

Interview with Kris Holmes

David Walden



Kris Holmes is one-half of the Bigelow & Holmes design studio. She has worked in the areas of typeface design, calligraphy, lettering, signage and graphic design, screenwriting, filmmaking, and writing about the preceding. The Kris Holmes Dossier, a keepsake for the April 2012 presentation of the Frederic W. Goudy Award to Kris, reviews her career to that point.

The interview is a chronological oral history interleaved with discussions of examples of Kris Holmes' work. The interview took place on June 25, 2018, at the Cary Graphic Arts Collection at the Rochester Institute of Technology (RIT).¹

1 Youth, calligraphy, and lettering

David Walden, interviewer: A few years ago, you told me you were raised on a fruit ranch in the San Joaquin Valley of California. Please tell me a little bit about your family, the ranch, and your education through high school.

Kris Holmes, interviewee: The farm that my parents lived on when I was born was a 90-acre farm on Zediker Avenue in a little town called Parlier, California. The nearest hospital was in Reedley, California, so that's where I was born. I have five brothers and sisters. My parents came to California from Oklahoma as part of the dust bowl migration, and they worked their way to eventually being farm owners in the San Joaquin Valley. So my early school years were spent at a little school called Riverview Elementary School, and then Reedley High School. It was a very nurturing environment. I had very sincere teachers, who encouraged me to work toward a college scholarship. My parents were not that enthusiastic about education. I think they assumed I would do what my sisters did, which was marry a local guy and stay in the area. But I was just born a curious person and I worked really hard in high school, and I ended up getting a very nice scholarship to Reed

College in Portland, Oregon. So that would've been in the spring of 1968 when I got the notice from Reed, and in the fall of 1968 my brother drove me up to Portland with my bicycle in the back of the car. And that was the beginning of my adult life.

D: During your youth, did you do sports or have hobbies?

K: I didn't do sports too much. I had many hobbies. I loved to draw, I loved to do art, I loved sewing — I sewed almost everything that I wore, as did many of my girlfriends. Nobody in that area had much money so all of us were taught to sew and we all enjoyed sewing. In fact, we had little competitions to see who could sew a dress for the least amount of money. We would recycle our mothers' dresses and things. We kind of made a fun life for ourselves without money. We had televisions but other than that, we didn't have much entertainment. Everybody worked on their family farm, and then we just did kid stuff the rest of the time. It was a nice way to grow up.

D: When we talked by e-mail a few years ago, you mentioned your teacher, Roland Jenkins, who introduced you to the American transcendentalists, and you said that had an influence on you. Can you tell me a bit about that influence and how it went on?

K: Mr. Jenkins was one of my — I get a little emotional thinking about him — he was a teacher at Reedley High School and every teacher there got one period a day which was their free period, and he was a smoker so he liked to go to the faculty lounge and smoke during his free period. One year he had a group of students who were trying for college scholarships, and so he decided that he would use his free period to teach our first conference-style class on American Literature. And we read everything; we read Stephen Crane, we read *Walden*, we read Thomas Wolfe, we read *Moby Dick*; we just spent the whole semester reading all of these magnificent American authors. And because it was a conference-style class, we talked about what we had read and we each presented papers that focused on something we loved. Mr. Jenkins introduced all of us to the idea of independent thinking. To read *Walden* at age 16 is a perfect time to read it because you're kind of thinking that way, anyhow, and this idea of a guy that built his own house in the woods and lived deliberately is such a powerful idea, especially to a young person. Mr. Jenkins is the best example of what I mean about teachers that were so encouraging and that really changed everybody's life.

D: How did you find Reed College? You had the whole California college and university system to choose from, and Fresno State couldn't have been very far away.

K: Nope, I could've driven over there. Well, I had Plan A, Plan B, Plan C, and Plan D when I applied to college. Plan A was Reed College because two of the girls that were my best friends at home had an uncle who taught there, Professor Wiest. He taught psychology at Reed and they went to visit Reed and they came back with a glowing description of a place where everybody's smart and you just sit around tables and talk about things, and people wear serapes to class and you go barefoot, and they just thought it was heaven. So I did some more research on it and I felt that it was a place that would be very different than the San Joaquin Valley, which is certainly true, but a place that would be maybe more like Mr. Jenkins' class. I think he affected my life in that way, too. My Plan B was UC Santa Cruz, which at that time was called the "Poet's Campus." My Plan C was UC Berkeley. My Plan D was Fresno State. I was going to go to college, one way or another. But luckily I got a nice scholarship to Reed, and so I was on my way to my first choice.

D: You have said you went there in 1968.

K: I went there in the fall of 1968, and I went there for two and a half years; and then I left. It was going to be a temporary leave of absence, but it turned out to be permanent. I left Reed, I think, for kind of the same reason that Steve Jobs said that he left Reed. At that time, you got a scholarship when you went in but the tuition kept getting higher and higher. At some point, if you came from a working class family or a farm family, it was very, very hard for them to keep up with tuition hikes, even with loans and jobs and everything. It was just so expensive that I started thinking that I wanted to leave and just start working.

D: You were studying liberal arts at Reed?

K: Yes. I was majoring in literature when I went there. However, in my second semester, I took an energizing and intelligent Modern Dance class from Judy Masee, the dance professor, and quickly became devoted to studying modern dance. Then I met Lloyd Reynolds, and that changed everything for me.

D: It was a calligraphy course, presumably?

K: That's right. I had always liked to draw, and I especially had always liked drawing lettering. But when I got to Reed, Lloyd Reynolds was this luminous presence at Reed College, and everybody took his class. If you were a chemistry major, you took

his class; if you were pre-med you took his class; if you were an art major you took his class; and interestingly enough, many of the people that I know who took his class way back in 1968, when I talk to them today, they still sit down and practice calligraphy sometimes. He really had this lifelong influence on so many of us. When I was a freshman, I was only there a few weeks and somebody said, hey, you know you can't get into Lloyd Reynolds' class but he teaches a little private workshop on Tuesday afternoons. Reynolds would stay a couple of hours after class to teach people that couldn't get into the class. I ran right over there, and somebody loaned me a pen, and then Lloyd loaned me a better pen, and he just sat down and put it in my hand and showed me how to do calligraphy. So that would've been the fall of 1968, so 50 years ago.

D: And his motivation? What do you think drove him to help so many people?

K: He wanted to change the world with calligraphy. He was very discouraged by the fact that you had to go to an art museum to see art, and that it was all kind of run by somebody else. He thought art should be in the hands of the people. He was a fan of the philosopher Ananada Coomaraswamy and William Morris, and so he wanted to give us art that we could do with our own hands. To make a beautiful laundry list, he used to say, is as important as anything you see in a museum. And I think he succeeded in that; he certainly succeeded in presenting the whole world to us through the history of writing and the history of calligraphy.

D: I have looked up on the Web many things you've said, and you say somewhere that what you learned from Lloyd Reynolds, you use in everything you design. Please say a few more words about that.

K: When Chuck [Charles Bigelow²] and I design a typeface, we start out with just a blank place there on the screen or on the paper. In our case, we like to start with paper. So where do you start? Since both Chuck and I studied with Lloyd Reynolds, we have this common language, and we start with the letter forms that he taught us. We get out calligraphy tools and we sit there and we draw, and we talk to each other; for instance, "Okay, this is a correct lower case 'e' for the Renaissance, how does it need to be different for modern technology?" For us, what we learned from Reynolds is the common ground that we start from. And you know, I don't think we've ever argued about a design decision. We make a decision, based on our common ground and if we disagree we say okay, let's try it both ways. It's very

smooth sailing for designing for us, and Reynolds really is in everything.

D: You have said that Reynolds followed the first canon of Chinese brush painting; “heavenly breath’s rhythm vitalizes movement.” What does that mean?

K: I wish I could say it in Chinese. Well, the other thing that Reynolds used to say is a quote from an old jazz tune, “it don’t mean a thing if it ain’t got that swing.” And that’s a pretty good translation of “heavenly breath’s rhythm vitalizes movement.” And what it means is that these letters aren’t still. You look at any one of these letters that we see around us, and what you’re really looking at is the path of the moving hand of the person that did it. Even in modern type, although we don’t do it by writing in a stroke, those characters are outlines based on stroked letters and it gives them a certain vitality. It’s like when somebody sees your handwriting they say, “oh, that’s Dave’s handwriting; oh, that’s Kris’ handwriting.” How do they know that? Because it’s been vitalized by some energy in yourself. So to me, that’s what that phrase means.³

D: I’ve also read that you studied calligraphy and brush writing with Robert Palladino at Reed.

K: I did. What happened is that the summer after my freshman year when I really had just been taking that little workshop with Reynolds, Reynolds decided to retire and so he needed to choose somebody to take over his classes and he chose Robert Palladino.⁴ Robert Palladino had been a Trappist monk and he had gone, on Reynolds’ recommendation, to Iowa to study with Father Edward Catich from whom Palladino learned the art of brush written Roman capitals.⁵ Catich wrote a very inspiring book called *Origin of the Serif*, and he was the person who carefully examined the actual inscription and figured out that the characters from the Trajan column were not drawn as outlines on the side of the column, they were actually first written with a brush like this one, which is a sign painter’s brush.⁶ I brought my brush so you can see that it has a broad edge like a calligraphy pen, but it’s a brush. It’s called a Bright’s brush.



