Design Studio 22:
Unproductive Products

Type as Research

Different Times, ABC Dinamo

LL Unica77

“Unica has had a conflicted history from the very beginning. After Linotype bought a license for Neue Haas Grotesk (1957) and developed it into Helvetica for their hot-metal machines (1960) and for phototypesetting (1969), they prevented the Haas Type Foundry from licensing the font to any other manufacturer of phototypesetting devices. In response, Haas eventually decided to develop a new typeface tailor-made for the technology. They brought in Team’77 (André Gürtler, Christian Mengelt, Erich Gschwind) to conduct a thorough analysis of four formally related typefaces – Neue Haas Grotesk, Helvetica, Univers and Akzidenz Grotesk Buch – as a basis for the new design.”

“But it was not forgotten. In 2004, Lineto co-founder Stephan Müller came across a PostScript version of Unica in a Scangraphic specimen book from the early 1990s. As the font was no longer available to buy, he sourced a black market copy, made minimal changes to it and discreetly used it for an artist book. This quasi-revival made waves, and before long, Haas Unica became a revered tool of choice for many of the designers associated with Lineto.”

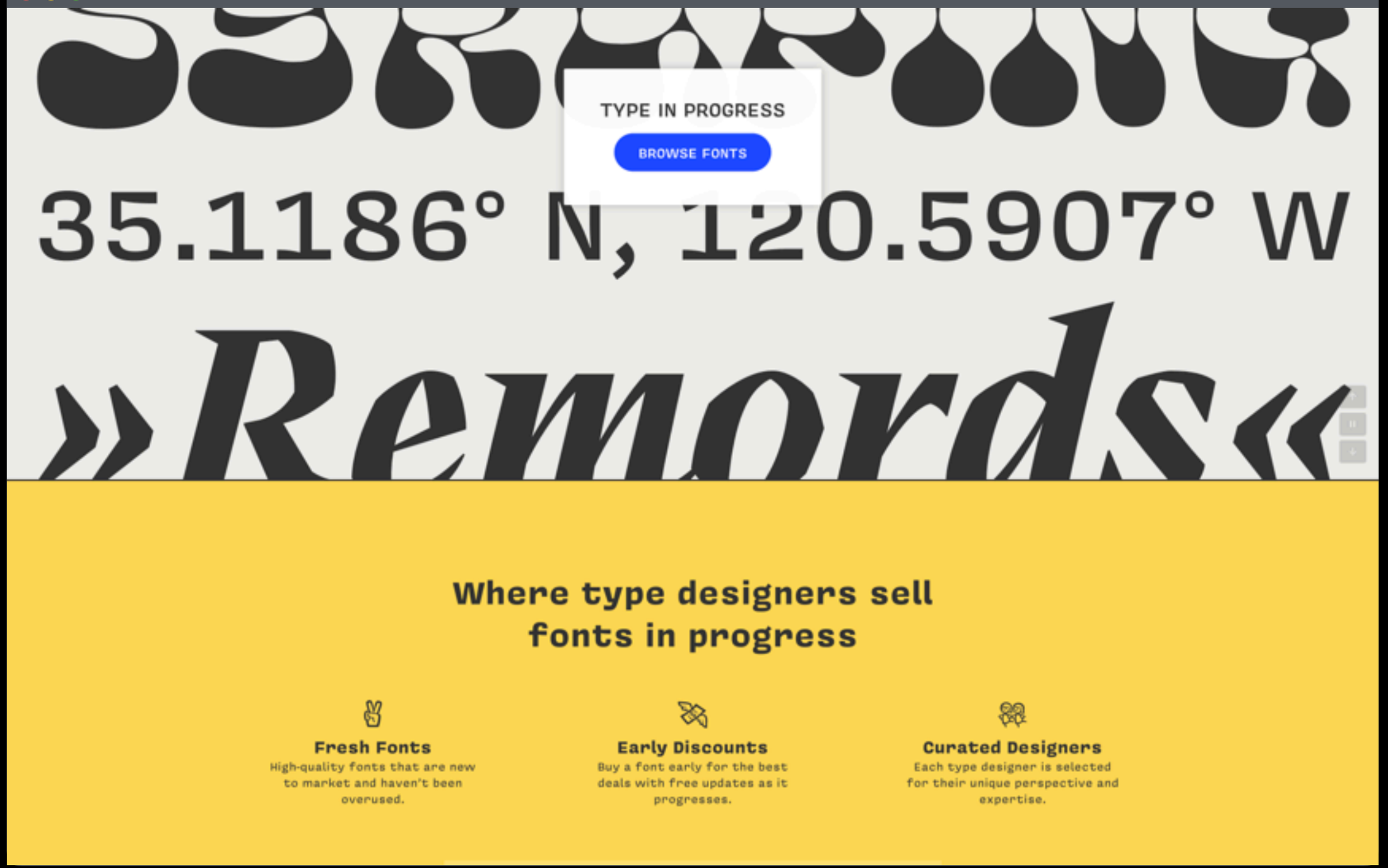
fosse chiara la nostra totale alterità, il nostro starcene altrove, in qualche modo separati anche se mescolati al movimento. Cioè: essere nel movimento ma con uno spirito fortemente critico e autocritico. Per questo poi una delle forme principiali con cui il gruppo si è espresso è stata quella dell'ironia, della presa in giro, dell'opporre al dogma che spesso contraddistingueva la Sinistra Extraparlamentare, legata a dogmi e a retoriche Marxiste e Leniniste, un modo di fare di tipo magmatico. Contrapporre al dogma il magma.

