to the 54-unit system, that allowed you to do much finer spacing ...

MC: Exactly. The big Linofilm was 18 units and the VIP was 54.

FR: Yeah. That made a big difference.

MC: It did.

FR: You also worked on the 505, I assume.

MC: Yes.

FR: That was a machine invented by Purdy and McIntosh in England. It was a cathode-ray tube. The characters were scanned from a grid and exposed through a cathode-ray tube as sort of an intermediate approach, but it had a problem in the number of fonts, and Mike came up with this idea for slanting the roman to create the italic.

MC: I don't know, ..., by the way, just because we're recording history here, when I was working at Crosfield I visited Purdy and McIntosh, and I saw the very early stages of this machine. And I told Mike about it and he went and looked at it, and next

thing you knew they bought the whole company. So I was never given any credit for that. [laughter] But I claim that.

FR: And the reason they did that was they had developed a machine with CBS Labs called the Linotron 1010 ...

MC: Yeah.

FR: Later they named it that, and they sold several. They sold one, two, to the Government Printing Office, two to Wright-Patterson Air Force Base. One was supposed to go to Ford Motor Company, but they turned it down. And that was it. There were no other machines. It was too expensive, it was too big. Later on, the Government Printing Office got rid of it. I was in charge of the publicity for the machine. We got on a show that Walter Cronkite mentioned the machine. It was great publicity, but they realized it could never be a commercial success, so that's why they needed another machine and that was the 505. So 1010, 505, ...

MC: Yes.

FR: The numbers tell you nothing about the machine.

MC: Again, it was a hybrid machine. The reading end of it was digital, a CRT, but the input end was scanning, a thing very much like a Linofilm grid. So the laydown speed was phenomenal. But changing fonts was again, some sort of windmill thing that brought another font up into the ...

FR: The next machine that made them was the Linotron 202 ...

MC: Yeah.

FR: ... which Derek Kyte created in England.

MC: Yes.

FR: And that became a phenomenal success. And that was a pure digital machine. Your fonts came on floppy disks ...

MC: Let me interrupt you, because I haven't finished.

FR: I'm sorry!

MC: About the 505. Because the font change was so slow, people started making electronic versions of the distortions. It's like, if you get your TV set set up wrong, the raster goes to hell. You *can* do that under control, so if you do a shear distortion of the raster, you get an italic. It's not the italic, it's a slanted roman. But people started to do that just to save the time that it would take from going from Helvetica roman to Helvetica italic with a font

change. Or, by going wide, stretch the raster and out it goes, or you condense it, and so on.

So enough of this was going on that Mike came to me, and he said, you know, Helvetica was not designed for this; Futura was not designed for this. Supposing we designed a sans serif where the geometry was specially configured to do some damage control. In other words, we're never going to make it look right; it's never going to be a true italic, but maybe it won't be quite as ugly as slanting. So we did this, and we made a special typeface, a sans serif, we called it Video, which was really damage control, typographic damage control, and it *did* mitigate some of these horrors that came from fooling around with the raster.

But of course, and this is another parable, no sooner had we done that than they came out with the next machine which had an electronic font change. No loss of time. Video died a death; not for the first time in my life designers were asked to solve a problem, an engineering problem. But engineers are smarter than designers in the end, and they fix the problem, the engineering problem, and designers are left with a solution to the nonexistent technical problem. But you could say that it's worth doing things like that because these machines go through shakedown cruises and . . .

FR: Yes. So you and Mike leave about the time of the 202 or right after that?

MC: We left in, um, was it '80 or '81? One or the other.

FR: Yeah, the president of Linotype was a guy named Smith, who was a complete idiot.

MC: Yeah. He came over from the British government.

FR: Well, he was an American that somehow ran the British operation.

MC: Oh, yeah.

FR: No one figured that out at all. And then, after he left Linotype, he started a company up here in New England, which he put out of business very quickly.

MC: Oh, really! I didn't know that.

FR: Yeah. That's how we wound up with all the font libraries from Photon and all those.

MC: Yes, I see.

FR: In any case, you and Mike are now free. Had you decided to do Bitstream before or after?