Robert Palladino had studied with Catich; and also because of his studies in the priesthood, he could read Latin. So Reynolds chose him to take over his teaching at Reed College, and I took two years of classes with him. We stayed in touch and in the 80s Chuck arranged for Palladino to give a workshop at the Imagen Corporation in Silicon Valley.

Steve Matteson and Tom Rickner, now of Monotype, remember that Palladino workshop with happiness.

D: You said that you left Reed because you needed to work. What work did you find?

K: Some pretty awful jobs, really. [Laughs.] And actually, briefly, I had a job at Hallmark Cards out in Kansas City, doing lettering for them.

D: Remotely?

K: No, I lived there for two months, but didn’t like it very much so I moved back to Portland, scraped by doing calligraphy jobs, and I went back to Portland State University to try and get a teaching certificate. This turned out to be a good thing, as this was how I met up with Chuck again.

I had first met Chuck when I was a sophomore at Reed, in a mime class taught by an Italian mime named Carlo Mazzone[-Clementi]. I was taking the class, and Chuck had already graduated but he came down to Reed to take it too. So that was where I met him, and for the first five years that we knew each other, we were just part of a great big group of friends at Reed or in Portland who all had common interests in theater, dance, art, . . . So, we had known each other about five years, and there I was in Portland again trying to make a living, and I went down to a monthly magazine called the Oregon Times. And Chuck was the art director there and I said, “Well, do you need any help?” It turned out that he needed help, so we started working together once a month putting this magazine together and one thing led to another, and pretty soon we were an item, which delighted all of our friends. Everybody said, “Oh, that’s great.” It was because I had to scrape together a living that I met Chuck again, so something good came out of it.

D: But then, if I have the chronology right, you left Portland and went off to New York City.

K: That’s correct.

D: And Chuck was still in Portland?

K: Yes. Because of the inspiring teaching of Judy Masee, I had this idea in my head that I really wanted to be a dancer and I thought if I didn’t go and take a shot at it I would always regret that, so I moved to Manhattan for about nine months, although I always I felt like I had left something behind in Portland; that was Chuck. I immediately saw that I could never be a professional dancer; you had to be much better technically than I was. But I did some good things in New York. I got a job at Harcourt, Brace, Jovanovich as a paste-up girl where I learned about publishing, and then I took Ed Benguiat’s lettering class at night. Ed Benguiat was the teacher

who kind of took me from stroke-based calligraphic letters to drawn letters.

D: Can you say a word about the distinction between calligraphy and lettering?

K: Yes, I can. People say that calligraphy literally means “beautiful writing,” but to me it also means efficient writing. When you write something calligraphically, every major part of a letter is a single stroke. For instance, if I were calligraphing an “R”, I would do the left vertical stroke, then the serif on the bottom left of that stroke, then the bowl, then short horizontal stroke, then the diagonal leg and, bam, this complex letter is done in just five strokes.



See the animation by Holmes at tug.org/interviews/holmes-BrushCapR.m4v

But if I was going to hand letter an “R”, I would take a pointed instrument, not an instrument with a broad edge, and I would draw the outline in many short careful strokes. It is a much slower process. This is how I draw our typefaces, because they’re not calligraphy, they’re outlines. As you can see — I’m mimicking it on the table — it takes a long time to do that.



Figure 1. Of this image, Holmes says, “In the background is that same brush written R. The outline is of a Lucida Bright capital R. Obviously it is different, but the differences are only the technical alterations that we make as type designers. The basic letterform remains.”

Calligraphy was really developed for the reproduction of books before the invention of printing, and it’s a very, very efficient way to write. Also, of course, completely flexible. With type, you only have the choice of the characters that are in your font that you’re using. But calligraphically, if the spirit moves you, or the layout demands it, you can put a swash on a letter.

D: A digression, please. In high school, I spent three years doing mechanical drawing and therefore,

architectural or mechanical drawing lettering. What is that? I thought of it as lettering.

K: Did you use a template?

D: No, we had to learn to letter and we used that funny architectural style with the long tails on the “R”s, “H”s would have a little horizontal squiggle, ...



K: Did you do it freehand? You just went one, two three?

D: Freehand. One down, two around, and three the long tail.

K: I would say that’s calligraphy. It’s not based on a historical style but it’s based on modern architectural lettering, and you’re doing it by hand, and you’re doing it very fast and efficiently; I would say it’s more calligraphic than lettered.

D: That’s an interesting distinction, thank you.

K: I don’t know if everybody agrees with me on that. [Laughs.]

D: It’s your interview.

K: Okay!

2 Bigelow & Holmes

D: As I understand your chronology from Chuck, after his mentor Jack Stauffacher [see “Remembering Jack Stauffacher” on bigelowandholmes.typepad.com⁷] invited him to San Francisco to attend slide lectures by three Swiss type designer-teachers, it came to him that he could be in the type design business, too, but he would need a partner.

K: Yup.

D: And he called you in New York. Was this a surprise that you were going to become a partner? I mean, you knew Chuck already. Had you anticipated this in any way?

K: Well, I knew Chuck already, and I knew that I really would like to figure out some way to be back in Portland with him, but I didn’t want to go back to scraping together a living as I had been doing. As I was saying, the whole dance thing in New York wasn’t working out, and I took the class from Ed Benguiat, and Chuck had this idea that I would move back to Portland and we would start our studio, Bigelow & Holmes. And that’s exactly what we did. I came back to Portland, I got a job teaching part time, and we opened a little studio on Southeast Salmon Street in Portland.

D: Teaching part time where?

K: Portland State University, and the Museum Art School in Portland.

K: I think Chuck probably told you the story of how we got our first commission and he got a grant from the National Endowment to add the phonetic characters for Native American languages to a typeface called Syntax, designed by Hans Ed. Meier. We did that job; and then, Andrew Hoyem was looking for somebody to design special initial letters for his big limited-edition printing of Moby Dick. The Cary Collection has a copy of that Moby Dick here, so you can look at that if you want.

D: Let's step back a second to the addition to Syntax. Is this it (Figure 2) here in this little 4-page keepsake brochure you gave me?⁸

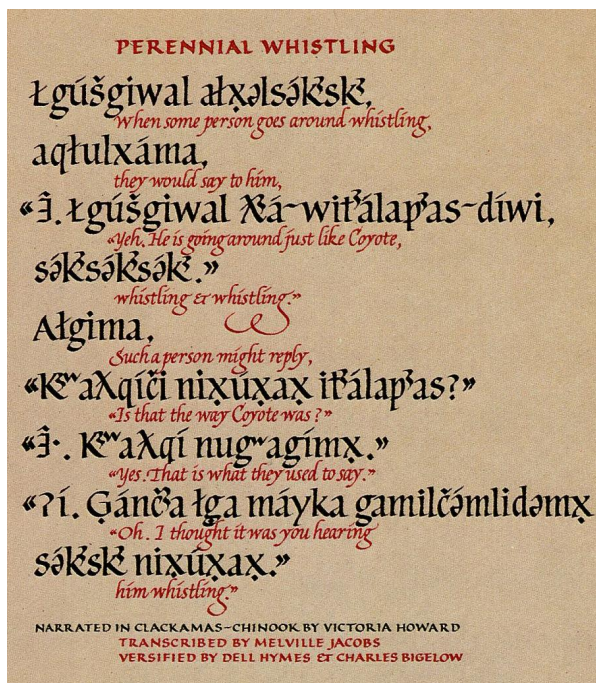


Figure 2. Calligraphy relating to Victoria Howard, from a keepsake given out by Bigelow & Holmes at a 1983 ATypI seminar.

K: This is not the Syntax typeface; it is my calligraphic research for that project. We were going to design the special phonetic characters to go along with Syntax; and Hans Meier, the designer of Syntax (Chuck wrote to him and he wrote back), was very enthusiastic and willing to help. He was really one of the people that opened the door for us. So I researched these characters by developing a calligraphic hand that included all the special characters, and this was it.

D: And both lines in each pair of lines are yours?

K: The whole thing is all hand done. The lines written in black are done in a special calligraphic hand that I developed for this project. This was done first, before we did the font with the special phonetic characters. Hans Meier's Syntax design is a very pure sans-serif, different from my calligraphy, but handwriting the characters was a way to understand them better. And that's a way that I like to work whenever I come across a project that I need to do something new with. When we were going to design the Greek characters to go with Lucida, the first thing I did was get out my pen and look at Greek manuscripts and figure out how to write that with a pen; because once I can write it with a pen, or marker, or a brush, I feel completely secure. It's like learning a language. I think, "okay, now, I can go from there." Otherwise, you're just copying what some other type designer did. This way I'm going right to the source of the characters, and it's a really efficient way to work. (By the way, this calligraphic hand I used for the Syntax study that later became the inspiration for a typeface called Sierra [Figure 11].)

D: While we're on this page, let's digress momentarily and look at the other pages in the 4-page keepsake. In it you have three examples of pieces that the brochure says are from the series you did of calligraphy based on women poets, I guess throughout history. Please say a few more words about that. The example we were just looking at says it is from text from Victoria Howard (c. 1865–1930) as transcribed by Melville Jacobs — I guess from Victoria Howard speaking in the Clackamas-Chinook language. How many pieces were there in that series about women poets?