Con il termine *underground* si intende implicitamente che esista un non sommerso, commerciale. Cos'era *mainstream* in quel periodo e che tipo di rapporto c'era tra canali ufficiali e underground, in che maniera i canali editoriali ufficiali hanno reagito a questo tipo di pubblicazioni e come la classe intellettuale di sinistra viveva questo fenomeno?

Diciamo che io avevo i piedi in due scarpe, perché da una parte lavoravo per *Savelli*, dall'altra lavoravo per *Lotta Continua*, dall'altra ancora producevo insieme ad altri queste cose. Quindi una relazione diretta non c'era, c'era una conoscenza delle cose. Ma non è che – per dire – *Savelli*, che era la principale casa editrice, avesse curiosità o interesse per *Oask!?*. Quindi, diciamo che tra overground e underground non c'era assolutamente nessuna relazione, se non appunto contatti personali; non c'era la volontà di rendere più evidente o promuovere l'attività dei fogli alternativi. I fogli alternativi erano fatti in poche centinaia di copie e come dicevo prima c'era un rapporto diretto tra produttori e consumatori.

In che modo l'intellettuale e progettista era consapevole dell'importanza di essere una figura poliedrica in quel periodo e come viveva ogni periodo progettuale?

Se il 1968 è stato in qualche modo l'anno in cui la rivolta ha coinvolto anche l'intellettuale – il sessantottino era il leader, uno studente molto ben attrezzato e gli intellettuali, gli artisti, gli studenti, gli operai, all'epoca hanno tutti firmato appelli, condiviso, partecipato, messo falce e martello nei quadri, nei libri, si sono in qualche modo interessati, appassionati e uniti in un disegno di contestazione della società – il '77 era profondamente diverso. Non era più il primo della classe ad essere al centro del movimento di contestazione, quanto invece quello che veniva chiamato il non garantito, cioè il disoccupato, l'emarginato, la periferia e non il centro. Nel '77 gli intellettuali scompaiono e il movimento fa anche paura, viene così dal basso, così deciso a rifiutare deleghe, leader, maestri, che non dà assolutamente spazio agli intellettuali per trovare modo di collegarsi ad esso. Io, essendo all'epoca molto giovane, un teenager, in realtà riuscì a operare perché avevo preventivamente smesso di essere un intellettuale, perché non facevo più professione di pittore. Ero anche io



Future Fonts

84pt Thin Alternate g -10

Zenographical

84pt Thin Alternate n i -10

Gentilization

84pt Thin Alternate a r -10

Interbrachias

84pt Thin -10

Electromerism

84pt Thin -10

Saccharimetry

The Future Mono, Klim Type Foundry

Version History

v2.0
June 13, 2022

The final version. Full character set, alternates, features, Italics. Note there are some additional OpenType features, and have been changed from previous versions.

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v0.2
April 16, 2020

- 3 new weights: Thin, Extralight, Light
- Full character set
- Multiple alternate letterforms, numerals and punctuation

Trial fonts have no OpenType features and a limited character set:

`ABCDEFGHIJKLMNOPQRSTUVWXYZ` `abcdefghijklmnopqrstuvwxyz` `0123456789 .,-`

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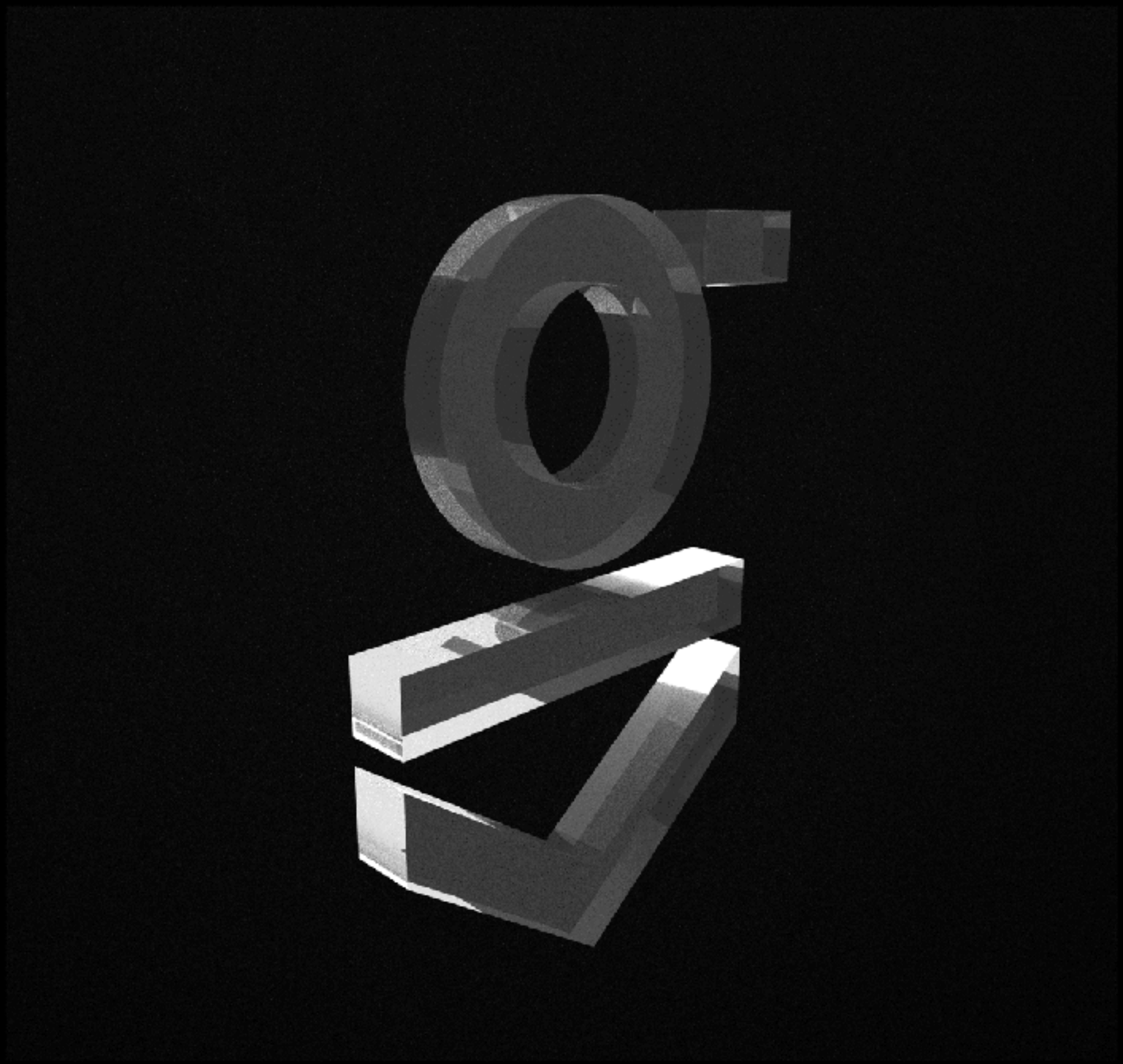
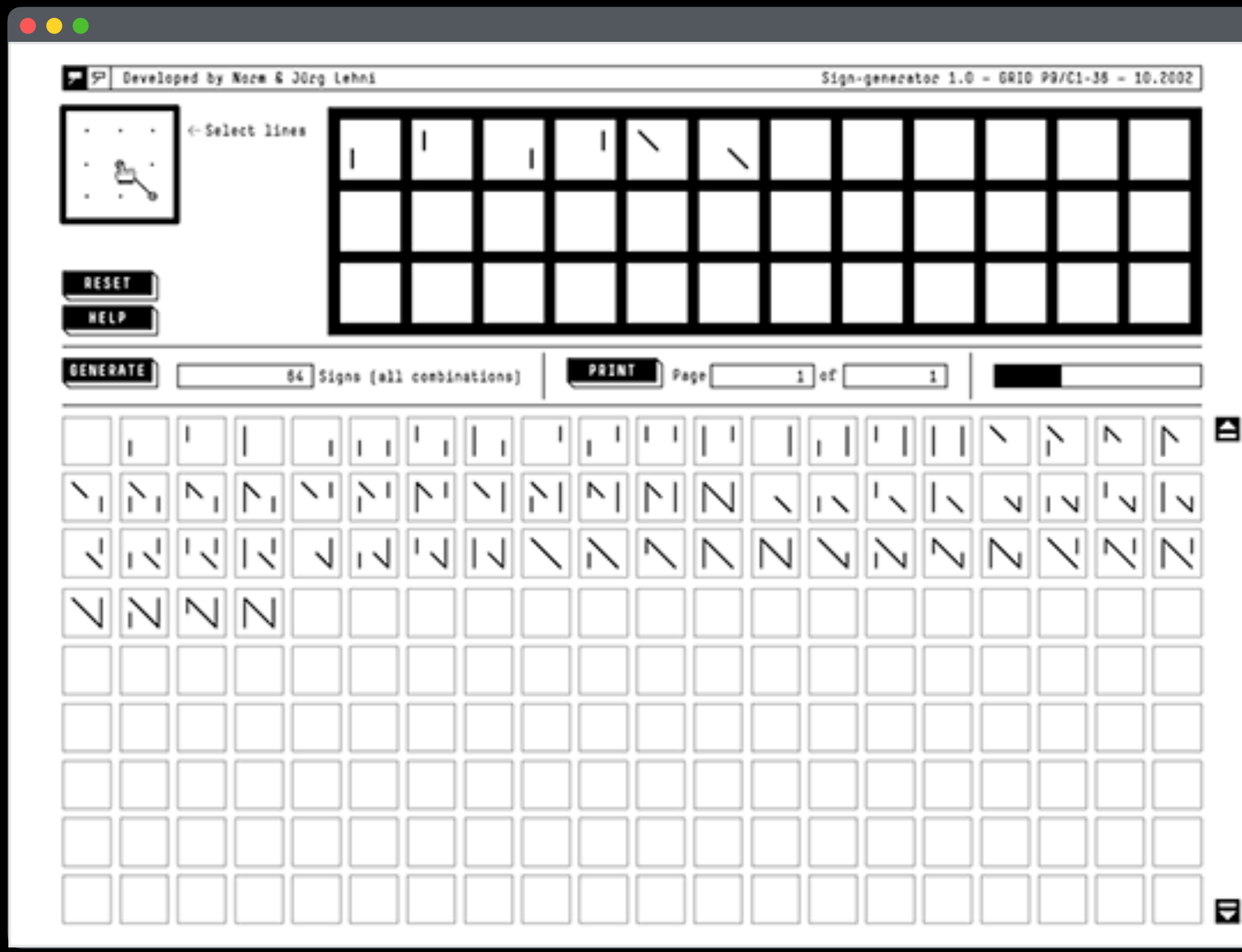
v0.1
October 29, 2018