MC: Before. Here's what happened. You know, during the '70s, thanks to the VIP, which, by the way, could set much bigger sizes . . . Linotype had

been a text company, text type company. You could only go to 36 point on a Linofilm, but the VIP went up to 72 at least?

FR: On some models, but not very many.

MC: Okay. Anyway, it opened up the prospect of display typography for Linotype pretty seriously for the first time. So in combination with the British company and the German company, they ran this very energetic, fruitful, type development project during the '70s, which was predicated on the very, very successful sales of the VIP. There was this big population of machines out there, so we could sell a lot of type to them, to the owners of the machines.

But toward the end of the '70s, Linotype's market share started to decline quite noticeably. And Mike and I almost became concerned that we probably wouldn't be able to continue to run as vigorous a development policy program as we had done for several years. So we thought, well, how about we make type its own P&L. Linotype's business traditionally [was] 90% equipment, 10% type. Type was a machine part essentially. Supposing we didn't treat it as that. Supposing we made it its own profit center. But the Linotype management didn't go for that.

Then the other thing that happened that had a very big influence on us was the invention of very high-end, whole-page digital composing systems. Scitex and Camex, principally. There were others. Scitex was an Israeli company originally in the fabric business, weaving business. But they were very smart and they developed these revolutionary machines that went into Time and Newsweek and places like that, and they cost millions.

FR: And they emphasized color, which was the key.

MC: Yes, and the whole page. I mean, you didn't just set a galley or a line of type, you set the whole goddamn page with illustrations and diagrams, everything. So . . . but they had no type. They had this amazing technology, breakthrough technology, but no type. So they came to Linotype, then one went to Monotype, everyone, trying to license a library of type. But they were turned down again by the Linotype management who said no, our type is for our machines, and so on. And Mike and I and others really thought this was a big mistake because we thought again, if we made type its own P&L, we could license the type to these companies and we would make a *lot* of money, because we thought they had a very bright future.

So we really wanted to do a Bitstream from within Linotype. We wanted to have a type department *in* Linotype that did its own thing and made

good money. But we were stonewalled completely by the management and we felt so convinced about the need for this that we decided to do it, regretfully, I must say, on the outside. And Scitex and Camex would be, we'd been talking to them and Mike and I were very sorry that they were turned down. They kind of gave us a grubstake to get started and a number of designers joined us, and so on, and so we started a company in Cambridge. We weren't technicians. We started in the shadow of MIT because we knew we'd want good programmers, good technical people and so on. We found them. So we did what we wanted to do within Linotype, outside of Linotype, as it turned out.

FR: Well, if you're ever looking for the entire digital Bitstream library, I once traded them advertising in TypeWorld magazine for the entire library. I have it upstairs. It's on floppy disks. I don't know how you read them, but that's a different story. [laughter]

MC: I have it too.

FR: Okay. And Bitstream was a success. You did very well with Bitstream.

MC: For a while, yes. I was there for ten years. I only designed one typeface in the course of that time. I mean, my time was well spent, but I was in endless meetings and so on. But the Bitstream strength was the OEM business, licensing type to these big companies. But a decision was made to go into retail. In other words, to go head-to-head with Adobe in the retail market. And I thought this was a perfectly fine idea, but I realized that there was no one at Bitstream who knew anything about the retail business. We were all OEM people and we were pretty good at it. Mike was an OEM person, the head of engineering was an OEM. So the board decided to go into the retail business, and Mike had meanwhile resigned and left. So they hired a president from the OEM business.

We thought, this is crazy, because this is the wrong guy. We need a retail person. So, there were a whole lot of things that combined, really, with Cherie Cone and I decided the time had come. I realized if I was ever going to design any more type, I really had to leave, because one typeface in ten years is not a good batting average.

FR: So you left in '91, and in '92 you formed Carter and Cone.

MC: That's right.

FR: And where were you based?

MC: In Cambridge.

FR: By the way, Bitstream, when it started, there was no Adobe, there was no competitor, so they were way ahead, and they did very well for a while, but then you get into desktop publishing, the world starts to change. Yes. So now you are an independent company, and you and Cherie, who's a great marketer, are doing great things with typography. What did you learn from all that?

MC: From Bitstream?

