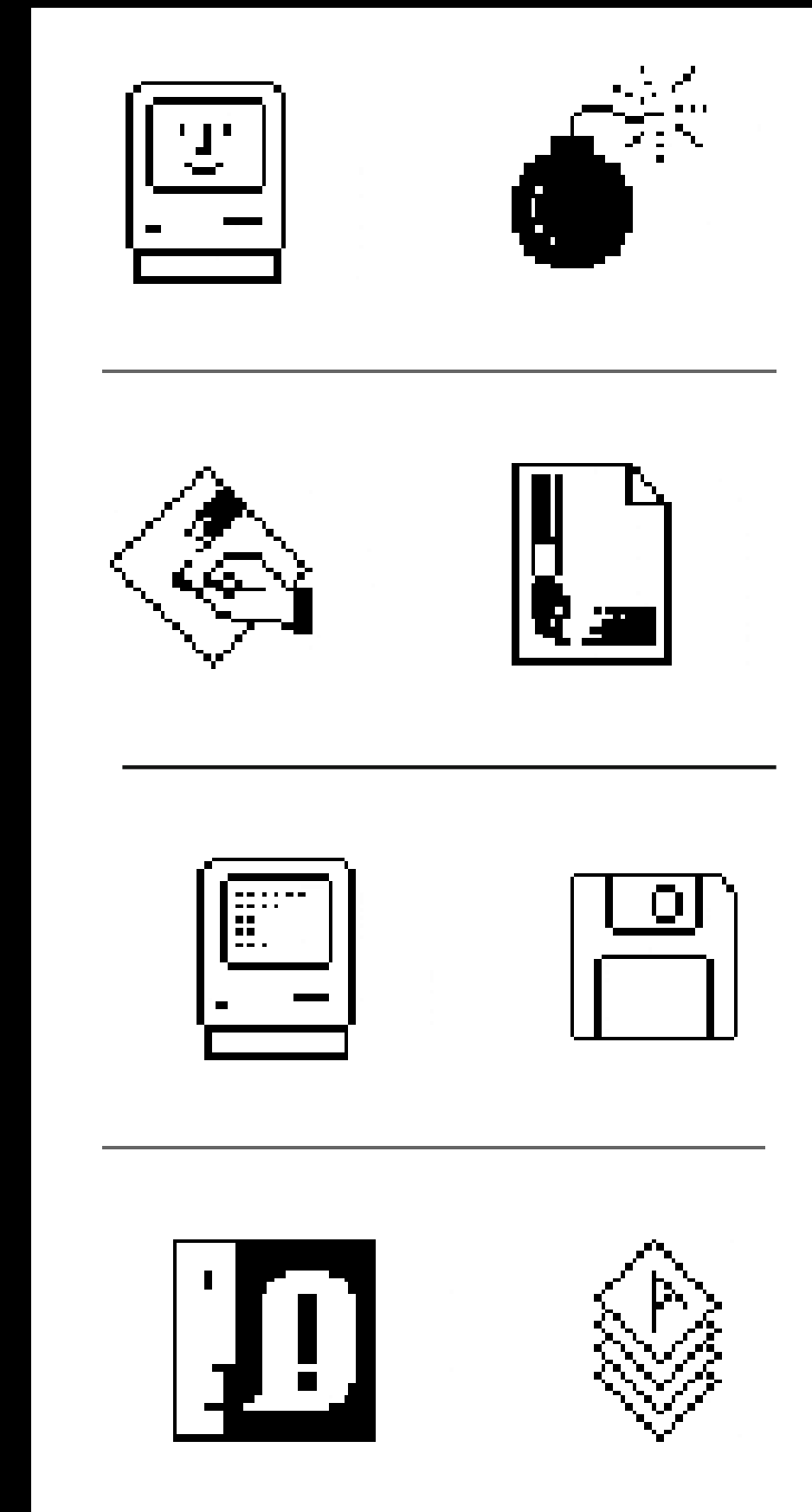


Digitale Fonts

und ihre Geschichte in Kürze



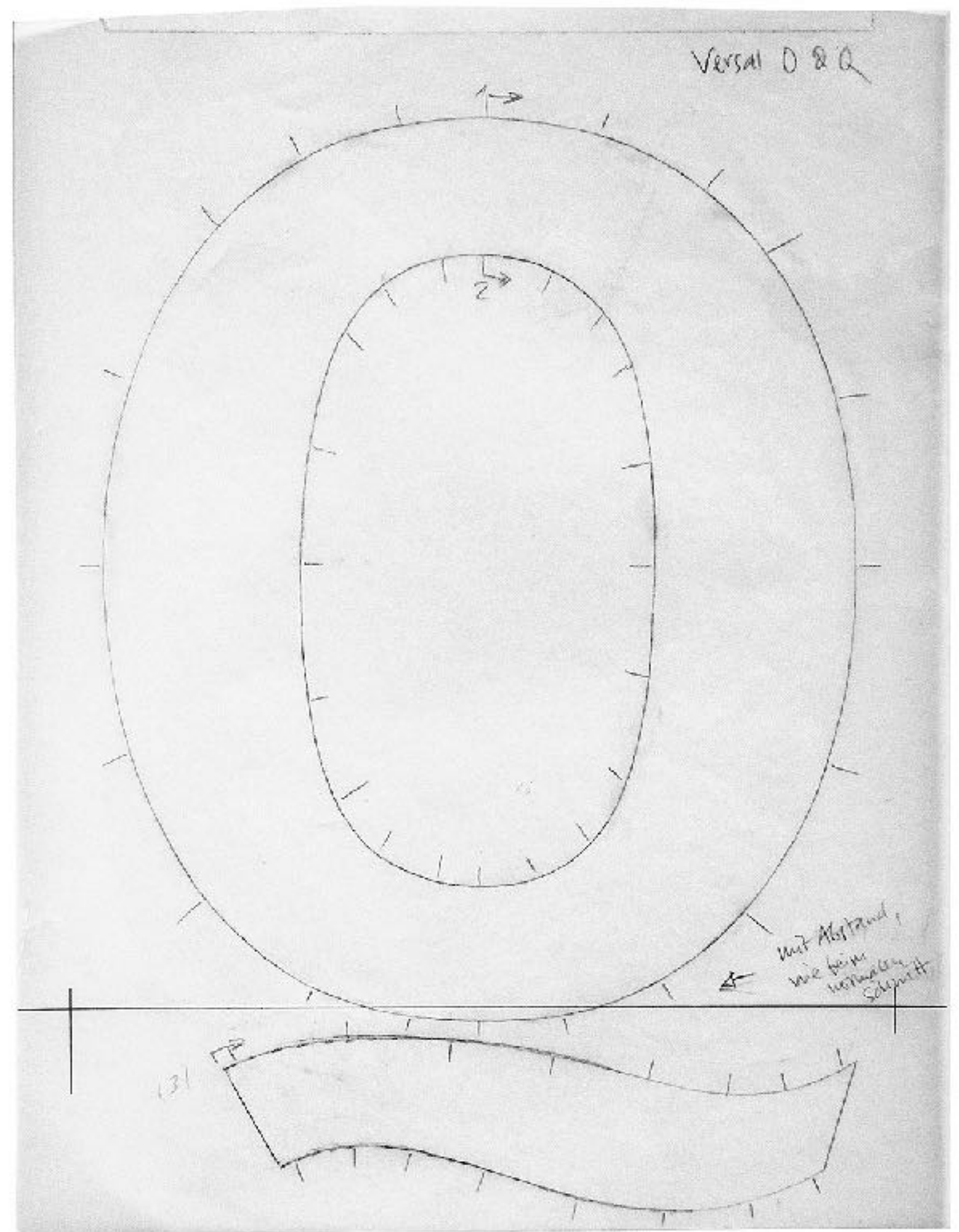
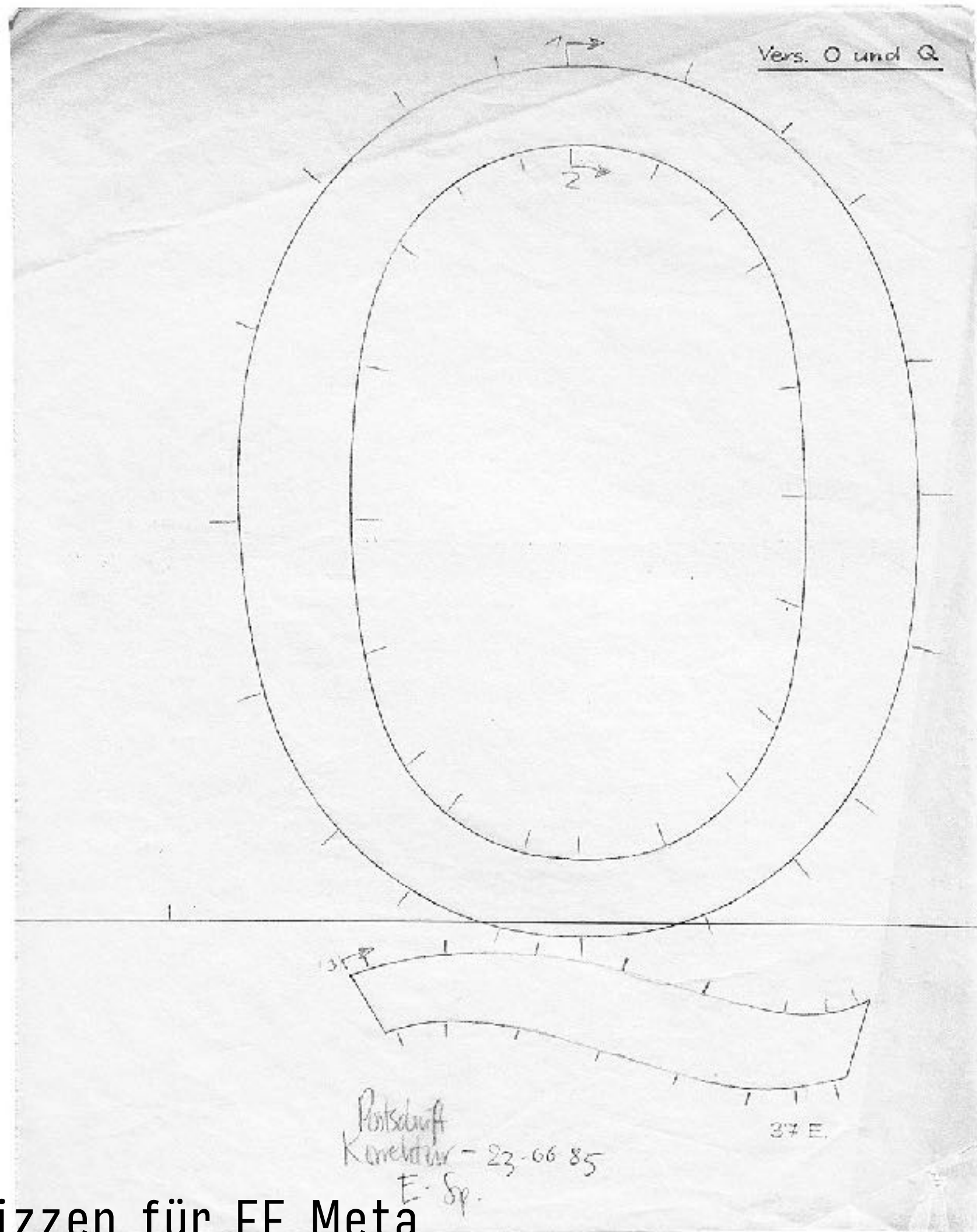