Go to tug.org/interviews/holmes-bigelow-clackamas.mp3 to hear Chuck Bigelow reciting the text from Figure 2 in Clackamas-Chinook (also known as Kiksht), as he typically does when showing that figure in talks.

K: I think there were five or six total, I'm not sure. I started that project because we were working with these stories by Victoria Howard. And I thought well here's this brilliant woman but illiterate in English, so her brilliance as a great storyteller was nearly unknown and ephemeral. Then I realized there are a lot of other women like that. Peig Sayers [another page in the keepsake brochure] is well known in Ireland; illiterate in Irish, very poor, but a fabulous storyteller in Irish. People said you'd sit and listen to her tell stories, and you'd just walk out the door, and you didn't even know where you were, you had been

so lost in her stories. And also there were women troubadours. So I thought I'd do a series of pieces of calligraphy that were based on the work of women who got no little or no credit — because little was preserved of their work. I thought I would preserve it in the best possible way, by calligraphing it.

D: And in each of these three examples — Victoria Howard (c. 1870–1930), Peig Sayers (1873–1958), Lombarda (c. 1190) — both pairs of lines are yours?

K: Everything.

D: So here in the Peig Sayers piece (Figure 3) is your interpretation of Irish lettering?

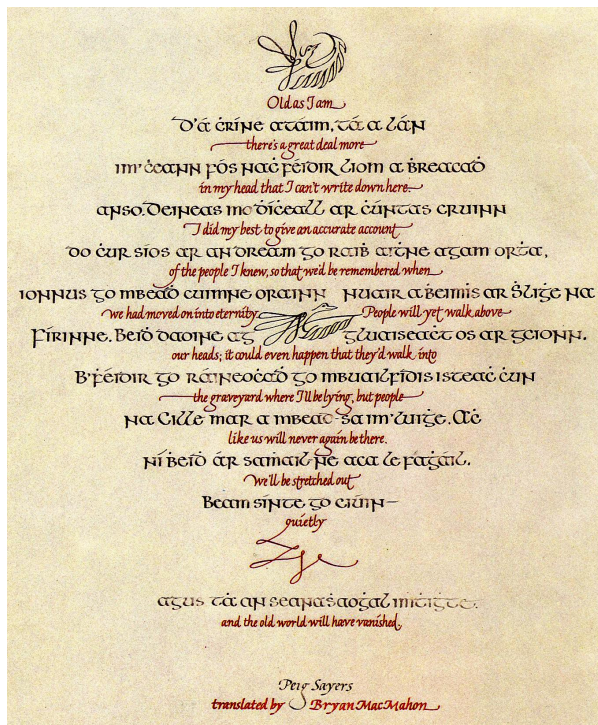


Figure 3. Calligraphy for the Peig Sayers page of the 1983 ATypI keepsake.

K: That's my interpretation of the formal hand used in the Book of Kells. The English is in chancery cursive. In the Lombarda piece [the third example in the 1983 ATypI keepsake], the capitals hand is an original hand I developed, a hand that is based on Roman square capitals, which is a historical style. This is a pretty good example of how I work because you see me copying historical styles and then inventing something that's new.

D: In each of these cases your practice was to find some originals, try to figure out how it was written, and get comfortable with writing it?

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K: Yes. And I just did that for the piece that I contributed to the book The Cary Collection did in honor of Hermann Zapf, which we can show you before you leave, and I can send you a copy of it (Figure 4).

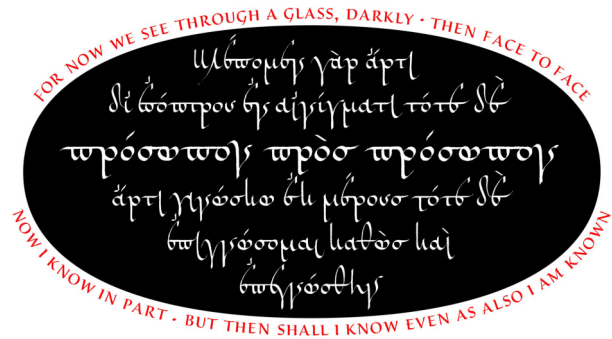


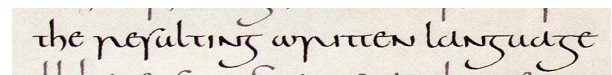
Figure 4.

This is my favorite thing to do with calligraphy — to learn a new hand, not just copying it letter by letter, but to learn it so I can just sit down and write it out.

D: And this is your calligraphy in this statement by Friedrich Neugebauer, on the first page of the keepsake?

K: That's my calligraphy. I think those characters were originally written on wax tablets. They are the informal cousins to the beautiful formal letters on the Trajan Inscription.

D: And you've done the calligraphy using a style from history, a style that, for instance, has these extreme "r"s and "s"es is the word "resulting".



Very interesting.

K: I found an image of a wax tablet written in this style, and I sat down and learned it. By the way, I taught a class at University of the Arts in Philadelphia, a one-week workshop, and I had my students do the same thing. I brought in manuscripts, everybody picked out a manuscript and they just sat there for 12 hours straight learning how to write it. And then they did their own personal piece based on that.

D: It says in this quote from Friedrich Neugebauer (in your calligraphy) that the words express a design philosophy of Bigelow & Holmes. I transcribed it into my writing so I could tell you what it says.

K: [Laughing] Say it.

D:

we as individuals
and lettering artists can
help to preserve our oral
tradition by choosing texts
that are meaningful to us and
that shed light onto our lives.
the resulting written language
will have significance and integrity.
this approach to work and art
could be a new beginning:
a reaffirmation of our
own age-old linguistic traditions
and the establishment of
positive directions for our
future use of language.

K: Yes. I'm so glad you reminded me that we had said that was our statement, and we still stand by that. You know, I was just talking to Chris Myers, who is the head of that program at University of the Arts, about why calligraphy is now considered kind of an artsy craftsy thing. To Chuck and me it's not; to us it's the root of everything that we do. That statement by Neugebauer really says it much better than I ever could. That is our philosophy.

D: Before I interrupted you a while back, you began to talk about the capital letters font Leviathan.

K: Yes, for that *Moby Dick* project.

D: You gave me another handout, which was a keepsake from a recent exhibit here at the Cary Collection (Figure 5).

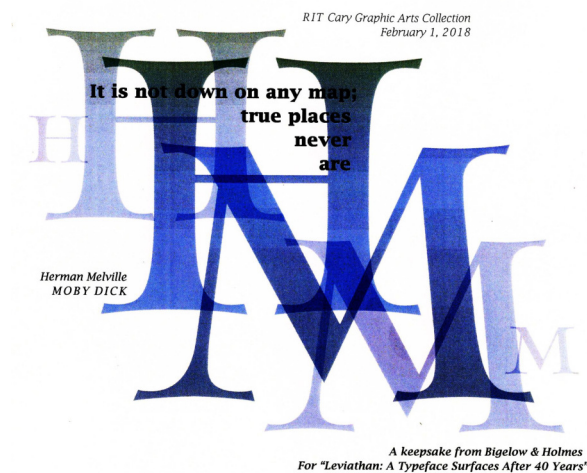


Figure 5. Cropped from a keepsake from Bigelow & Holmes for “Leviathan: A Typeface After 40 Years” (2018).

K: Yes. The exhibit was in February [2018], to celebrate the 40-year anniversary of this typeface. The Cary Collection put on a presentation and they put it right here, at this place on the table, their copy of the *Moby Dick* book; and Chuck and I gave a talk about how we designed the set of initial letters. It was a beautiful event.⁹

D: What led you to decide to have a 40-year anniversary of this?

K: I think it was our close relationship with the curators here at the Cary. You know, we mentioned that gee, it was 40 years ago that we did this. And the associate curator here, Amelia [Hugill-Fontanel], said, “Hey, let’s have a 40-year celebration.” And soon after we did that, Steve Matteson came out from Monotype because he was releasing his new revivals of Goudy types that he has done, and The Cary Collection had a similar celebration. The Cary Collection is kind of getting to be a place where you can announce a new type or celebrate an old typeface. There is a nice lettering and type community around here, so it’s a really beautiful event in the evening. Everybody gets together.

D: Perhaps it’s a more reflective phase in your career?

K: Maybe. I don’t think that this means we’re moving into a reflective phase; Chuck jokes that thirty-five years ago, everybody used to ask him about the future, now they ask him about the past.

3 Working and learning: Cambridge, MA, San Francisco Bay Area, Hawaii, UCLA

D: Let’s go back, if you don’t mind, to your education. We started at Reed, you did some studying in New York City; you didn’t mention it but I read that you were at the School of Visual Arts. I guess that’s where Ed Benguiat was. Then in 1979, you studied here at RIT — a brief summer course, I believe.

K: It was a two-week summer course. Hermann Zapf came from Germany and taught for two weeks. Those [big blue pages of letters on the next table being prepared for an upcoming Zapf exhibit at the Cary Collection] are samples Zapf made as he taught (Figure 6).

We came to Rochester, and that was another turning point in our careers — to meet Zapf and watch how he worked, and hear him talk about his work. It was just a great experience. So we’ve always thought of RIT as a stronghold of good lettering and good typography.