FR: No, from your experience with Carter and Cone.

MC: Oh! It's still going on, I'm happy to say. I'm learning every day! We started . . .

FR: Do you do every typeface under that name or do you do anything as just Matthew Carter? Does it all go through that company?

MC: Yes.

FR: Okay.

MC: Well, we do quite a lot of custom work, so that would not have the Carter and Cone name on it. I mean, if I do a font for the New York Times, it's New York Times. But for the retail library, the Carter and Cone faces are Carter and Cone.

FR: Okay.

MC: So the time that we started, '91, was a good time, because we were not the first independent type foundry, by any means. Emigre had been out there for a while. Our fellow Bitstream employee David Berlow had started the Font Bureau I think 18 months or so before us. Sumner Stone was starting out about the same time. But there was a realization that there was a third-party market for fonts.

If you had a Linotype phototype or a digital machine, you didn't have to buy your PostScript fonts from Linotype; there were other sources of PostScript fonts, including an increasing number of independent sources. And frankly, most of the interesting development work was coming from independents. And so this was a good . . . a moment of birth was quite lucky in the sense that there was a developing interest in independently designed and produced and manufactured type. And when PostScript Type 1—originally PostScript Type 3 was the only format you could make—but when Type 1 came about, and essentially someone like myself, I could make a font that technically was the same as an Adobe font. It was . . . the Type-1 format was fabulous. And Fontographer had seen this coming and they produced a new version of Fontographer that did Type 1 fonts. So there were a whole lot of things that came together, I think partly by luck, that were good for us at that time.

FR: You were in the most interesting period in the history of typography, because in '81 we're still in an analog age, [but] getting into some digital. By the time you get to desktop publishing, when you get into the '90s, now Adobe comes in, PostScript starts to dominate in most ways. You had the "font wars", if you will, and during the font wars Adobe won for a while, but then Microsoft competes with them and they settle on some agglomeration of formats. And so now you're into sort of a standardized world of fonts, if you will. You design a font, it could run on any device out there.

MC: Yes.

FR: So it opens up new markets, and your evolution is interesting, because you worked in the old world of cutting a punch by hand, into the Linotype casting machines, into the old phototypesetting market, into the digital market. Are you not the last person to have done that?

MC: [laughs] I don't really know, Frank. I mean, I am very old. [laughter]

FR: Welcome to the club! [laughter]

MC: Some people have been very kind and sort of congratulated me on this, and I'm happy to take credit for it, but I don't know what else I could have done. I mean, if you're working in the type business, but it goes digital, I guess I could have gone and been a hermit and something, but I've always been interested, as I said, in working with engineers, and with the technical developments, and so I never wanted to drop out, so to say, of the industrial aspect of type, which is really what has interested me. I mean, I would regard myself as an industrial designer, I'm afraid.

FR: Really!

MC: Oh, yes.

FR: What are you working on right now?

MC: I have some work from the dear old New York Times, which never seems to stop exactly, but it's mostly new weights and widths, new versions of existing typefaces, and so on. So it's not the most fascinating work, but I'm so fond of them by now that I'm happy to do it. Jordan³ and I were talking about this. You know, Adobe had announced that, I think, from the end of this year, PostScript fonts will no longer work in InDesign, and maybe not in the Apple operating system. I'm not really sure. And so a bunch of people who have PostScript fonts have somehow thought, oh, my God! I'm going to have to

get some OpenType. But this happened to me with a couple of long-standing clients, including Yale.

Many years ago I was commissioned to design a typeface for Yale University. And most of the conversions to OpenType have already been done. But John Gamble, the printer, woke up the other day and found that there were some sort of subsidiary fonts and things they didn't use all that much, but obviously they would have to be converted. So I'd been working on those, and because the OpenType format is open-ended in terms of character set, I can combine what used to be a number of different fonts.

I did this also for Galliard. When Cherie and I started in '91, the first thing I did was a version of Galliard which we licensed from Linotype. And I think if you bought the PostScript font for just the roman and italic of Galliard, there were actually 11 fonts, because there were old-style figures, there were modern figures, there were fractions, there were extras, there were I don't know what. Now you can roll that all up into a single OpenType font. So I've been doing a good deal of that, and that's interesting, to compile these very big character sets in order to make these faces usable into the future, instead of, you know, dying a death on the 31st of December.