Erste digitale Schriften





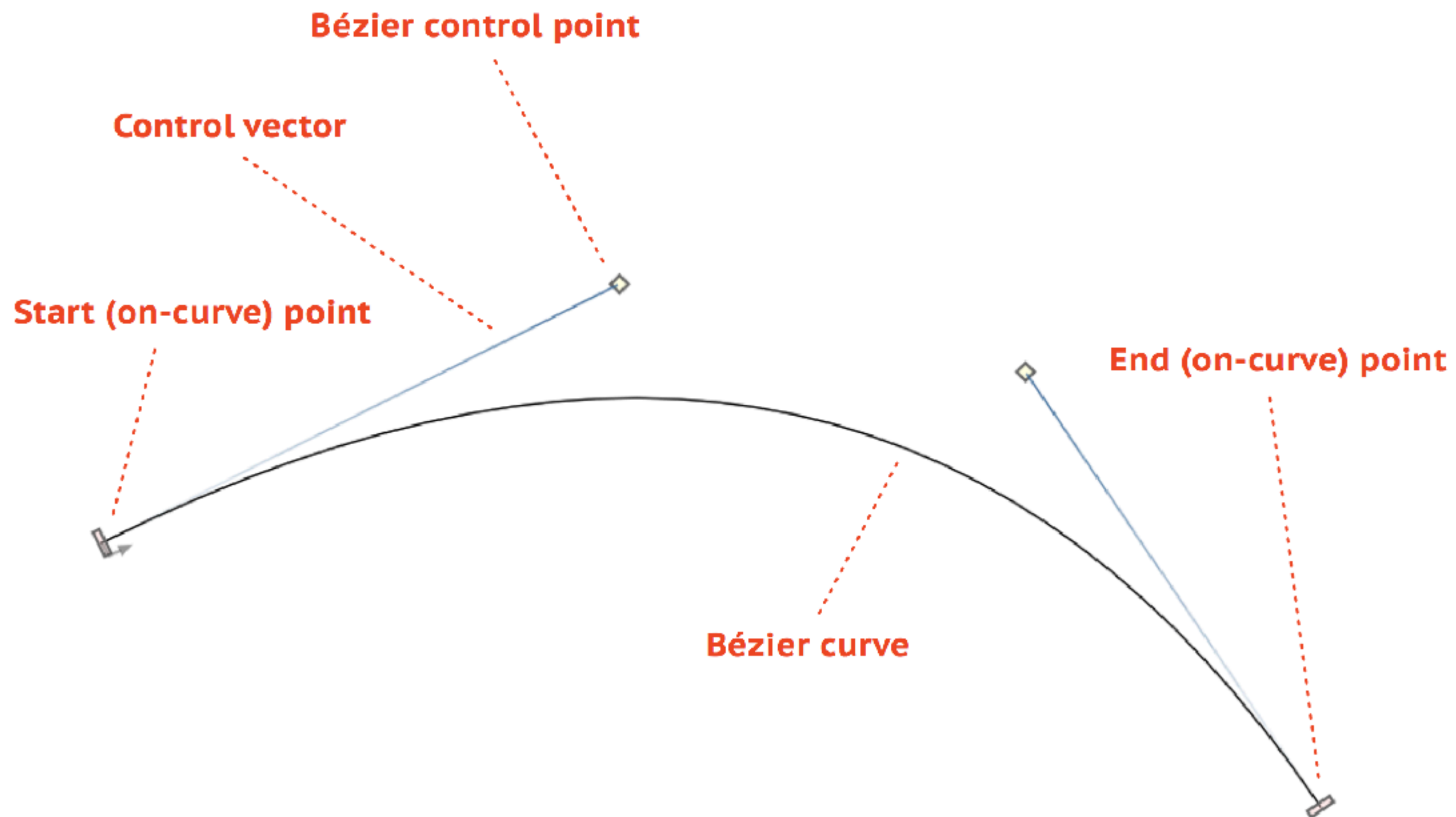
Apple Macintosh mit Ikarus M

(Rekonstruiert mit E. Spiekermanns Sammlung, Foto: Norman Posselt, © F. Ulrich)