D: And, somewhere along the line, you finished your Bachelor’s degree at Harvard Extension.



Figure 6. Photo taken by Chuck Bigelow during 1979 course by Zapf.

K: I finished it in 1982. Chuck was teaching at RISD and I had a job at Compugraphic up in Wilmington, Massachusetts. We wanted to live together, and so we found a place that was kind of in the middle, though it turned out to have torturous commutes for each of us. I would work all week at Compugraphic; then on Tuesday and Thursday nights I hightailed it down to Harvard Square and took classes there, and finished my degree. That was another great experience in my life; wonderful professors; I studied linguistics with Calvert Watkins, Islamic Art with Sheila Blair. I had a great life drawing teacher, so I was drawing all the time; and finished my degree just before Chuck got his job at Stanford, so I finished it up just before we left.

It was fun living in Cambridge. In the end, Chuck left his job at RISD and I left my job at Compugraphic, and then we were really in heaven. We had a little studio in our apartment on Irving Street, near Julia Child. We'd see her in the nearby market. We spent every evening working on ideas for typefaces.

D: Your type design at Compugraphic was for phototypesetters?

K: Yes. Compugraphic was the first place in the U.S. to install the Ikarus system, which is why I was interested in working there.

D: And you knew they had that already and therefore sought out the job?

K: I had sought out the job earlier. I wasn't sure what I wanted to do, but then they installed that Ikarus system just before I went to work there. So I was able to kind of do my analog drawing job and then sneak over and see how the digital system was working.

D: Did you already know the people in Germany who had done the Ikarus system?

K: Peter Karow at URW. We didn't know him yet.

D: Back to your education. Somewhere along the line you ended up at UCLA studying for an MFA.

K: Yes I did, years later. But in 1982, by the time I finished my degree at Harvard, I had already gotten a commission from Hell, the inventor of digital typesetting, to design some original typefaces for them.

D: How did they find you?

K: They found me because the Hell-Digiset typesetter was being introduced to the American market, and they wanted people to design some new types that would show off the high quality that it had for a typesetter at that time, and they wanted high quality versions of some historical typefaces. They had heard about Chuck and wanted him to be their American typographic consultant. Chuck was going to go on a job interview with Max Cafilisch, who was Hell-Digiset's European type consultant. And before he went on the interview Chuck said, "look, they're looking for type designers, why don't you just put together your portfolio and come with me." And I said, "it's your interview, I can't go." He said, "Oh come on, it'll be fun." [Laughs.]

So he brought me along on the interview and Max Cafilisch was kind of surprised to see a second person there, but then I pulled out of my portfolio all these letters that I had learned to do from Robert Paladino based on the Trajan Inscription. At that time, it was a very, very unusual skill and Max Cafilisch looked at it and said, "Oh! This is interesting." So that was how I got the invitation to present proposals for original typefaces, and they also hired me to do a revival of Baskerville and a revival of Caslon especially for their digital typesetting machine. So that was how I got that commission, which I was still working on in 1982 when we moved to California.

D: And at that time you were communicating by airmail?

K: Yes. That is when I started a technique that I still use. What was happening is they had the Ikarus system at Hell in Kiel, Germany, and I was doing the drawings. I sent a first set of drawings on paper but they said that the size wasn't right, and I realized that this is a piece of paper traveling over damp atmosphere and dry atmosphere, and the paper was changing size and the digital constraints were too tight for that. So I started drawing on dimensionally stable Mylar, and it's a very nice surface to draw on, you can get a really beautiful fine line. I would draw the typefaces, sometimes based on material Max Cafilisch had sent me, sometimes based on material that I had had blown up, or just my original sketches

from specimens in the Harvard Houghton library. I would make the drawings, I would make a nice blue-line copy of them, and then I would mail the originals to Germany, and they would digitize them on their Ikarus system there and then send me the bitmap versions for me to correct. It was a long, slow process but it was the only way to do it at that time.

D: How did you feel about doing a re-enactment of Baskerville or Caslon, as opposed to doing an original typeface?

K: I felt really good about it. You know, I learned so much. I had big blowups of the characters that were at the size I was going to draw out. But I also had my little printed specimen of the type and I had a magnifying system, almost like a little microscope. I would sit there and look through that microscope at the original printed samples, and then draw; look and then draw; and I did that for months and I learned so much that I felt just fine about doing that because there are so many decisions that you need to make. For example, Baskerville cut a different type for every size that was going to be printed. Well, if you're going to do a new Baskerville now, which size do you go by? What size is your model? You can't just say I'm going to use the 12 point model. That might be one of the sizes Baskerville or his punch-cutter didn't even cut so there are a lot of decisions that have to be made. I didn't even call it a redrawing, I would call it a revival.

D: Revival. Back to UCLA, this was after you were at Stanford? While you were at Stanford?

K: Chuck was at Stanford from 1982, and then we worked in the Bay Area for I think 14 years. And then, everything was going fine and we decided we wanted an adventure and we moved to rural Maui for four years. We lived up on the side of Haleakalā, the volcano, and we studied the native plants in Hawaii. We were still drawing type and doing business with people, but we were just doing it from rural Maui. So we studied native plants, I studied traditional hula and chanting, and we studied Hawaiian language and music; so we just did a few years of study.

D: But always running your studio.

K: Always running the studio. We thought we could do it from afar because of the Internet, but it was hard to do on Maui because they had an antiquated electrical system, so whenever there was a storm it would blow out our fax machine; and it turned out to be very difficult to run our business from Maui at that time.

D: I heard from Karl Berry, who I guess heard it from Chuck, that in Hawaii you grew roses ...

K: Yes. Chuck had a vast collection of, I think, over 600 different kinds of roses. He was studying rose fragrances.

D: It was just part of the adventure.

K: Just part of the adventure. We've always been avid gardeners; you may have seen my short film *La Bloomba* (Figure 7).

D: [I had not, but now I have; it is here: tinyurl.com/holmes-bloomba]

K: That was my thesis film for UCLA and it was based on time lapse video I did of flowers opening and every flower in that movie is a flower from our garden. We just always loved gardening, both of us have. It's kind of our mutual hobby.



Figure 7. Title slide from *La Bloomba* film. Kris says, "... a special version of Lucida Casual which I prepared so I could animate the title from light to bold lettering, like all of the flowers blooming in the film."

D: So you went to Stanford, you were in the Bay Area for 14 years, you spent four years in Hawaii, and now do we get to UCLA?

K: Now we get to UCLA. By the end of about two years on Maui, we had really done everything we wanted to do there. It's a very isolated lifestyle. And so we started thinking about what's next, and Chuck said, "you know, I've always wanted to write screenplays," and I said, "I've always wanted to be an animator." So we decided that we would each apply to UCLA film school, we'd probably get rejected and

that would be the end of that. But we both got accepted into film school and so we moved to Los Angeles to be students again, which was one of the greatest experiences of my life.

It was just such a wonderful place; my department was headed up by Dan McLaughlin, he used to work for Charles and Ray Eames at their studio. Everybody was so supportive, the students were brilliant, everybody was working on great projects; it was an exciting atmosphere. Chuck was able to audit a linguistics class on the Mayan language K'iche', in which the greatest surviving epic of Native American literature had been written in its native script. It was just such an exciting campus to be around, and we absolutely loved it.

D: Meanwhile, your studio is at home and you're working.

K: Yes, and we're working. In fact, near the end of my first year at UCLA, Sun Microsystems' Java group asked me to design a Devanagari font used for Hindi, Marathi, and Sanskrit languages; so I had to stop coming to class for a few weeks while I worked on that. But it was okay; you know, it worked out in the end. So that was a great, great experience, going to film school.

D: Yes. But you said that you studied animation and Chuck studied screen writing, but the literature I found on you says that you wrote an award-winning screenplay, so you did some screen writing as well?

K: I did. I thought, "well, here I am at film school, why not try everything?" At the film school you could take classes in anything; it's just that you had to work hard and keep up. I took a class in costume design taught by Deborah Lynn Scott who had designed the costumes for the Titanic movie, I took screenwriting with Richard Walter, who taught Academy Award winners. I wrote a screenplay about Nikolai Vavilov, who was a botanist working under Stalin, who ended up starving to death in prison. It won a Sloan Foundation prize, for screenplays about science.

4 Operating a design studio

D: When you formed your company, way back in 1976, what was the image of how the two of you were going to work together; and how has that evolved over time?

K: Oh boy, I don't know that we had an image of how we would work together. I think that what we wanted is we wanted to be able to design type. I'm not sure that we have an image of that now. We just kind of take each job as it comes along. And the

thing is that both of us can do everything required, so that I could do the whole thing by myself and Chuck could do the whole thing by himself. When we get a new job, we say "okay, who's really interested in this; who wants to do this; you want to do sketches, okay, how 'bout you do this, let's try this." Every job is a new, a new definition of what Bigelow & Holmes is. And we enjoy that.

D: I don't know where what I am about to say is from, but whoever wrote it says, "as principal artist at Bigelow & Holmes, Holmes is responsible for creation of over 100 digital typefaces, including conception, research, drawing, computer input, digital editing and production management." What does Chuck do?

K: [Laughing.] Chuck does some of that, too. Chuck does some of all of that.

D: You both do it all.