Version 0.1 is the initial release. It has 4 roman weights, a basic character set and several alternates.



The Future Mono, Klim Type Foundry

Sign Generator, NORM



Sign Generator, NORM

The Hershey Fonts

Frank Grießhammer at San Francisco Public Library

Minotaur

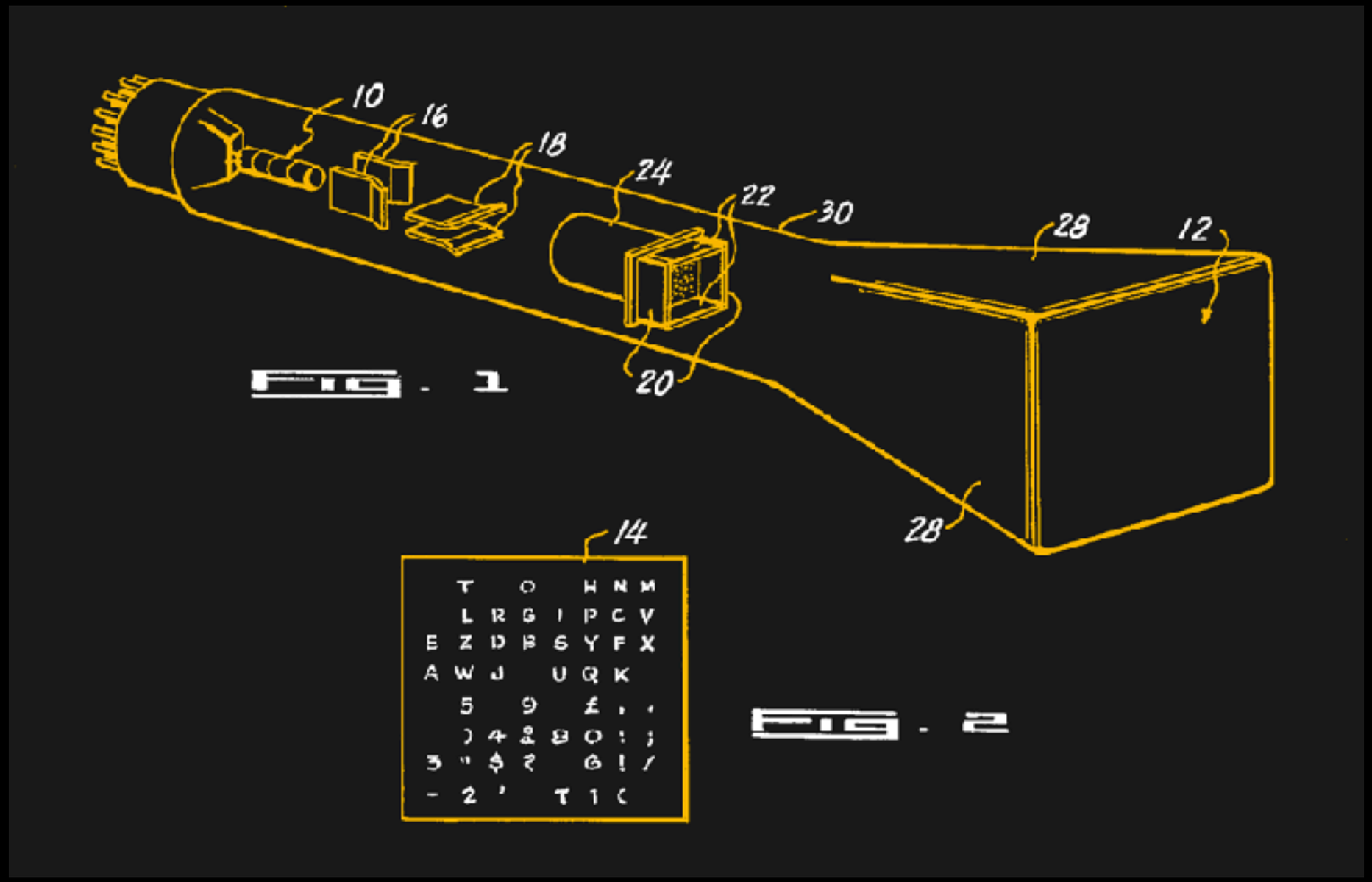
Minotaur

Minotaur

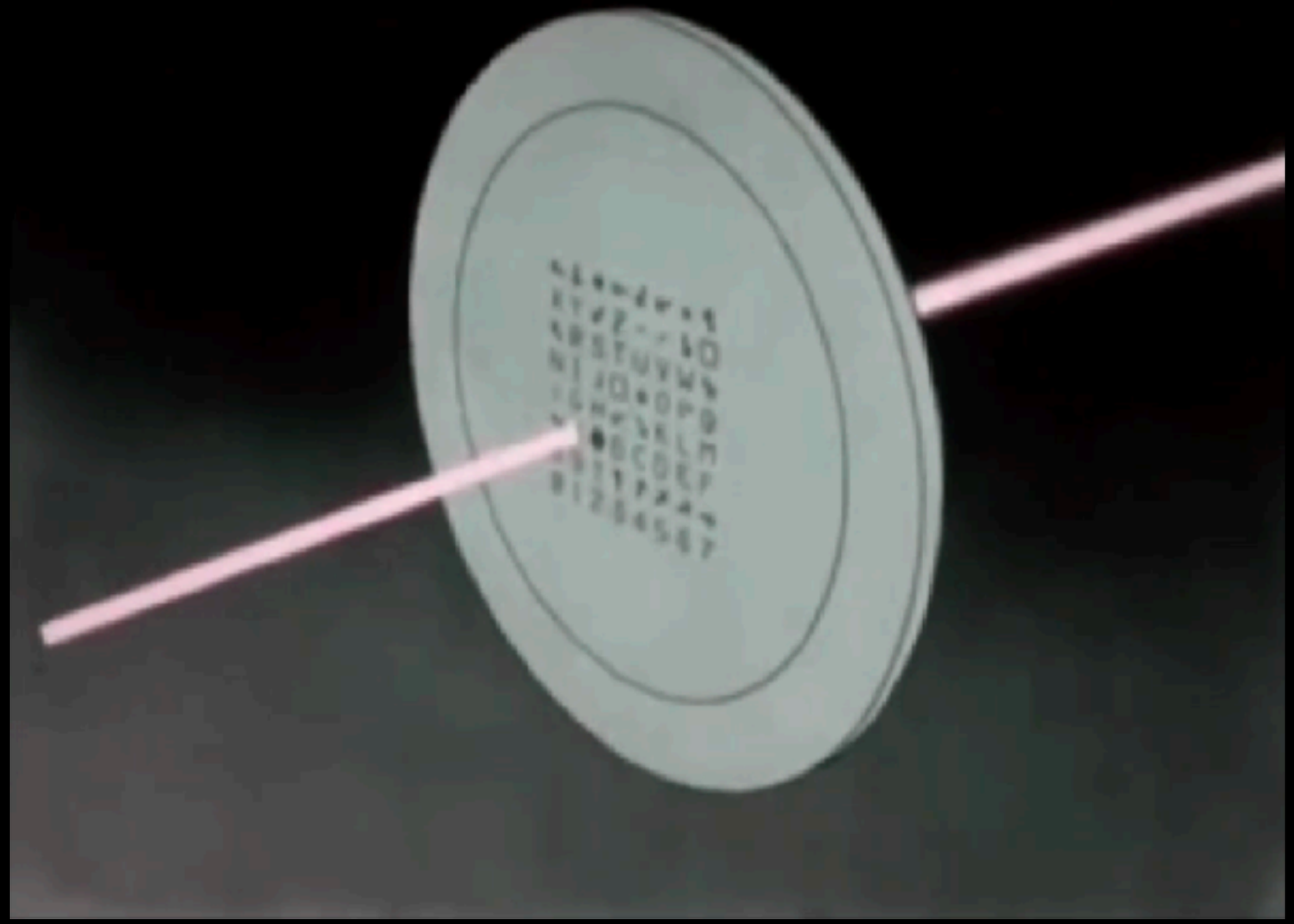
“based on A.V. Hershey’s series
for early vector-based computing”