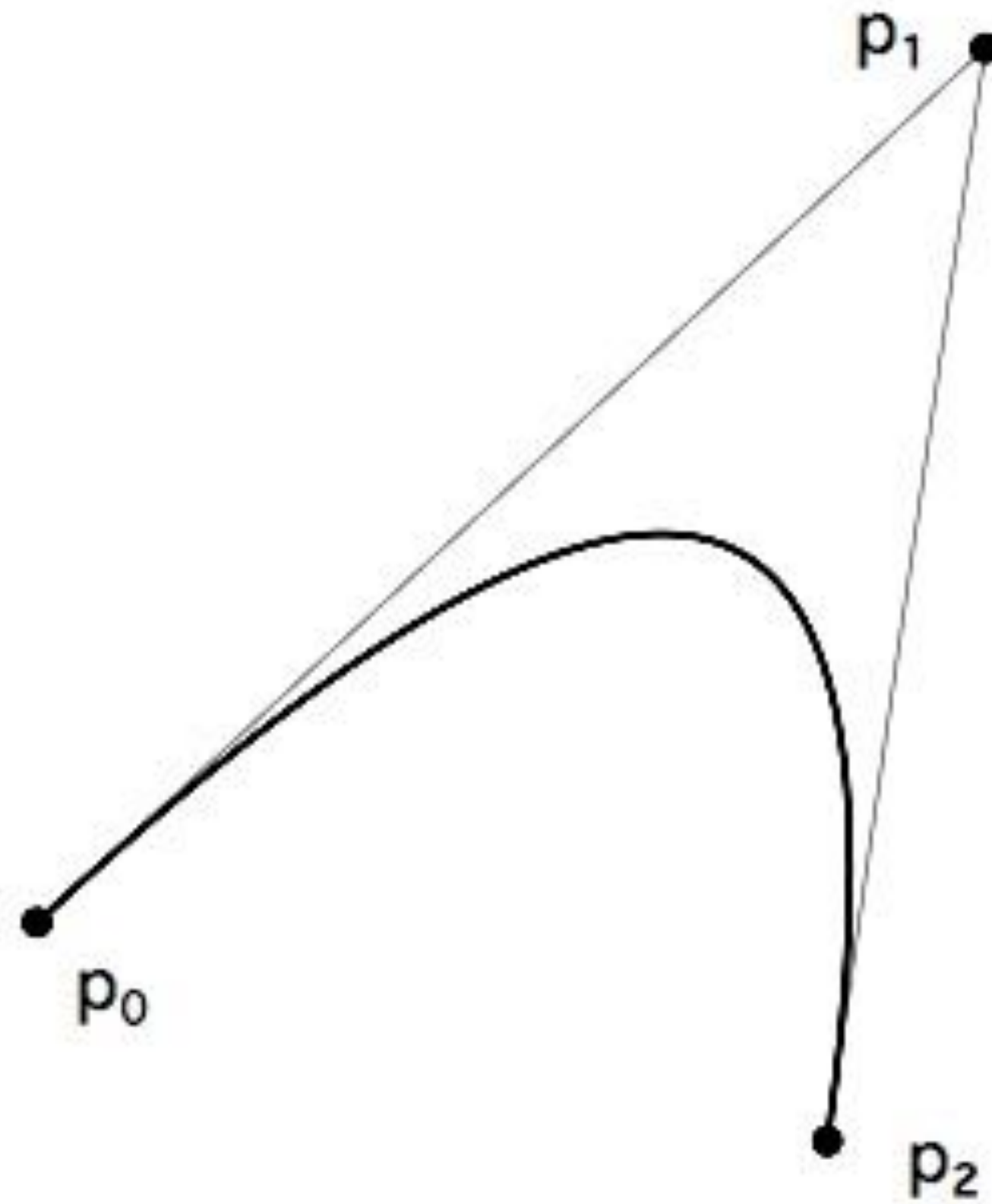
Skizzen für FF Meta

(© E. Spiekermann)



Postscript Kurve

Bild: fontlab.com



Truetype Kurve

Bild: apple.com

MrsEavRom Öffnen mit Schriftsammlung

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklm

MrsEavesJustLigRoman Öffnen mit Schriftsammlung

n
AAMBŒMDMEFFŒGHEFIUBNKFLLA
NTŒMPERUDTTUPVATWULTYUR
æfbctfyeeffgihitfjkyflgg
gyoesþgggyfrstftippytwtttytty
ffbffhffjckyfflffrfftfffyfi

0	U+0000	
1	U+0001	
2	U+0002	
3	U+0003	
4	U+0004	
5	U+0005	
6	U+0006	
7	U+0007	
8	U+0008	
9	U+0009	
10	U+000A	
11	U+000B	
12	U+000C	
13	U+000D	
14	U+000E	
15	U+000F	
16	U+0010	
17	U+0011	
18	U+0012	
19	U+0013	
20	U+0014	
21	U+0015	
22	U+0016	
23	U+0017	
24	U+0018	
25	U+0019	
26	U+001A	
27	U+001B	
28	U+001C	
29	U+001D	
30	U+001E	
31	U+001F	
32	U+0020	
33	U+0021	
34	U+0022	
35	U+0023	
36	U+0024	
37	U+0025	
38	U+0026	
39	U+0027	
40	U+0028	
41	U+0029	
42	U+002A	
43	U+002B	
44	U+002C	
45	U+002D	
46	U+002E	
47	U+002F	
48	U+0030	
49	U+0031	
50	U+0032	
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54	U+0036	
55	U+0037	
56	U+0038	
57	U+0039	
58	U+003A	
59	U+003B	
60	U+003C	
61	U+003D	
62	U+003E	
63	U+003F	
64	U+0040	
65	U+0041	
66	U+0042	
67	U+0043	
68	U+0044	
69	U+0045	
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72	U+0048	
73	U+0049	
74	U+004A	
75	U+004B	
76	U+004C	
77	U+004D	
78	U+004E	
79	U+004F	
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82	U+0052	
83	U+0053	
84	U+0054	
85	U+0055	
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87	U+0057	
88	U+0058	
89	U+0059	
90	U+005A	
91	U+005B	
92	U+005C	
93	U+005D	
94	U+005E	
95	U+005F	
96	U+0060	
97	U+0061	
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99	U+0063	
100	U+0064	
101	U+0065	
102	U+0066	
103	U+0067	
104	U+0068	
105	U+0069	
106	U+006A	
107	U+006B	
108	U+006C	
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110	U+006E	
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155	U+009B	
156	U+009C	
157	U+009D	
158	U+009E	
159	U+009F	
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161	U+00A1	
162	U+00A2	
163	U+00A3	
164	U+00A4	
165	U+00A5	
166	U+00A6	
167	U+00A7	
168	U+00A8	
169	U+00A9	
170	U+00AA	
171	U+00AB	
172	U+00AC	
173	U+00AD	
174	U+00AE	
175	U+00AF	
176	U+00B0	
177	U+00B1	
178	U+00B2	
179	U+00B3	
180	U+00B4	
181	U+00B5	
182	U+00B6	
183	U+00B7	
184	U+00B8	
185	U+00B9	
186	U+00BA	
187	U+00BB	
188	U+00BC	
189	U+00BD	
190	U+00BE	
191	U+00BF	
192	U+00C0	
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217	U+00D9	
218	U+00DA	
219	U+00DB	
220	U+00DC	
221	U+00DD	
222	U+00DE	
223	U+00DF	
224	U+00E0	
225	U+00E1	
226	U+00E2	
227	U+00E3	
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246	U+00F6	
247	U+00F7	
248	U+00F8	
249	U+00F9	
250	U+00FA	
251	U+00FB	
252	U+00FC	
253	U+00FD	
254	U+00FE	
255	U+00FF	