K: We both do it all. We do divide up some of the tasks of our business; I'm the president and accountant, he's the vice president and lawyer, stuff like that. He does much more writing than I do, which is fine by me. I do more calligraphy.

D: But I was interested to find papers written by you in your dossier that you gave me. Very interesting.^{10,11}

K: Thank you.

D: This person, whoever it is, says you've designed 100 digital typefaces. I found other people saying 70, 300,¹² ... — different numbers in different things I read.

K: It's even worse than that because now, when we design something, we can do multiple master setups (Figure 8), so I can design poles, two or three poles, and then I can interpolate a hundred weights in between, if I want to. I'm not even sure how I would come up with a count. There are individual fonts, and families of fonts, and so on. A few years ago, we established a little online store to offer simple versions of our Lucida designs, and we put around 300 of our fonts on it, in different families like Lucida Sans, Lucida Casual, with different styles, and many weights in each style.

D: Perhaps it is not a relevant measurement anymore.

K: Maybe you could say I've done so many families of fonts. I have no idea what that number is. I don't have time to stop and count them all.

Weight Name	W3C	lowercase alphabet
UltraThin	100	abcdefghijklmnopqrstuvwxy
ExtraThin	150	abcdefghijklmnopqrstuvwxy
Thin	200	abcdefghijklmnopqrstuvwxy
ExtraLite	250	abcdefghijklmnopqrstuvwxy
Lite	300	abcdefghijklmnopqrstuvwxy
Book	350	abcdefghijklmnopqrstuvwxy
Text	375	abcdefghijklmnopqrstuvwxy
Normal	400	abcdefghijklmnopqrstuvwxy
Thick	425	abcdefghijklmnopqrstuvwxy
ExtraThick	450	abcdefghijklmnopqrstuvwxy
Dark	500	abcdefghijklmnopqrstuvwxy
ExtraDark	550	abcdefghijklmnopqrstuvwxy
Bold	600	abcdefghijklmnopqrstuvwxy
ExtraBold	650	abcdefghijklmnopqrstuvwxy
UltraBold	700	abcdefghijklmnopqrstuvwxy
Black	800	abcdefghijklmnopqrstuvwxy
ExtraBlack	900	abcdefghijklmnopqrstuvwxy
UltraBlack	1000	abcdefghijklmnopqrstuvwxy

Figure 8. A series of weights of lower case Lucida Sans. Theoretically, in the multiple master approach to font development, a few master designs can be done, e.g., UltraThin, Normal, and UltraBlack, and the other weights can be derived by interpolation.

D: Back to your job history, in a sense; once you started the company. It seems to me that you do three different things. You teach sometimes ...

K: Yes.

D: ... so really that's kind of individual; your company sometimes does work for hire, ...

K: Yes.

D: ... and then sometimes you do things on speculation and then license. Are those the three categories?

K: Those are three categories. We also do consulting; Chuck does more of that than I do. But I'll give you an example. Sometimes we do a typeface on commission, for instance, Apple Chancery. Apple was developing the TrueType GX program, which would enable a font to do what is now called character substitution in OpenType. Apple wanted a typeface to show off its new technology, so we designed Apple Chancery for them. It had all kinds of character substitutions: the lower case "e" has a regular "e", a descending "e", an "e" with a swash at the end, an "e" with a swash at the beginning; depending on where this "e" fell in the text, you would use different versions of the character. When we finished that project, it came up to a character count of 1001. I said, "I want to call it Scheherazade because of "The Thousand and One Nights" which I had read to prepare for Sheila Blair's class at Harvard." But Apple said, "no, Scheherazade won't fit on a drop down menu," so they called it Apple Chancery. So

that was an example of a company saying we want you to do something for a specific reason.

D: And then they own it.

K: That's correct. In fact, we're embarking upon a similar project here with the Cary. We're doing a revitalization, a revival, of Baskerville. So it will be the second time that I've done this.

D: And why does Cary want to do that?

K: For their own use. We are going to design the typeface, and they'll be able to use it for labeling and cards and signs and posters and everything. They will own it, and we won't sell it through our store or any other way. On the other hand [years ago] for Lucida, Chuck had the idea that it would be nice to have serif and sans serif matching families, and because digital typesetting was just emerging, we wanted to design something that would look good at low resolution, like 300 dpi. So we just did it, and it's ours, and we license it. But we did it on speculation; nobody paid us to do that; it was just an idea that we had.

D: Yet you keep adding to it.

K: Oh yes, we do.

D: So somebody must be buying it.

K: Yes, somebody's licensing it; they're not buying it.

D: How do you sell something like that — mostly through your website, or through Myfonts, or ...

K: No, we license mostly to corporations that want to bundle the font in their equipment or their software. We also license a large set of Lucida fonts to the T_EX Users Group for mathematical typesetting.

D: I see. How does dealing with a big giant like Microsoft compare with dealing like with a tiny thing like TUG?

K: It's not that different. It's not like you make your presentation to all of Microsoft. You're usually only dealing with a core set of people, a group of two to five or six people. You get to know them well and they know you. So it's not as different as it might seem. But sometimes the core group of people leave and you get a new core group of people, and you just hope they're as good as the original set.

5 How Kris works

D: If I can digress again back to one of these handouts, was this (Figure 9) in the Illiterate Women's Poet series, too, or is this different?

K: This is by an ancient Greek woman poet, Anyte. She was literate. It was part of the research I did for

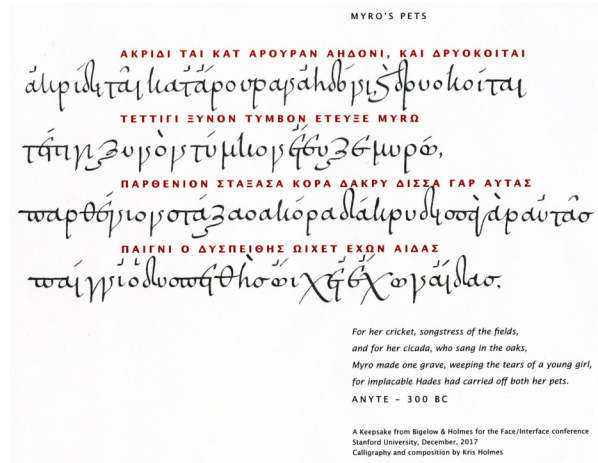


Figure 9. A keepsake from Bigelow & Holmes for the Face/Interface conference, Stanford University, December, 2017.

the Lucida Greek project. I was in London and I was in a little shop, and there was a book called *Greek Literary Hands A.D. 400-1600*. It wasn't professional calligraphy, it was handwriting by scribes who were preserving literature; and there was a very lovely script in there. So I did the thing I love to do. I sat down with the script and a piece of paper, and I figured out how to use it and how the letters change as they're next to each other. And then I found that very charming poem by Anyte and so I wrote it out. You know, Lloyd Reynolds used to say that "I calligraphed it" sounds pretentious. "Just say, 'I wrote it out'." And the older I get, the more I think yeah, he's right; "I wrote it out."

D: What you described is really interesting.

K: And the capitals typeface on there is Lucida Grande, so that keepsake actually has a font mixed in with the calligraphy.

D: That's the red?

K: Yes, that's the red.

D: A question back, I guess this design [below] was for Hell?

Isadora

Why did they want that?

K: They didn't know they wanted it. Hell was going to have a meeting in Basel where they wanted me to show them the beginnings of the redrawings of Caslon and Baskerville, and then they wanted me to make proposals for two totally original typefaces that would show off the resolution abilities of the

DigiSet. I went over to the Houghton Library in Cambridge and I was looking at some manuscripts, and there was a manuscript that had a lower case "p" that [gesturing] came down like this, and then it just sort of looped back up like this. All done in one stroke so that the stem was like a double stroke (Figure 10).



Figure 10. The original sketch Kris did in the Houghton Library.

And I thought gee, what if I designed a font where every character worked that way. That would really show off their abilities with the typesetter. So I did it. I just sketched it out and put together a keyword. And I did the finished art by cutting the characters in Amberlith, because I didn't have any other way to proof the characters at that time. Now, you just type it on the screen, but I couldn't do that at that time. So I cut the characters out of Amberlith, and I put together a presentation (Figure 9) that was the beginning of the typeface Isadora. The other typeface I presented was based on the Chinookan calligraphy, and it was called Sierra, and I put it together the same way.

By that time, we had already taken Hermann Zapf's class at RIT and I had worked on an article for *Fine Print* about Zapf Chancery.¹⁰

So we went to the type review meeting in Basel and, of course, I was just shaking with nervousness. There at the type review meeting was Hermann Zapf, Max Cafilisch, and a couple of other people; and we sit down, and so I said, "this is my proposal for Isadora." Hermann Zapf said, "First of all, Kris, I'd like to thank you for that beautiful article in *Fine Print*. You know more about that typeface [Zapf Chancery] than I do." I could tell that one of the other people in the group was not crazy about my proposal for Isadora, so I was really getting nervous; I thought they're going to turn Isadora down. But then, Hermann Zapf picked it up, looked at it, and said "Yes, this is top quality, we'll take it." And that was it. I was on my way thanks to Hermann Zapf. I don't think I would've gotten the commission otherwise, but he was so influential that the other people in the meeting just went along with the idea, and he also said that he liked Sierra, so I did that one as well.

D: Wow!