FR: Do you have any hobbies?

MC: Not really. I generally carry a camera, um, and am quite fond of taking snaps; I mean, I don't take it very seriously, but I wouldn't say it was a hobby, but in this bag of mine there is in fact a camera.

FR: We haven't seen you use it yet.

MC: No. I haven't used it yet. But no, I don't really have, you know I don't play golf or so. [laughter] I don't have hobbies of that kind.

FR: Do you work every day?

MC: I do *some* work every day. I have to admit that my stamina isn't what it was when I landed at Ryerson Street and worked long hours every day and weekends and so on. I don't work as much as that, but yeah, I'm still working.

FR: Yeah. What was the last book you bought about type?

MC: I don't buy many books about type. I get given books about type, [laughter] which is very nice. You know probably better than I do.

FR: I thought maybe you read something about a book and they didn't give it to you and you said, "Oh, I have to have that."

MC: That does happen.

FR: I remember your library was sparse, but interesting.

³ Jordan Goffin, head of Special Collections at the Providence Public Library.

MC: I know. Again, Jordan and I were talking about this. People think I will be a big collector of type specimens and so on. I'm absolutely not. I have about three. The reason is libraries. I grew up in London. Bus ride from St Bride Library. Why would I, careless starter out, go and buy a Caslon specimen, money I didn't have, rather than go to St Bride's where they've got *thirty* Caslon specimens, some of them probably unique? So I had no need of having my own library as I was first starting the work. I went to libraries, learned to use libraries, which is a skill, by the way.

FR: Any children in your family taking up the ...

MC: I have a stepson and a son; neither of them have the *slightest* interest in what I do. Never have had. And when I was showing signs of being interested in all of this, my dad wanted me to do something else, because he said conversation at the dinner table would be more interesting [laughter] if I did something else. I think he was horrified, and thought of typographic discussions at home at the dinner table, which never happened, by the way. He needn't have worried. But no, my offspring have no interest at all in type and typography. I mean, they're computer literate, but not ...

FR: So you work at a computer, I assume it's Fontographer?

MC: Yes. Gerard Unger, my dear friend, used to say that there were only two people left that were using Fontographer, but Gerard's dead; I'm probably the only one. I mean, I do have some other tools, particularly for generating fonts, but I'm so used to drawing in Fontographer. I mean, I can do it without sort of conscious thought, so I *do* still use Fontographer. I have to have an old Mac to run it, because it's not been supported, so two Macs, side by side. I draw on one and I do everything else on the other.

FR: That's interesting.

MC: Works. An extra airdrop. [laughter]

FR: And I have to ask you this question and I know it's ridiculous. What's your favorite font?

MC: You know, I once read an interview with Margaret Atwood, the novelist. She was asked the same question about her books, and said, "I can't say, because the other ones are listening." [laughter] So I don't have a favorite of my own or anyone else's typefaces.

What I *do* have is favorite uses of type, but they can change by the day. I can see a book jacket or something or other using a typeface, and I can say, that really makes that typeface look good, whatever

the typeface is, or I can pick up a newspaper and see something, and think, that's a really good use of that typeface. So I react very much more to typefaces in play, in use, that I do in any kind of objective way. And where any attempt to, I mean, what's a good example? I have to say ... Souvenir is not one of my favorite typefaces, I suppose. I really was fond of Ed Benguiat, so if I see Souvenir, I see Ed. You know? So trying to be objective about typefaces is very hard for me, because there are so many associations with people when I see them. I've given up trying to be objective about it.

I'm sorry not to have an answer for you.

FR: No, no.

MC: But that is an honest ... I'm not being coy.

FR: When you and I lived through that period of the '60s, '70s, '80s, '90s, there were a few hundred typefaces that we dealt with, the classics: the Caslons, the Baskervilles, et cetera. Every day I get three emails promoting at least a hundred fonts at a time ...

MC: Yes.

FR: ... from Bitstream and other companies. There are now, I calculate, over a million typefaces out there, mostly decorative. When you open up Netflix and look at all the pictures of the movies, they're all different fonts, okay?