Unicode Tabelle

wikimedia.org

OT Features

Stylistic sets 7 and 8 off

Bartali & Coppi & Magni

Stylistic sets 7 and 8 on, respectively (italics only)

Bartali & Coppi & Magni

Default / lining figures

On 15 January 1963 at 8pm

Oldstyle figures

On 15 January 1963 at 8pm

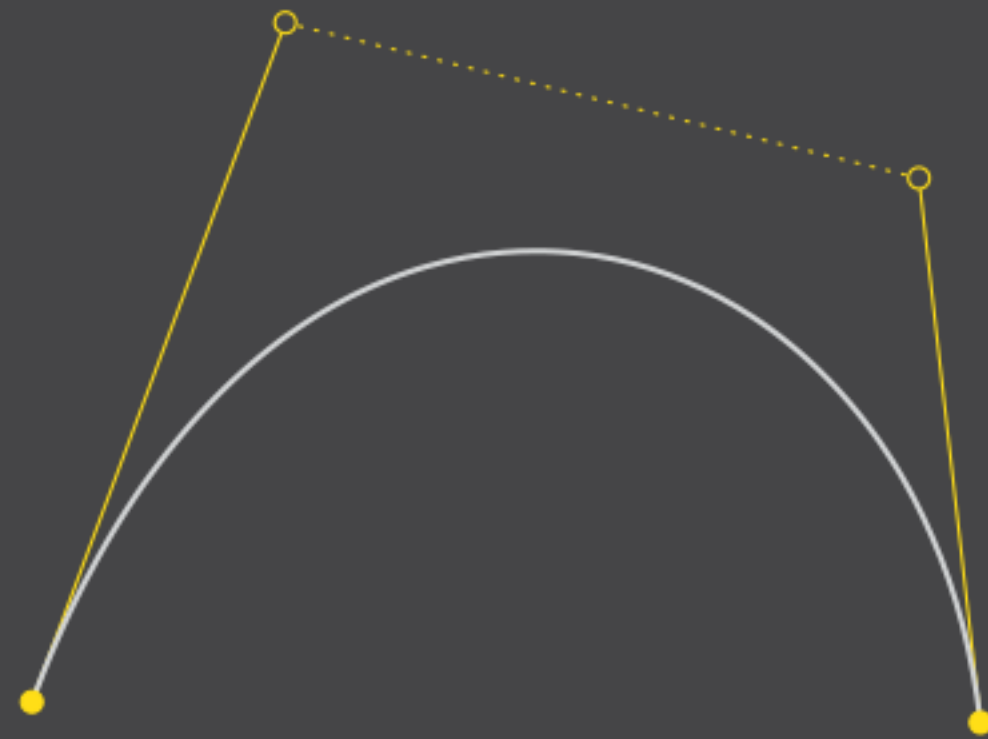
Dynamic fractions on

13²³/₄₅ 165³⁵/₁₀₀ 01/01/2018

Tabular figures on

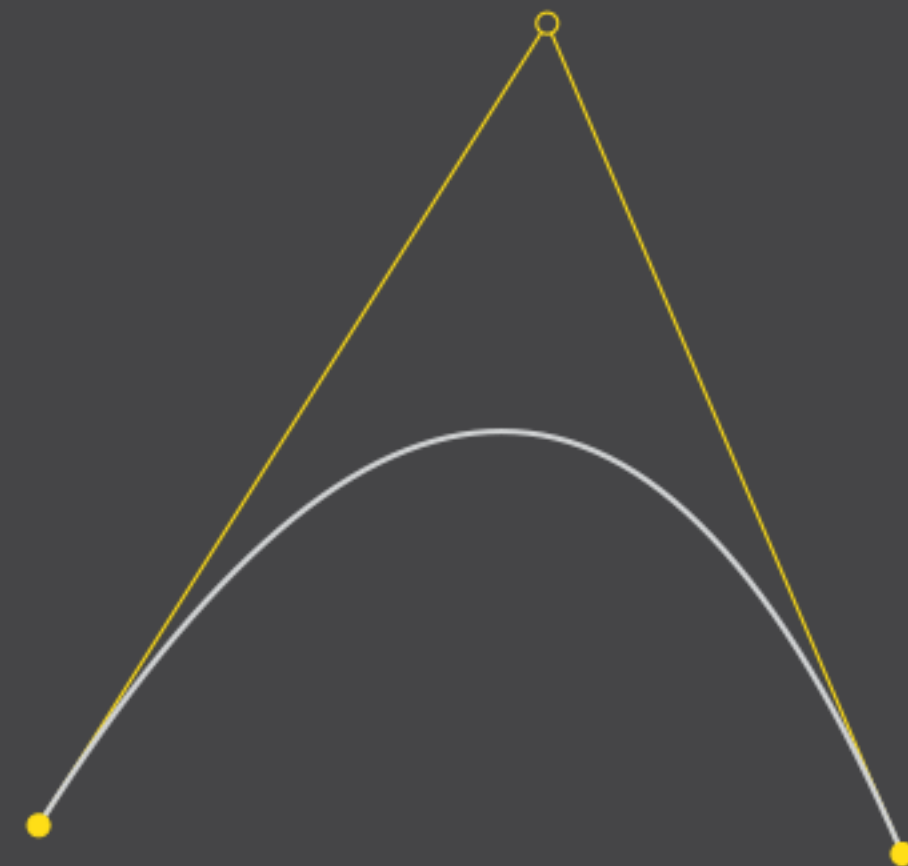
\$62984+177901606171+2639184112=14
5716916717193901727150960×1693703
83710235902357982786421890235301€

Postscript vs. TrueType



Postscript Outlines

Cubic curve



TrueType Outlines

Quadratic curve

1 Format, 2 Ausprägungen

OpenType

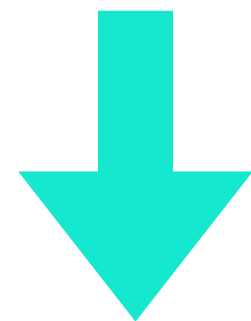
Postscript Flavour

PS

CFF

Type 1

(meistens .otf)



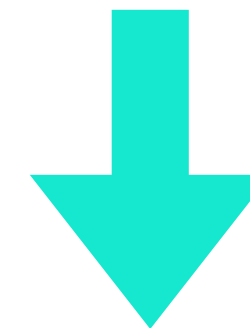
Desktop- und Apple-Anwendungen

OpenType

TrueType Flavour

TT

(meistens .ttf)



PC- und Web-Anwendungen

Frutiger® 45 Light Font - Lizenz

linotype.com/de/1270240/frutiger-45-light-product.html

Apps | Webtech | Sketch | Creative Coding | CAS Digital type | Zukunft / type

Linotype Originals > Frutiger > Frutiger > **Frutiger 45 Light**

Frutiger® Schriftfamilie
Entworfen von Adrian Frutiger (1985)

Frutiger 45 Light

FONTS

DESKTOP | WEB | DIGITAL ADS | APP | EPUB | SERVER

FRUTIGER
45 Light

Computer(s): 5 ?