K: Yeah, I know. [Laughs.] Isn't that a cool story?

D: Great story, but I need you to explain what a keyword is, and what is Amberlith?

K: When type designers design a font, they don't start with A and go straight through to Z. The first step is to design an "n" and an "o". Once you have those two letters looking the way you want, you have a lot of information — x-height, stem weight, round weight, serif structure, bracket structure. So in designing Isadora, I first designed an "n" and an "o". The next step is to design a keyword — meaning a word that contains letters that give you more information about the shapes of all the letters (Figure 11). You choose a keyword that contains a cap and a lowercase (to determine how the stem weights need to differ), an ascender and descender (to fill out your vertical parameters), a diagonal (to determine the weight for that) and "two story" letters like "e" and "a". I always say that once you have a keyword that really works, your design is at least 75 percent complete.

Isadora started with drawings, as do all of my typefaces. But how to take those big drawings and see what they will look like at reading size. In those days for me, the most efficient way to do that was to put a piece of Amberlith over the drawing and cut the image in it. Amberlith is clear acetate coated with a photo-opaque translucent film. I did thousands of these Amberlith cuttings in my early years as a designer. Once you have a good Amberlith cutting, you can simply photocopy it into a black and white image and paste letters together. You can then hang the big images on the wall for a first look and then have them photo-reduced down to see your design in a size closer to the size it might be used at.



Figure 11. Presentation of characters cut in Amberlith.

As you might imagine, this was a tedious process. But over the years I got very good at cutting those Amberliths — people often thought they were cut by some kind of machine. It was really the only way to proof my keywords at that point. In designing Isadora for Hell in Germany, I would do the above keyword process and then send the final keyword drawings off to Germany to be digitized by their crew. They would mail the bitmap images back to me, and then I could go forward and design the whole typeface. So a keyword can be a way to either illustrate a completed typeface, or, more importantly for me, a way to test my ideas.

D: A big part of your world has been Lucida. There is so much; we can point to all kinds of articles and examples.^{11,13} But is there something you'd like to say about it? I'd certainly like to hear why you chose the name.

K: Chuck chose the name Lucida because the typeface would be made of light. I think the guiding light of Lucida is that we wanted to design something that was legible, that's always our number one priority. Every time we look at a letter, is it really legible? We never skimp on that. Gary Munch, a former student of Chuck's and now a respected type designer and now dear friend, described Lucida to me as a workhorse typeface. I thought, I like that; it is a workhorse typeface and that is what we wanted. We didn't want something too fancy; we didn't want something unapproachable; we wanted something based on traditional pen-drawn letterforms but something that was modern and clear.

D: Do you ever just get tired of one more Lucida font or typeface? Or does it remain interesting? You get to choose what you do so presumably you choose it because you want to do it.

K: There's always a new challenge, like variation. We have Lucida Handwriting, for which the basic height and weight measurements match Lucida, but in every other way it's totally different. I don't really get tired of it, and it's very handy to always have this basic set of measurements so I know what I'm dealing with — even if I don't always match it, at least I have a starting point.

D: Did or do the issues of the "font wars" — all the different type formats, . . . , Type 1 and Type 3, and OpenType, and all of that — affect you when you're designing a font or is that some kind of a post processing problem?

K: I don't think it affects me one bit when I'm designing a font. You know when I'm designing a new font, I actually kind of live in isolation. I never look

at other typefaces because I don't want them to get in my mind's eye. So even just looking at that lettering over there, it's kind of getting into my mental visual space. So when I'm working on a new design, I don't look at other people's designs. But I'm always thinking. Chuck once asked Adrian Frutiger [designer of Univers and many other typefaces], what do you think about when you're doing a new design? And Adrian Frutiger said the most perfect thing, "I think about what it will look like in the mind of the reader." I'm thinking about that. I'm thinking about how it's going to work with the technology I'm designing for. I'm thinking what it's going to be like to look at. But the business end of things, *pfft*, absolutely not thinking of it at all. How could you?

D: I don't know, I don't do type design.

K: [Laughing.] Well there's so many twists and turns in the business end of things. Really good products get dropped; really bad products get not dropped; and so you just can't think of that.

D: In our correspondence a few years ago, you noted that you and Chuck are one of the few design teams that have worked with both phototypesetting and digital.

K: Yes.

D: Is the design process different for any of that, or is it still you sit there with your paper in isolation?

K: [Laughs.] Well, I think it's different in that I'm thinking how the technology will affect the finished image because, you know, the way something looks printed in phototype is going to be very different from something printed digitally. And we have not only worked in photo and digital type, we did that first typeface Leviathan for metal type and letterpress printing.

D: So that does have to affect what you draw.

K: It does have to affect what I'm doing. But the basic design process is sitting there in isolation.

D: Since Ikarus, what other design systems have you used?

K: I want to say that I am very sorry to have had to give up Ikarus. I used it for I think about 27 years, during which time I think I had a total of two crashes. It was very, very stable; and it had a very, very high resolution. Everybody kept saying, "oh, you need to move on to Fontographer" or something. But I was very happy with the accuracy that I could achieve with Ikarus and the solidity of the system. So I was sorry to give it up. There was an Ikarus on Mac for a while and we used that. But once we got into the

big Unicode character sets we really had to move to FontLab, and now maybe we're moving on to Glyphs.

D: Glyphs, that's the name of a system?

K: Yes, G-L-Y-P-H-S. It's a font design and editing application that I think many type designers are moving to now, it's a really excellent system. I'm just always in the middle of a job so it's hard to pull up stakes and learn something new, but at some point I'll get around to it.

D: Let's go to another piece of this literature that you gave me last night, which is this brochure from Imagen, "Imagen Presents Lucida: the First Typeface Design for Laser Printers."¹⁴ Somewhere in something Chuck told me he said that Michael Sheridan designed and produced this. Am I right? This was produced by Michael Sheridan?

K: Yes, that's right. He was Director of Typography for Imagen and previously had worked for Grant Dahlstrom at the Castle Press, which produced finely printed books.

D: And your role in it was ...?

K: Was to design the font. I didn't do any of the book design, or production, or anything.

D: Okay. In that year, it talks about 11 different sizes of fonts; 6, 7, 8, 9, 10, 11, 12, 14, 18, 24, and a Roman that's something bigger than that, 36. They weren't scalable fonts back then or what?

K: It sounds like they were still rasterizing the fonts, doesn't it? You'll have to ask Chuck about that detail.

Chuck explained: At the time, mid-1984, Imagen used bitmap font technology. No laser printers had scalable outline font technology until the Apple LaserWriter with PostScript outline fonts was launched in March 1985.

At B&H, we drew the Lucida characters at a large size, around 166 mm, and digitized them as scalable outlines with Peter Karow's Ikarus system, which used Hermite cubic curves. We designed only one master size, intended to work well at around 10 point, plus or minus a few points. For instance, at 10 point at 300 dots per inch, the vertical stems are almost exactly 4 pixels thick.

From Ikarus, we output scalable outlines in a circular arc & vector format. Again, just one master design. Imagen scan-converted our Ikarus arc/vector outlines to bitmaps, which they hand-edited. In a way, then, the original Imagen Lucida fonts were hand adjusted for each print size, because the bitmap

editors made visual decisions about details of pixel placement as they edited the fonts.

D: It also says in here, “this is for low and modest resolution output devices”. So how have things changed for Lucida now that we have higher resolution output devices, on practically everybody’s desktop?

K: It means that we can design fonts a little differently. If you look at the original Lucida in that booklet, you’ll see that the hairlines are quite thick compared to the stem weight. So, let’s see, the stems were 16 mm on a drawing size of 166 mm; the hairlines were like half, 8 mm — something like that — of the stem weight. And that’s because you’re working at low resolution, so you don’t want that hairline to fall apart. You’ve seen characters where they’re just breaking up. We didn’t want that to happen, so we made nice thick serifs, nice thick hairlines. For a higher resolution machine, you can make very thin delicate hairlines, and very thin delicate serifs and the whole face will have a slightly lighter look to it. So the different resolution really does change the design.

D: Have you gone back to any of the earlier Lucida fonts or typefaces and redone them?

K: Well that’s kind of what Lucida Bright is; Lucida Bright is a redrawing of the original Lucida, but for high resolution. It has rounded bracketing on serifs; thinner hairlines, thinner serifs. So I would say Lucida Bright is a redoing of Lucida. I ran into a girl at Wells College, which has a very nice book arts program, and she had printed letterpress a whole book in Lucida Fax. And I said, “gee, we never thought it’d be printed letterpress.” And she said, “oh, it was just perfect for what I wanted to do, so I just had polymer plates made and printed the whole thing in Fax.” You never know how your typeface is going to be used, and this is something that bothers a lot of type designers — “Oh gee, they’re spacing it too tightly” or “they’ve taken the italic and slanted it even more.” But it never really bothers me. I feel like, “okay, you bought your font; if you want to change the styling that’s fine.” I don’t approve when people go back in and actually change the individual characters, which happens a lot.

D: I guess I don’t understand the distinction. How do they change the font to, as you say, slant it more? What do they do?

K: Using Word styling, you can slant an alphabet, so they start with an italic and then think, “I need to slant it more.” That’s something you do within the word processing.

D: At a high level, where it just does the same thing to everything.