Minotaur

Meta Font, Donald Knuth



Charactron Tube Diagram (US Patent 2735956)



Charactron Tube Diagram (US Patent 2735956)

Oscilloscope Clock Using Hershey Fonts

ECHNICAL REPORT

CALLIGRAPHY FOR COMPUTERS

by

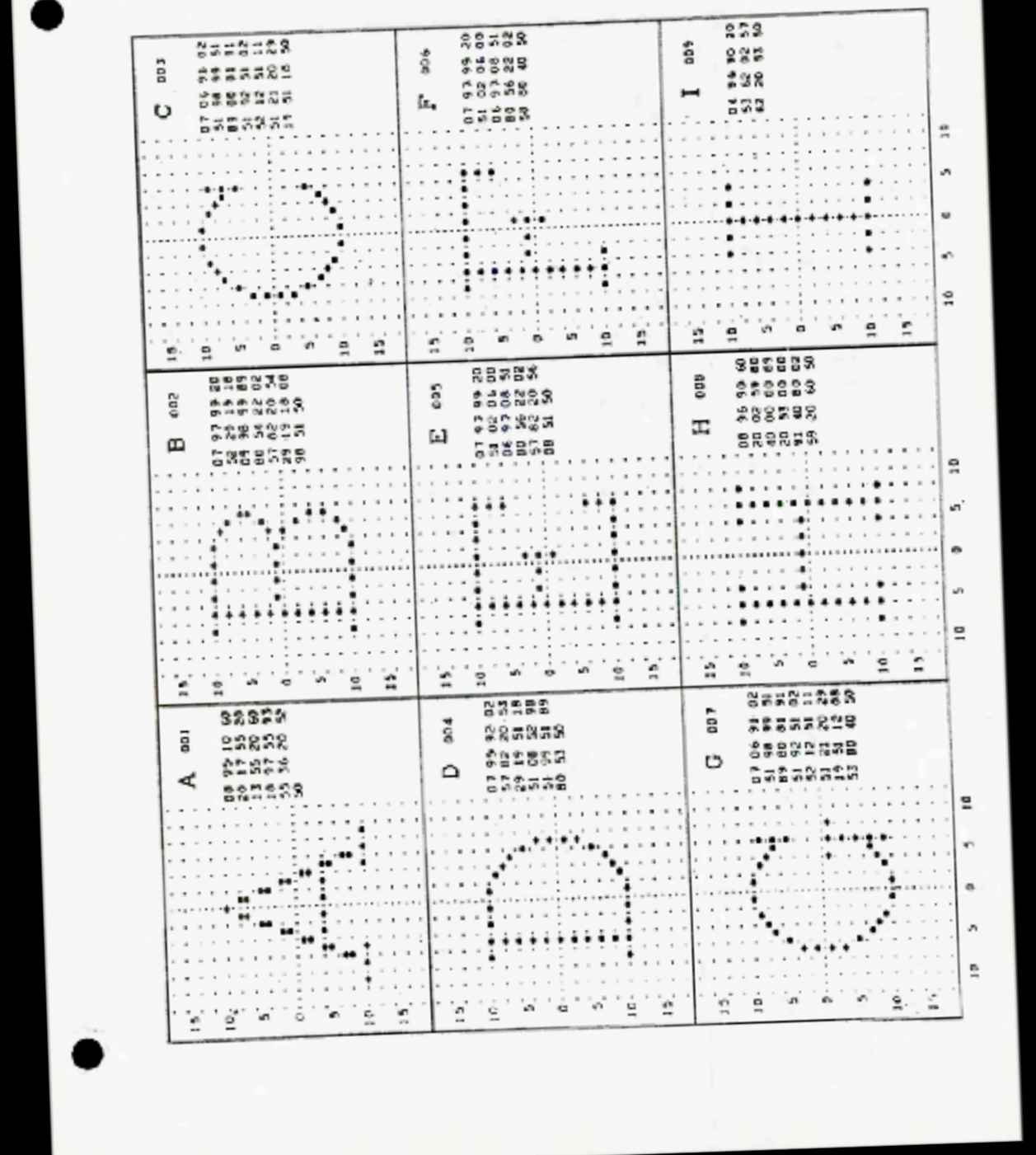
A.V. HERSHEY

Computation and Analysis Laboratory

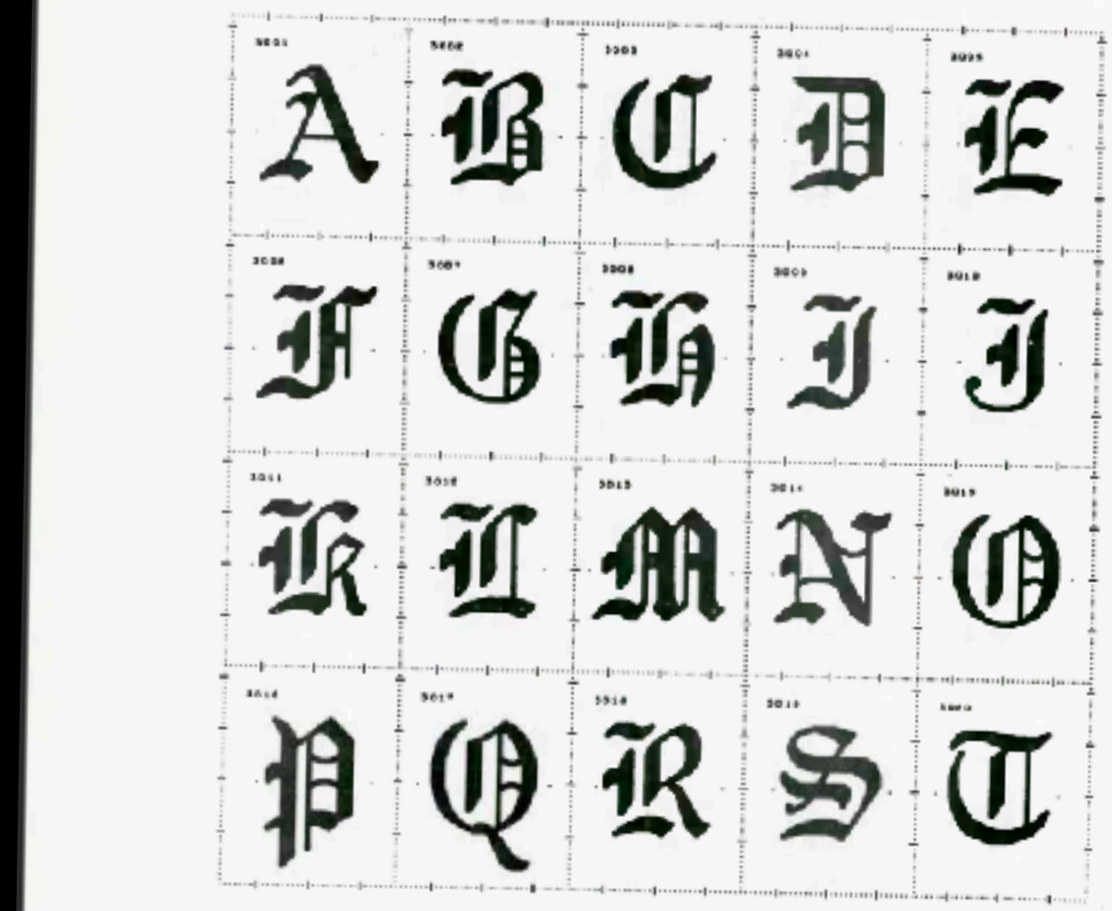
13. ABSTRACT

Consideration is given to the possibility of providing a computer and a cathode ray printer with an unlimited repertory of characters. Digitalizations are presented for mathematic, cartographic, and calligraphic characters. The repertory is available to any computer through FORTRAN IV programming. The latest cathode ray printers are almost adequate for the preparation of mathematical reports. Some progress has been made toward development of a mnemonic code for the recording of a mathematical text on tape.