Sprache/Format:
Latin Extended (Pro)
Wählen Sie das technische Format und den Sprachausbau.


PRO / OT CFF supports at least 33 Sprachen.


TEXTVORLAGEN | ZEICHENTABELLE | TECHNISCHE DETAILS

Bitte Beispiel-Text eingeben | Textvorlagen

ABCDEa

€ 39 inkl. MwSt.

 IN DEN WARENKORB

 In Favoriten aufnehmen

BESONDERHEITEN

Web Open Font Format

`.woff2`

- komprimiertes Fontformat
- eigenes Lizenzsystem
- Plattform übergreifend
- von allen gängigen Browsern unterstützt

Kurze Geschichte der Fontformate

1975: Kurven mit Ikarus M

1984: Postscript von Adobe

1991: Truetype von Apple und Microsoft

1996: Opentype Font Format, 65'535 Glyphen

2008: Truetype Webfonts (Safari), SVG und EOT (Internet Explorer)

2010: woff

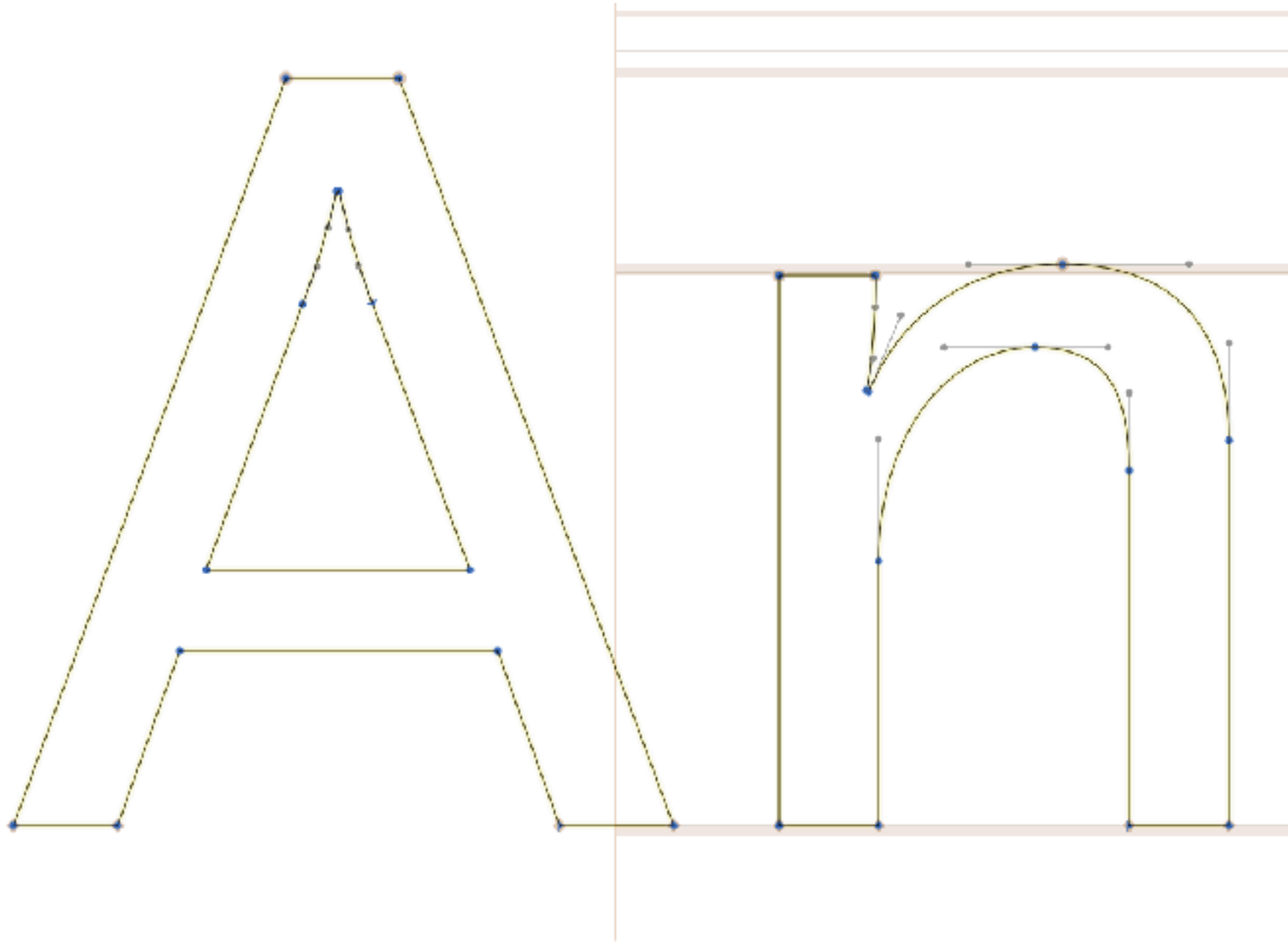
2014: woff2

2014+: Color Fonts

2016: Opentype Font Variations

2022: COLRv1

Schriftkonstruktion



Schriftkonstruktion mit Bezierkurven



Schriftrasterung am Bildschirm

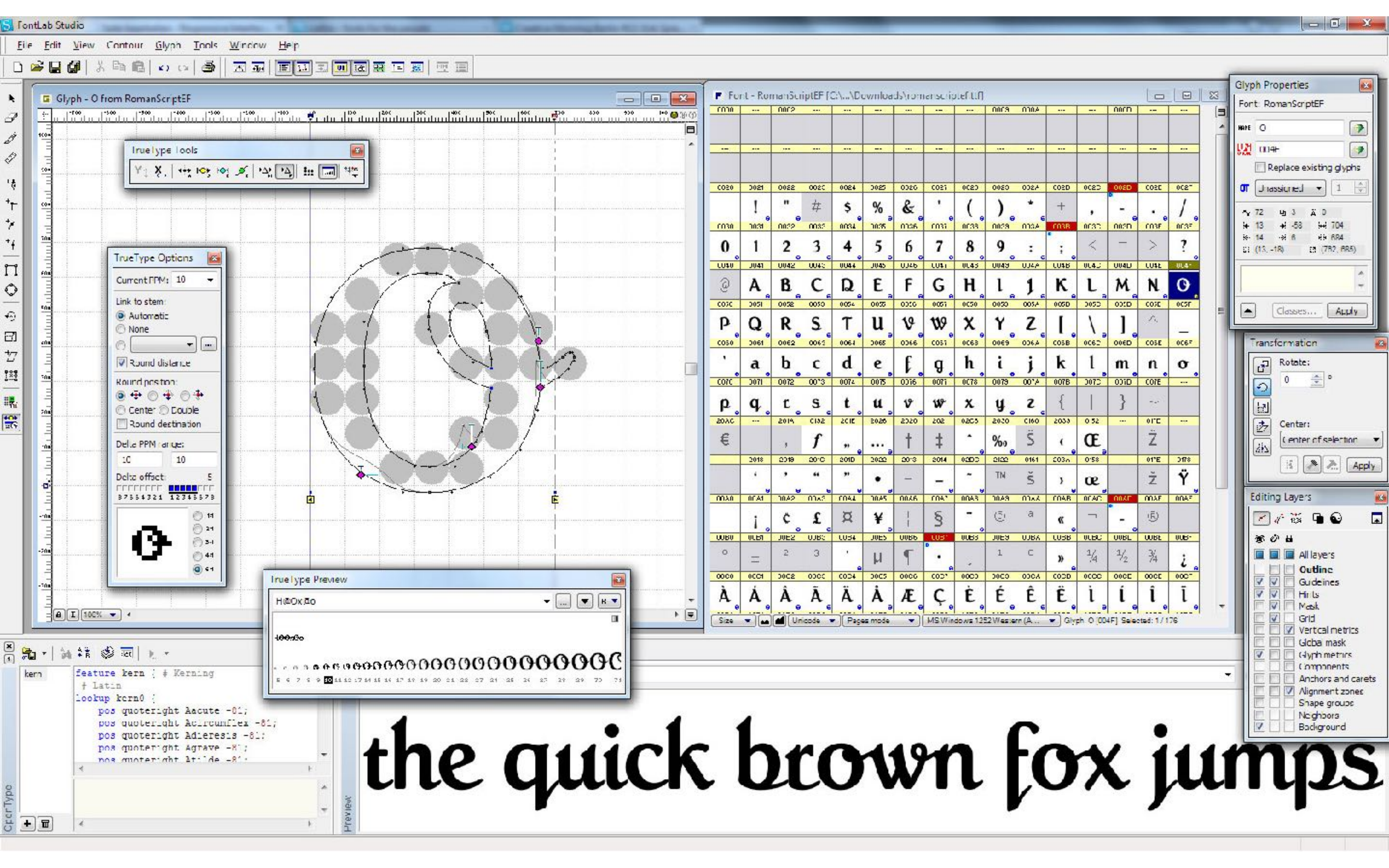
Hinting

The image shows the word "verdana" in a pixelated font. Each letter is overlaid with a grid of small squares. The letters are not perfectly aligned with the grid lines, resulting in a jagged, pixelated appearance. This is characteristic of unhinted text at low resolutions.

un-hinted

The image shows the word "verdana" in a pixelated font, similar to the unhinted version. However, the letters are now perfectly aligned with the grid lines, resulting in a smoother and more legible appearance. This is characteristic of hinted text at low resolutions.

hinted



the quick brown fox jumps

Hinting

Georgia

9px

GeORgIa

Georgia

10px

GeORgIa

Georgia

11px

GeORgIa

Georgia

12px

GeORgIa

Hinting

The quick brown fox jumps over the lazy dog.

ungehintet bei 10 ppem

The quick brown fox jumps over the lazy dog.

gehintet bei 10 ppem

The quick brown fox jumps over the lazy dog

ungehintet bei 15 ppem


The quick brown fox jumps over the lazy dog.

gehintet bei 15 ppem

Hinting

No hints at all

10px: 


11px: 


12px: 


14px: 

16px: 

Manual hints (no deltas yet)

10px: 

11px: 

12px: 

14px: 

16px: 

Hinting

auch «Bildschirmoptimierung»

- Anpassung der Schrift an die Darstellung am Bildschirm
- abhängig von Betriebssystem und Browser
- «Hints» für den Renderer/Rasterizer
- Optimierung für Schlüsselgrößen
- Optimierung der Lesbarkeit, nicht Erhaltung der Schriftform