K: Exactly. I see it all the time, and it is a choice made by the layout designer. What I object to are changes made to individual characters, sometimes called glyphs, right in the source code of the font, especially if someone calls it a new design.

D: Have you seen where typefaces that you have designed have influenced other peoples’ typefaces, other than messing with your typefaces?

K: [Laughs.] I think so. I think there are many humanist san serifs that were probably influenced by Lucida. I think Lucida’s big x-height has been a big influence. You see typefaces with a big x-height all the time. I think our idea of including non-Latin alphabets in with the Latin alphabet — a lot of people have worked in that direction but we were the first designers to coordinate Latin and non-Latin to the extent that we did. We wrote a paper about it, and a recent scholarly paper talks about that, 23 years later. I do think we’ve been influential.

D: I think you’ve answered this already but let me ask it explicitly. You have your calligraphy skills, and you do your type design work, and presumably calligraphy influences type design?

K: Oh absolutely. That’s always where we start. It’s this tool that influences it.

D: The brush?

K: No, it’s not even the brush; that’s why I brought all of these things (Figure 12).



Figure 12. Four calligraphy tools. See tug.org/interviews/holmes-4-tools.mp4 for a video.

Here we have a brush [rightmost] but the thing that’s distinctive is this broad edge; it’s called a broad edge tool. This is a marker [second from right], and the thing that sets it apart from the marker that you’re writing with is it’s not a point, it’s got a

broad edge. Here's a really big marker [second from left]; same thing, the broad edge. Here's a pencil [leftmost]; same thing, the broad edge. So it's this broad edge that is really the basis for our way of thinking about type, and it's because now you're writing not with the point like you are with your marker, you're writing with a line so it's almost like a 3D quality in the character. The tool automatically creates the thicks and the thins in the letter. I almost feel like this tool does 50 percent of the work for me, and then my hand just kind of automatically pushes it around based on my study of historical calligraphy. That's my starting point, then I have a nice, calligraphed — to use that word Reynolds hated — nice calligraphed letter.

Whenever Chuck and I discuss lettering between ourselves, we always end up getting out one of these pens and say, “if you go like this and like this, that's how it needs to work right there.” And every decision big or little is based on this tool. When I say “based” on, I mean that we go a long way from this tool and sometimes we use a slightly different tool. For example, Lucida Handwriting, that was based on some sketches I did with a really old marker, a pointed marker, but it was wearing out, so it was almost like half brush, half pen. So sometimes we move to a different tool and certainly go far afield from this analysis, but that's really the root, right there.

D: Forgive me for not completely grasping, but let's say you're designing something; you draw a letter; then do you somehow digitize that? Or are you mostly working on a screen rather than with a brush?

K: The way I work is that I start with my sketches and my rough things with a brush or with a pen; and then I put a piece of paper on top of that, and I've done it to the size that I want or I blow it up to work it to the drawing size that I want, about 166 mm tall. Then put a blank piece of paper on top, put down some guidelines, and then I do an outline around that sketch, or around that calligraphic letter. I have an illustration that shows this perfectly (Figure 13). And this is where I get to go far afield. So when I make a serif with this brush, well it's a very delicate little thing — you can see up there [on a wall poster] on that first “R” you can barely see the serif — but for type, you don't want a serif that thin, it would break off. So that's where I get to make some major changes with my pencil and I just beef up that hairline a little bit, beef up the serif.

D: And somehow that gets into a computer.

K: Yes it does. When I was using the Ikarus system we actually had a little Aristograph tablet, a little electronic board with a puck on it and we would

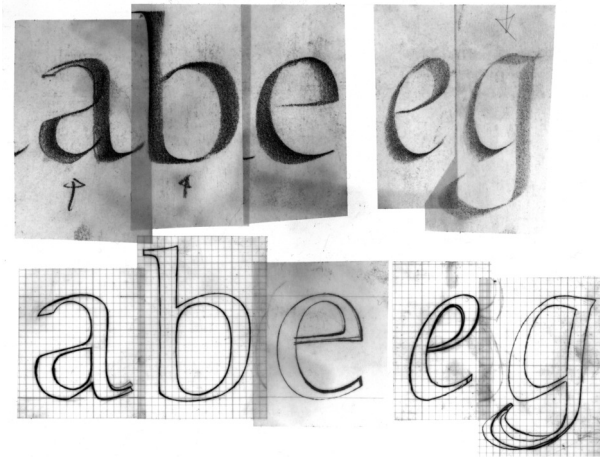


Figure 13. Illustration of the process. The typeface is Sierra — based upon her calligraphic studies for the Syntax Phonetic project. The tool she used was a broad edged pencil (leftmost in Figure 10), a carpenter's pencil.

digitize that way. Now what I do is that I scan the drawing into a background and I fit splines on it on a screen (Figure 14).

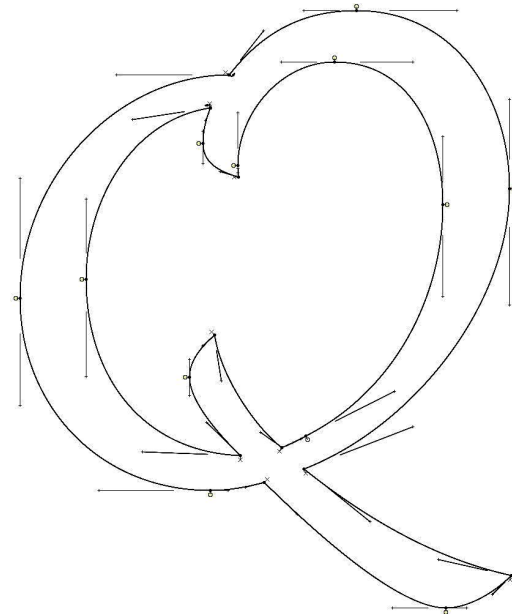


Figure 14. The letter Q from Lucida Handwriting showing chosen spline points.

D: So this is in Glyphs?

K: I've actually been doing this part of the job in Illustrator. You can do it in FontLab or Glyphs or related applications, but I kind of like working in Illustrator for the first pass because you get a really nice background image in that. When I say fitting splines,

I mean that type designers have a very specific way that we lay out the spline outlines on a character. A designer can take a letter and just autofit splines in Illustrator, and that's fine if you're doing a lettering job. But autofitting gives you way too many points and they are positioned illogically, not recognizing the structure of the characters. But for something that we do, which may be a system font, it's going to have hints put on it that adjust the outlines to fit raster grids; it's going to be used at lots of different sizes, so we have a very specific way that we arrange those points so that shapes and the structure are logical. All the extreme points are marked, in the X and Y axes, and the stems and bowls, x-heights, base lines, capital heights, and so on, are marked, so when you put hints on them, the rasterizer can adjust those to the output raster easily.

D: How does what you have in Illustrator get into Glyphs?

K: Okay. So now I have the calligraphic sketch, and then I do the real fine line drawing on a piece of Mylar, then I scan that, put it in the background in Illustrator, I fit the splines in Illustrator, so I have a nice spline-based outline. I just simply copy and paste that into a window in FontLab or Glyphs.

D: Ah ha!

K: And if I set everything up right, to all the exact measurements, it all goes very smoothly.

D: How long does it take you to do a letter?

K: I don't know, I don't even want to know. When I was doing really fast jobs for somebody, I would time it based on half an hour a letter. But you know, I don't know anymore because sometimes you spend ... like a "w", which is always so difficult to do; I might spend two or three hours on a "w". But you know, a capital "I", well, not so much. And sometimes it takes years to finish a typeface just the way I want it.

D: Chuck talks about harmonized families of Lucida; serif, sans serif, and typewriter. What does harmonized mean?

K: I can explain that. I have a little lecture that I give when I teach type design. For a type design to be effective and legible, you have to achieve a balance of sameness and differentness. Think of a ransom note; really hard to read, right? It takes you a long time to struggle through it. Or think of plain block lettering where you have a square and every letter fits into the square; also very, very difficult to read. So on the one hand, the letters are too different in the ransom note; and too similar in plain block lettering. It's

not as bad as a ransom note, but you wouldn't want to read a whole book like that because the letters are too much alike. So when you design typefaces, you're not just designing a beautiful "a" and then a beautiful "b" and so on, you're designing a whole system of characters that work together — that are different enough so that you can tell an "o" from an "e" but are alike enough so that your reading experience is smooth.

Then between different weights and styles of a typeface, it means that you have to have something that's holding those together. Maybe the stem weights are matching. Maybe the slant of the italic is matching. Maybe the thick/thin ratio is matching. But you want certain aspects that are matching so that your eye can go smoothly from, say, a sans serif to a script font without that horrible jarring effect that you get from the ransom note. So that's harmony. Does that make sense?

D: It does make sense, and I can see it in my mind's eye that reading a book where the titles are in some different font from the text, if it's too different, it's jarring.

K: Yes, you've seen that, I'm sure.

6 TUG, teaching, conclusion

D: Since this is an interview for the T_EX Users Group, I need to ask you something about T_EX, L^AT_EX, Metafont, Computer Modern, and the T_EX community more widely. How do you see any of that and its relevance to the world at large, or its relevance to you?