MC: Yes.

FR: And yet we still use only a handful of text faces, the classics, more than anything else. How are we going to deal with a million fonts?

MC: Beats me. I mean, I don't really know.

FR: I mean, just cataloguing them is an impossible thing.

MC: I know. I tell you where this is really a problem in the life of people like me, because occasionally I'm asked to judge type design competitions.

FR: Ha ha.

MC: Ha ha! [laughter] Usually about four judges are doing this. And none of us can *pretend* that we really know whether an entry in the competition is genuine, in the sense that it's not knocked off from something wrong because we *don't* know all those million typefaces. Nobody does, and so on. So in those terms, it's been a problem.

We had a ... You know I've been one of the judges for the Morisawa competition, and we had a close call once. I mean, we did select a typeface which before the results got publicly announced, someone put their hand up and said, I don't think this is right, and it wasn't. We'd been fooled. We caught

it in time, but the day will come when somebody's going to be wrong about that. So that is an actual problem of having so many typefaces.

You were saying there were so few, and one of the first jobs that Mike sic'ed on me when I arrived in Brooklyn was . . . you know there's the fifty books of the year and a competition.

FR: Yeah. We always do a press release on the Mergenthaler fonts that we use.

MC: That's right! My job was to go over to the AIGA who did this because when you filled out the form for your entry, you had to put what the name of the typeface was. But everyone discovered that a great many of these were wrong. So my job was to go and read all of these entries for the 50 winners and correct the attribution of the typefaces, which you could do in those days, because . . .

FR: There weren't that many.

MC: . . . there weren't that many, and I knew . . . God forbid I should have to do that now. Oh, I wouldn't know.

FR: It's an impossible task, and of course Bitstream is, not Bitstream, Monotype Imaging is now the 800-pound gorilla in terms of typefaces.

MC: Yes.

FR: They bought out most of the big libraries.

MC: They sure did.

FR: And there are about a gazillion designers. We had a graphic designer here the other day and he gave a talk about how he designed his own font. And so there are now about 20 programs for designing typefaces.

MC: Yes. But interestingly enough, maybe it has to do with a million number. As far as I know, Monotype let go all their designers.

FR: There are more lawyers working there than there are other designers. [laughter]

MC: I don't think there are any real designers.

FR: Yeah, again because there are so many freelancers out there who are willing to give them fonts to sell.

MC: Exactly.

FR: Matthew, this has been phenomenal. When I proposed this to Matthew, by the way, he said, two nattering octogenarians, just what we need. [laughter]

MC: But very, very patient. [laughter]

FR: So we got to understand a different side of you, and how you evolved, and we appreciate your support of the Museum, so thank you very much. [applause]

MC: May I ask a question of the audience?

FR: Sure.

MC: You know I designed this typeface for Yale University several years ago, and it's been used a lot around the University. And John Gamble, the printer, he sent me an email just the other day and he said, "There's a great revival of interest around Yale in letterpress printing. Students, faculty, alums, they really are into letterpress. Is there any way of making actual type" —I mean, what my dad said, type is something you can pick up and hold in your hand — "of the Yale typeface?"

Does anyone know of any current method, using 3D manufacturing or something, of making actual type?

FR: Yes, Ed?

Ed:⁴ I have a Benton ATF engraver, and I make new faces in hot metal all the time.

MC: Thank you. This is worth the trip. [laughter] May I have your card? [laughter] Thank you.

FR: By the way, you may have one of the last Benton engravers on earth. I think Patrick Goossens in Antwerp has one, and I don't know of any others.

Ed: Yeah. Greg Walters has one.

FR: But Greg died.

Ed: Yes, but they're forming a not-for-profit.

FR: Oh, really.

Ed: And it's going to stay there, and David McMillan in Wisconsin has another, but they don't have all the ancillary equipment which is . . .

MC: It's one beautiful machine.

Ed: Yeah, isn't it fabulous?

FR: Well, that's what made type, when you get right down to it. Without that . . . the Bentons gave us a great thing.

MC: Well, thank you. That's my question for you all. [laughter]

⁴ Ed Rayher, Swamp Press, Northfield, Massachusetts.