Timeline for the development of the Euler typeface
(derived from *The Euler Project at Stanford*, a monograph by David R. Siegel, 1985.)

- In 1980 Zapf and Knuth began a collaboration to develop the Euler typeface, under a commission from the AMS, with Zapf doing the design and Knuth using METAFONT to do the digital work.

- Zapf sent paper designs to Knuth who had Scott Kim try to turn the designs into METAFONT penstrokes. Because the strokes didn't have well defined center lines, each letter created new programming challenges.

- In February 1980, Knuth demonstrated the first experimental METAFONT system to Hermann Zapf, and they worked together intensively for two weeks improving many of the character shapes, Knuth learning many things he continued to use.

- In 1981, the AMS commissioned Charles Bigelow to report on the feasibility of using METAFONT to produce mathematical characters ("Evaluation of METAFONT as a production tool"). In the report, he said METAFONT had potential but needed improvements to achieve production font standards. In particular, he suggested input from a graphics tablet specifying contours only.

- Bigelow and four students came to Stanford in 1982 to start the Digital Typography Group.

- Students Dan Mills and Carol Twombly experimented with Bigelow's idea of specifying two one-pixel-wide boundaries for each stroke. (This produced better shapes but was not "meta".) They then measured (literally) locations and directions of points on the boundaries and fed these to METAFONT in a way that allowed METAFONT to draw the character. This allowed a person to create one character in a few hours.

- Zapf came to Stanford in February 1983 for two weeks to review the work of Twombly and Mills.

- After Zapf's visit, production began using the outline method. Building on an approach from Lynn Ruggles, Siegel wrote a program to take data from a high resolution digitizing tablet and convert it to METAFONT input format. Using these tools, Siegel could produce 12 to 15 characters a night. (The program was demonstrated at the ATypI seminar at Stanford in August 1983.)

- Next the characters were tried on the Computer Science department's Alphatype CRS and corrected again based on informal notes by Zapf.

- In October 1983, David Fuchs made TeX work with the Alphatype, high resolution characters were printed, and these were sent to Zapf for critique in January 1984. Zapf had minor corrections for 60 of the 500 characters, and, in a later review, half a dozen more corrections. Some of the problems were that the proofs looked fine but at actual type size the letters were not quite right. With several months of work, John Hobby wrote a program that processed the font files (with new commands that Siegel had to add) and the letters got better in lower resolutions.

- The first batch of fonts was sent to the AMS in September 1984.

- A new METAFONT language and system was developed in 1984 incorporating ideas from Zapf, Bigelow, and Southall.

- A decision was made to convert the Euler fonts to the new METAFONT. Another program by John Hobby helped Siegel with this conversion.

- In August of 1985, new results were sent to Zapf, who made a few corrections, and then gave his overall approval.

- The Euler typeface was delivered to the AMS in September 1985, three years after the Digital Typography Group took on converting Zapf's designs to METAFONT — 484 characters total.

While this was the end of work on Euler by Knuth and the Stanford group, in 2008 Hermann Zapf collaborated with Hans Hagen, Taco Hoekwater, and Volker RW Schaa on a "reshaping" of many of the letterforms (`tug.org/TUGboat/tb29-2/tb92hagen-euler.pdf`). For this update, Metafont was abandoned and the character outlines were manipulated directly in a font editor. This is the version of Euler currently distributed by AMS and included in TeX distributions.