K: Well, to be frank, I don't know that much; I couldn't design a metafont. I greatly admire it because I think it opened up this whole world of typesetting mathematics, which I wouldn't have even understood was a problem, except mathematicians have told me how it used to be and that it was a problem. I will tell you that at some point, back in the early 1980s, when we had a studio in San Francisco on Vandewater Street, I picked up a copy of Knuth's — I guess it's his Metafont book — and I stayed up all night reading it. I was just completely enchanted that you could ... the way he lays everything out. You just start from the beginning and you just move through. I thought "wow, this is great; I'm going to start designing everything as a metafont now." But then I found out that actually it's a lot more complicated than using Ikarus so I never followed up on it, but I'm enchanted by the idea. I think Knuth has done a lot of good with this system. It is just one of those things I'm probably not going to get around to in this lifetime. [Laughs.]

D: Why is Bigelow & Holmes bothering with a relationship with TUG? TUG is such a minor entity.

K: 'Cause we love you guys. [Laughs.] No, it's really true; because we like and respect you. We've always enjoyed working with Karl Berry over many years, and the same with others in TUG. Why work with people if you think it's going to be a problem? With you guys, we know it's not going to be a problem. And if there's a problem, we can work it out. You're all such interesting people. I mean, this is why we're independent. You know, I don't think Chuck or I, either of us, would want a job that was unhappy. We want to be really happy in what we do, and part of being happy is hanging around with people where we enjoy their company. Not only just on a professional level, but it seems we all have personal things that we have in common. I guess it's like the big group of friends that Chuck and I were part of when we first met. You're part of our big group of friends that we have as adults. And you do a good job.

D: Well, we could go with this interview for a long time, and we can add to it as I sort this out, and you say you have some other materials. That would be great.

K: Yes, I have illustrations.

D: Before we stop for today, I would like to ask a few final questions. For instance, you teach; you've taught a lot. Why do you teach?

K: I've taught a lot. But I don't actually teach anymore.

D: Why did you teach?

K: I felt it was my duty. You know, I had good teachers and people who passed on to me this amazing knowledge that I could never have gotten from a book when I started out, or now. And so I felt that it's my duty to pass on what I've learned; and also, when you're teaching, you also learn from your students. One thing I've learned is to not be so uptight about type design. [Laughs.] You know, I was teaching type design here at RIT and the first year I thought, "Oh wow, they're not doing everything [right], they're not restricted enough." I had taken it too far on a perfectionist side, but I could loosen up a little bit like them, and that was a very good feeling.

D: Have you also mentored people who thought about going into type design?

K: Yes, and we've mentored people who did go into type design.

D: What do you recommend for them? How do you tell them to do this?

K: I think in the past, we've mostly told them by example. We teach them how to do the craft, and we just conduct our lives as we do, and they learn. Actually, at this point, I wouldn't really recommend that anybody go into type design exclusively because the business model at this point is just so . . . ; it's not really something that you could make a living out of very easily; it would be a very hard living. So these days more often I recommend that people become general designers, maybe specializing in lettering design, and specializing in font design. I know that when I was teaching type design here, a lot of my students were graphic designers and they would write to me and say, "oh, I put my typeface into my portfolio, and when I pulled that out, 'Wow!', The recruiter was so excited, they said, 'you designed a typeface?! I don't know how to do that!'" So it was a nice addition to their overall portfolio.

I talked to Hermann Zapf years ago at a meeting, and he said he doesn't teach calligraphy and lettering any more. He said, "If I ever taught again, I would teach craftspeople like bakers to do nice lettering on cakes, or woodworkers to do good lettering." He said that he was disillusioned with the typeface design business.

D: What should an amateur typesetter, who may not know much about type, but uses what's there, tries to put a hyphen in the right place, tries to remember when you're supposed to use slanted instead of emphasis or italic. What do you recommend for such a person; what's the minimum they should know?

K: That's a good question. I think you should know the difference between roman, italic, oblique. You'd be amazed how many people don't know the difference between italic and oblique.

D: I'm one of them.

K: You know the difference. Italic is a different letter form, while oblique is just a slanted roman. You know it, you just don't know that you know it. [*Lucida italic* vs. *Lucida oblique*.]

I think you should also know about the different slants; you should know about weights, what's a normal weight, what's a bold weight, what's a light weight. You should know some basic styles: this is an old style, this is a sans serif, this is a slab serif; and you could buy a simple book about typography. There are several now. Alexander Lawson wrote a good book about type that explains all of these things, the title is *Anatomy of a Typeface*. Jan Tschichold's *Asymmetric Typography* is another great book that kept me up all night reading.

And then I think that you should just look at things and read things, and just ask yourself questions about what I'm reading. There's your handwriting on that page; you laid that handwriting out in a certain way for a reason. You want it all on parallel lines so it's easier to read, you made it a certain size in relation to the page. If you were going to translate that into a typeset piece, what would you do? Well, maybe you'd make the letters a little smaller because type is easier to read than handwriting. You'd have to look at the space between lines. Just think about what you're doing and what it means. What kind of feeling does flush left give as opposed to a centered piece of type or a justified column (flush left and right). I think just thinking about what you are saying is a good start.

Also finding something that you really want to do a good job on. You know, I think that Chinookan calligraphy really turned me around as a designer because I wanted to do a good job. So I worked really hard and thought it all through from the very basics, and I invented that new script that I was using, because it really meant a lot to me. So I think that rather than just doing alphabet after alphabet or something, just find literature that you love and typeset it, and see how it feels. It'll feel great.

D: I will try your advice.

D: I have to go back to a prior question I forgot to ask. Last night at dinner, you and Chuck were talking about the Go typeface (Figure 15).¹⁵ It's a free typeface apparently.

K: That's correct. Free and open source.

```
return func() *DenseMatrix {
return func() *DenseMatrix {
return func() *DenseMatrix {
return func() *DenseMatrix {
```

Figure 15. Go font examples: (top to bottom) Go mono, Go regular, Go medium, Go medium with color.

D: But that presumably means that somebody paid you to do it so it could be free.

K: It was a commissioned typeface, by the Go language people at Google. They said that they wanted a really nice font to bundle with the Go language or “Golang”. One of them was Rob Pike, who co-invented the Plan 9 from Bell Labs operating system, which used Lucida fonts. But for Go, which is free and open source and has good handling of TrueType fonts, they wanted something nice for people to use that could also be free and open source.

D: Final question: what do you see in your future?

K: I think I'd like to just be able to continue what I have been doing all along. Designing for Bigelow & Holmes. Honoring my wonderful, generous teachers. Encouraging sincere young designers. And putting a little swing into things. [Laughs]

D: Thank you so much for taking the time to participate in this interview. I'm honored to meet you in person.

K: It's my pleasure.

Notes and references

- ¹ See the article on the Cary Graphic Arts Collection elsewhere in this issue (pp. 169–170).
- ² Yue Wang, Interview with Charles Bigelow, *TUGboat*, volume 34, number 2, 2013, pp. 136–167, tug.org/TUGboat/tb34-2/tb107bigelow-wang.pdf
- ³ For more about Reynolds' teaching and legacy, see reed.edu/calligraphy/history.html
- ⁴ Laura Lindquist, The Music of the Words, *Reed Magazine*, August 2003, reed.edu/reed_magazine/aug2003/features/music_of_words/index.html
- ⁵ Robert J. Palladino, Inscribed in Stone — The Masterful Work of Edward M. Catich, *Reed Magazine*, March 2010, tinyurl.com/reed-magazine-2010-catich
- ⁶ artlegacyleague.blogspot.com/p/about-catich.html
- ⁷ Also see the interview of Charles Bigelow in *IEEE Annals of the History of Computing*, vol. 40, no. 3, pp. 95–103.
- ⁸ The image in Figure 2 was cropped from an image that was 50 percent wider and somewhat taller on a 5.5x9 inch page of the keepsake brochure. Other images in this interview have also been cropped from their original presentations.
- ⁹ See library.rit.edu/cary/exhibitions/leviathan-typeface-surfaces-after-40-years which shows the letter C from the font, used in “Call me Ishmael”.
- ¹⁰ Kris Holmes, ITC Zapf Chancery, *Fine Print*, January 1980, pp. 26–29, scroll down to the last part at tinyurl.com/holmes-chancery.
- ¹¹ Charles Bigelow and Kris Holmes, The Design of a Unicode Font, *Electronic Publishing*, volume 60, number 3, September 1993, pp. 289–305, cajun.cs.nott.ac.uk/compsc/epo/papers/volume6/issue3/bigelow.pdf
- ¹² There are many example fonts at luc.devroye.org/fonts-26292.html
- ¹³ Charles Bigelow, A Short History of the Lucida Math Fonts, *TUGboat*, volume 37, number 2, 2016, pp. 154–160, tug.org/TUGboat/tb37-2/tb116bigelow-lucidamath.pdf
- ¹⁴ tug.org/interviews/holmes-imagen-lucida.pdf
- ¹⁵ Go mono and Go regular also come in italic, bold, and bold italic; Go medium also comes in italic. For more about the Go fonts, see tug.org/interviews/holmes-bigelow-gofonts.pdf. The code sample in the figure was provided by the Go language developers.

◇ David Walden
tug.org/interviews

[Editor's note: Many of the illustrations use color; for the full effect, please see the online version of the article at tug.org/TUGboat/tb39-3/tb123holmes-walden.pdf.]