Antialias

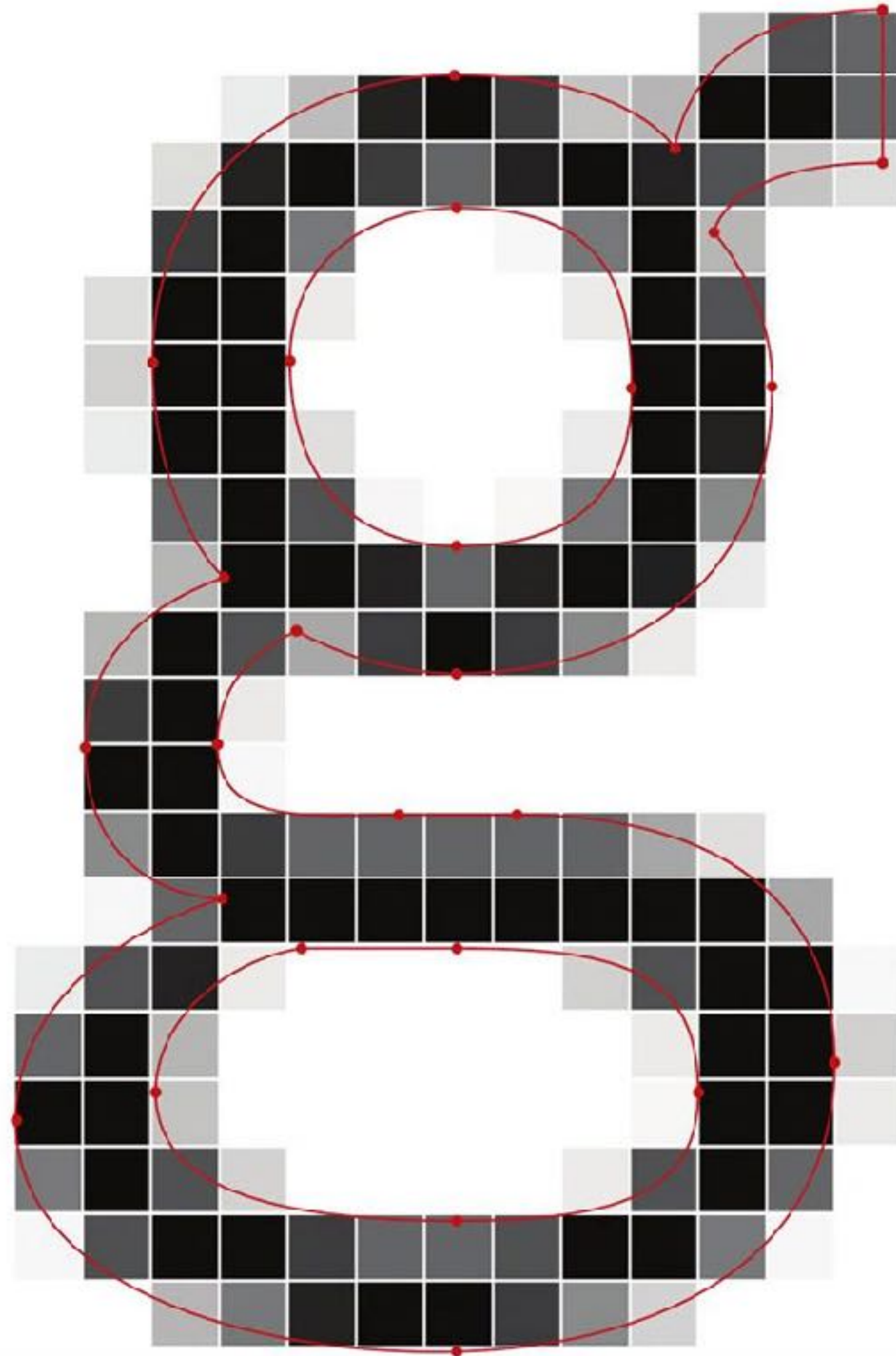
Typography



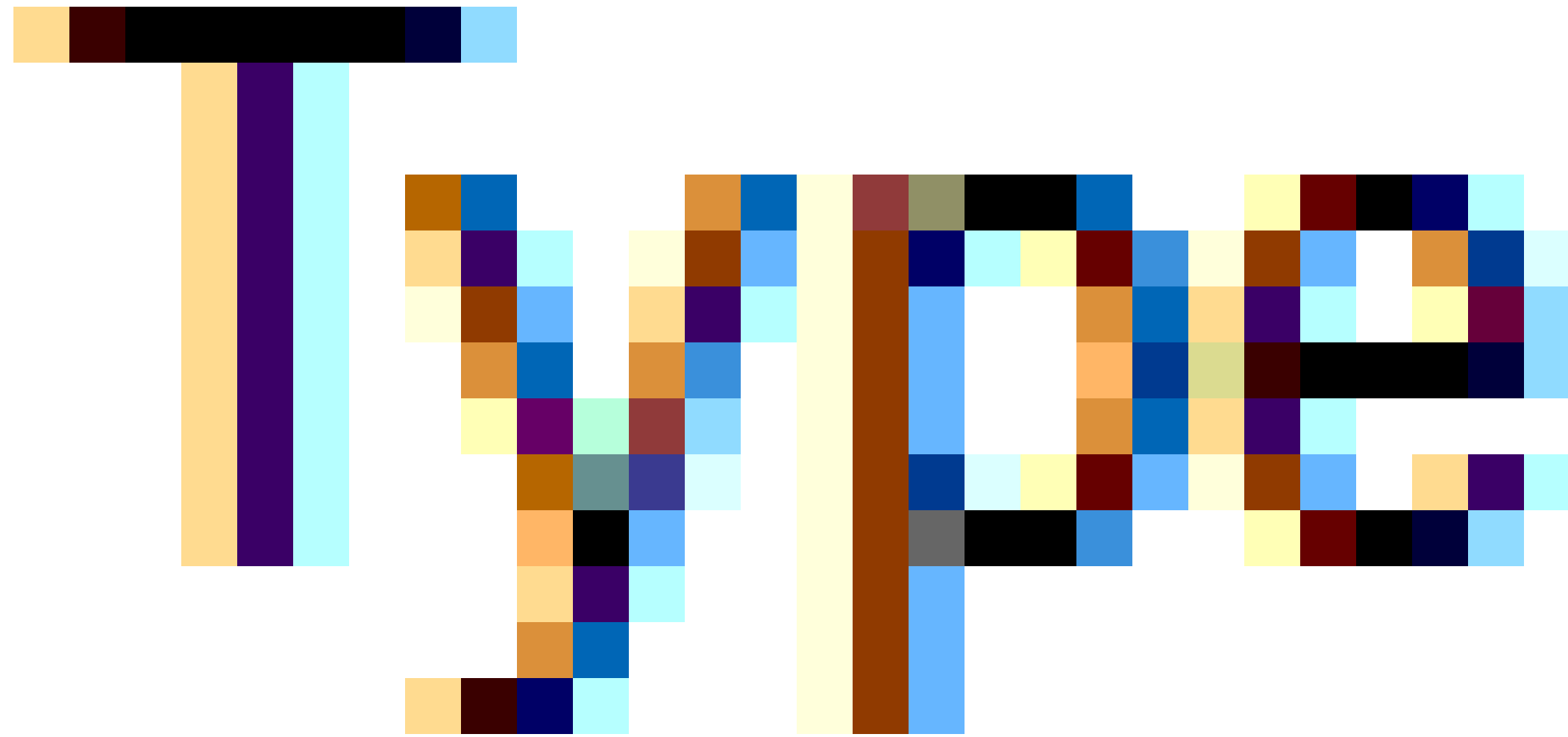
Typography



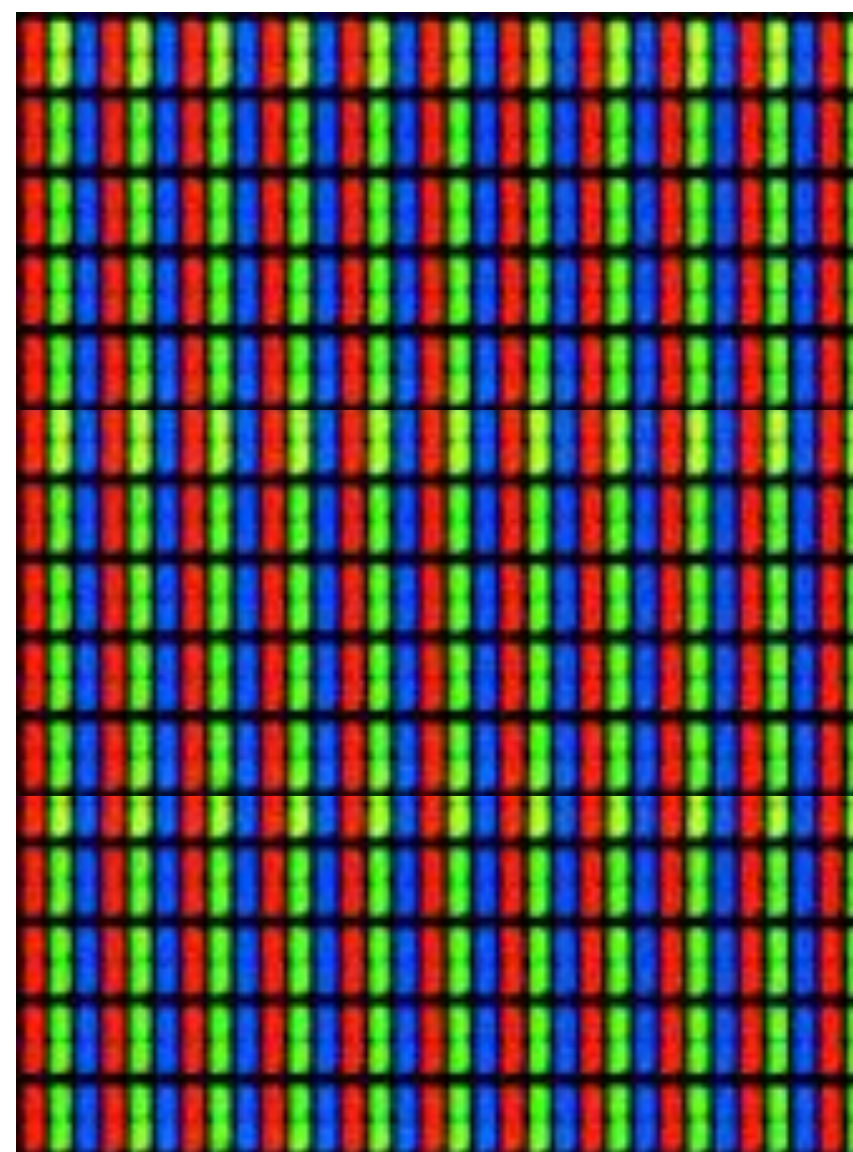
Antialias



Subpixel rendering

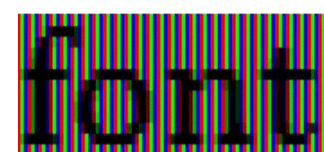
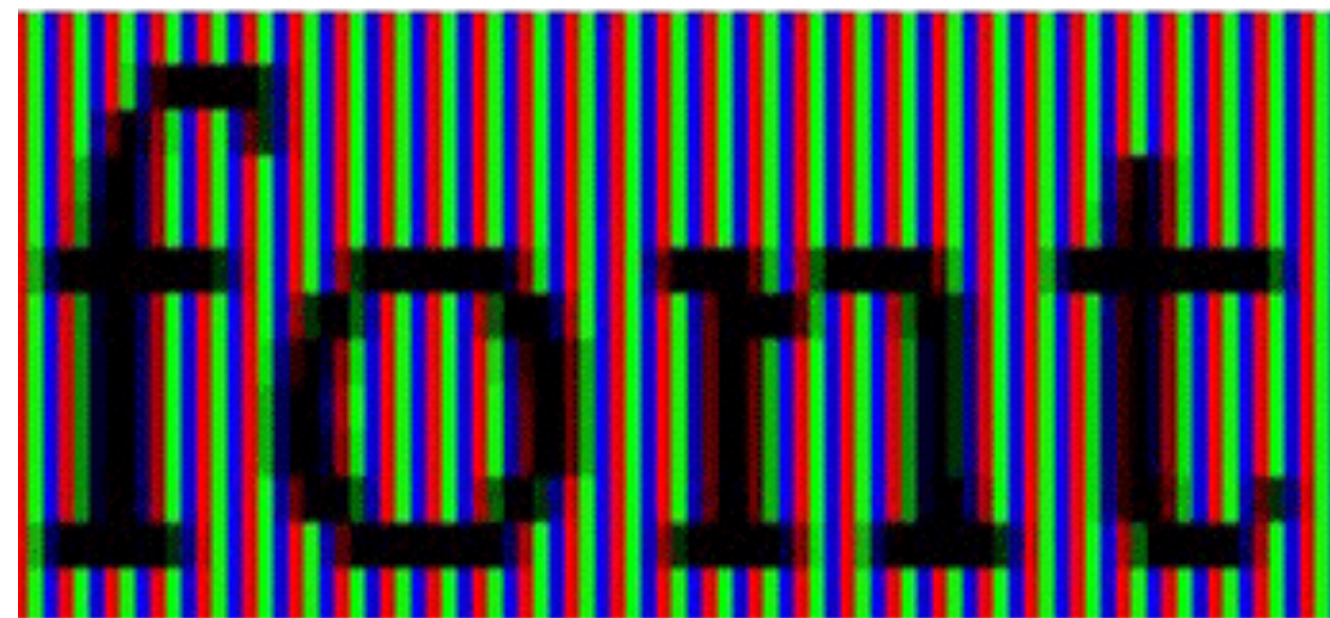
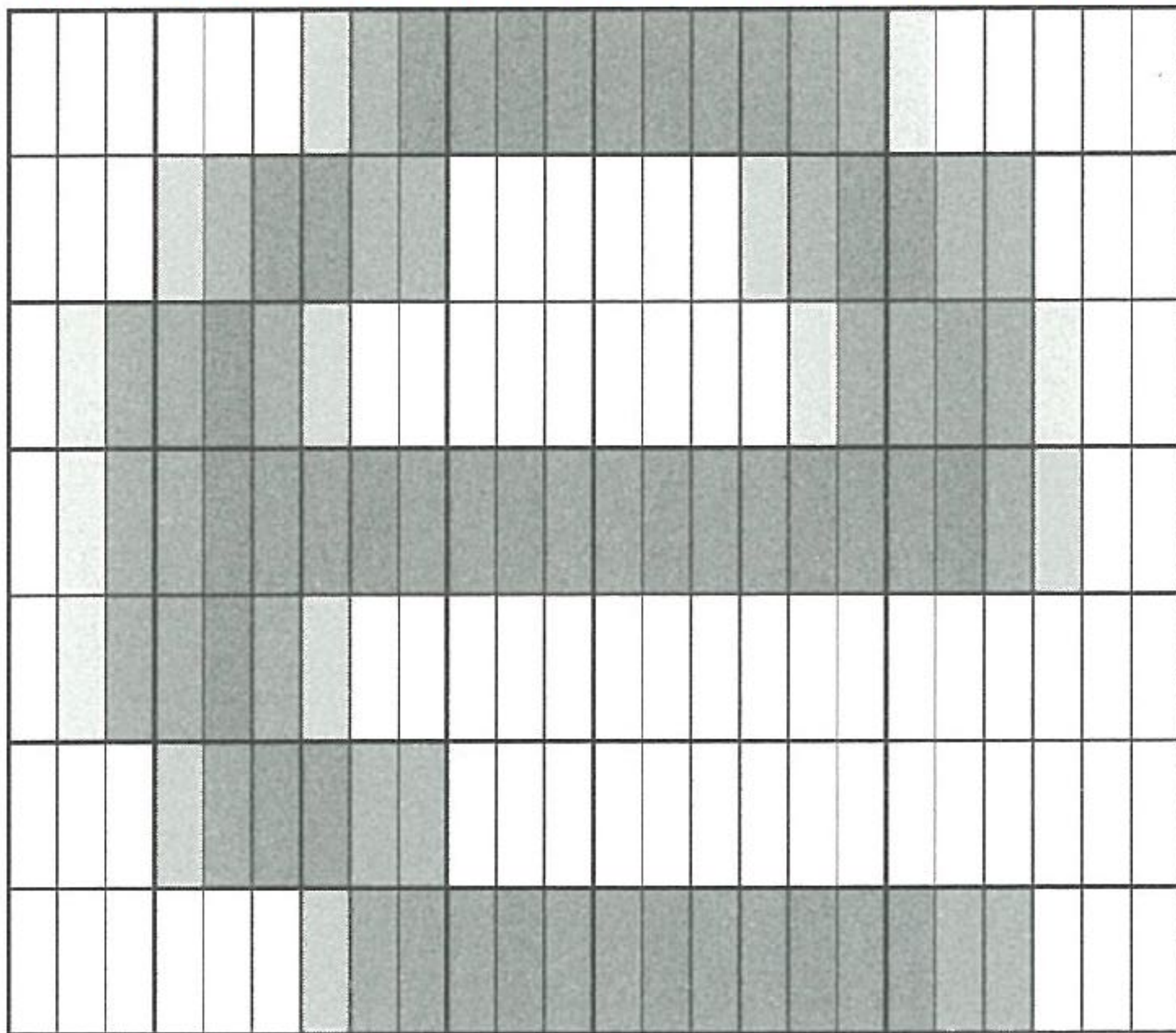


Subpixel



Subpixelrendering

R G B R G B R G B R G B R G B R G B R G B



Optimierte Schriften

Web & Mobile Font Collection

351 fonts engineered for browsers & apps

Archer ScreenSmart Light. Typefaces from the physical world weren't c

Archer ScreenSmart Book. Designed around the natural properties of

Archer ScreenSmart Medium. ScreenSmart fonts don't just withstand

Archer ScreenSmart Semibold. Designed not just for designers, but f

Archer ScreenSmart Bold. Typefaces from the physical world weren

Optimierte Schriften

The Reading Edge™ Series [Fonts](#) [Background](#) [Pairing](#) [Gallery](#) [Try the Series](#)

The Reading Edge™ (RE) fonts

Ten font families, each with four basic styles, designed to function reliably at 9px–18px

Size 12 Render type as

Antenna RE
Antenna RE, a square-styled sans serif, joins its namesake's extensive list of weights and widths for both print and web. Broad proportions and open spacing as well as the large and consistently-shaped counters add to Antenna RE's *calm deliberation and good readability*. *Antenna RE is contemplative and suave. Its repetitive forms make it a steady choice – no matter how small.*

Apres RE
Apres RE is a geometric sans serif based on the Apres type series that David Berlow and Font Bureau staff originally drew for the Palm Pre smartphone. The letterforms are round and balanced, the spacing *crisp*. *Apres RE cites geometry without feeling overly simplified or mechanical. Its light structure with a distinct bold deliver an approachable, intelligent voice well-suited for text and navigation.*

Benton Modern RE
Benton Modern RE is a small-size web adaptation of a modern serif. Its print and web relatives have roots in Morris Fuller Benton's great news faces like Century Expanded. Close up, Benton Modern RE bears *wider letterforms, larger counters, and thicker strokes so that it reduces clearly on the web*. **Still, its vertical contrast and elegance exude a sophistication especially suitable for editorial texts.**

Benton Sans RE
Benton Sans RE echoes the adaptability of its print companion from Font Bureau, a redesign and expansion on Morris Fuller Benton's American grotesque News Gothic. To accommodate the requirements of small text on screen – similar to those of agate type used in newspaper listings – *Benton Sans RE has broader proportions and adapted spacing*. **Benton Sans RE is frank but considerate, a straightforward sans serif of exceptional versatility.**