Calligraphy for Computers, A.V. Hershey

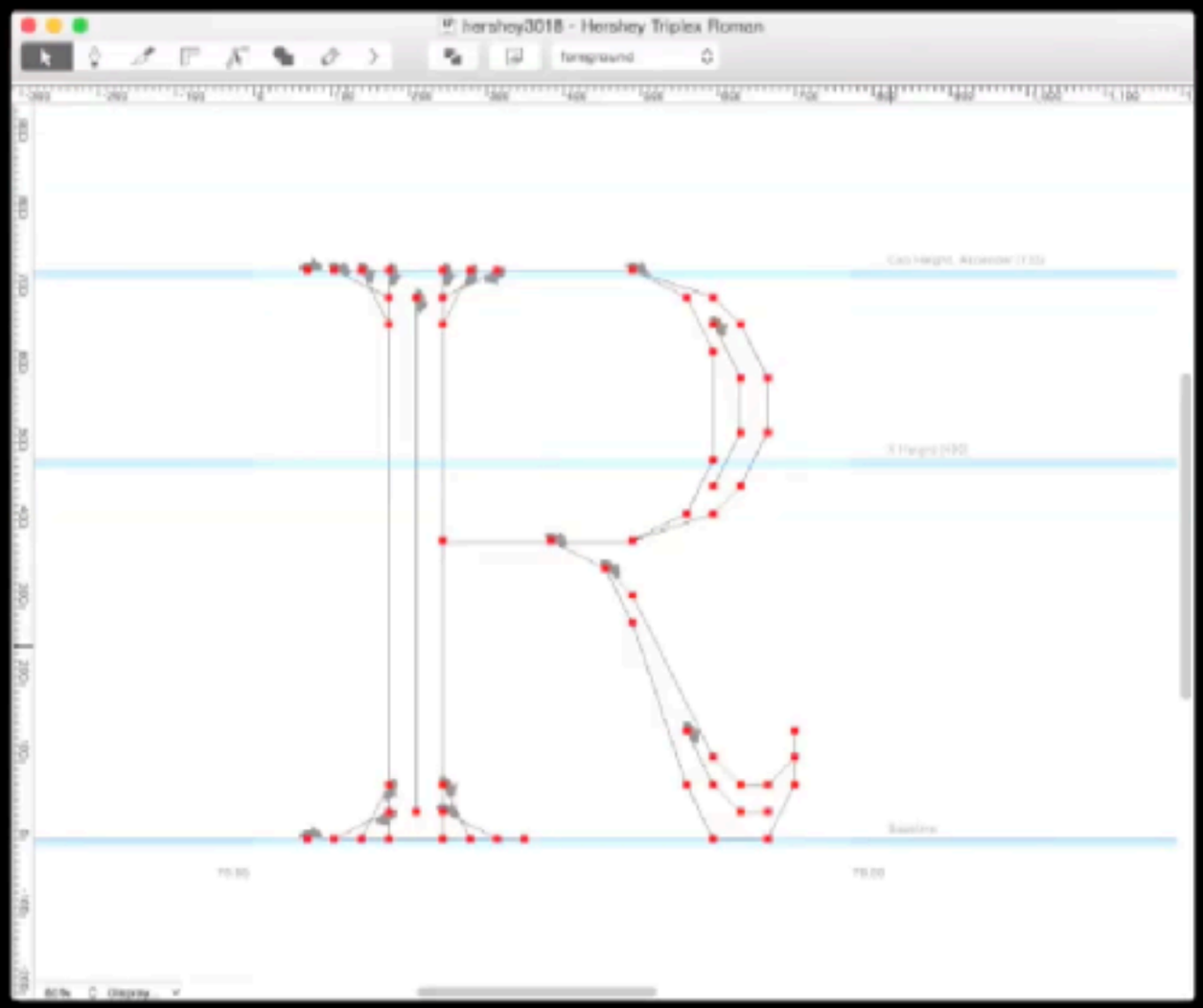


Calligraphy for Computers, A.V. Hershey

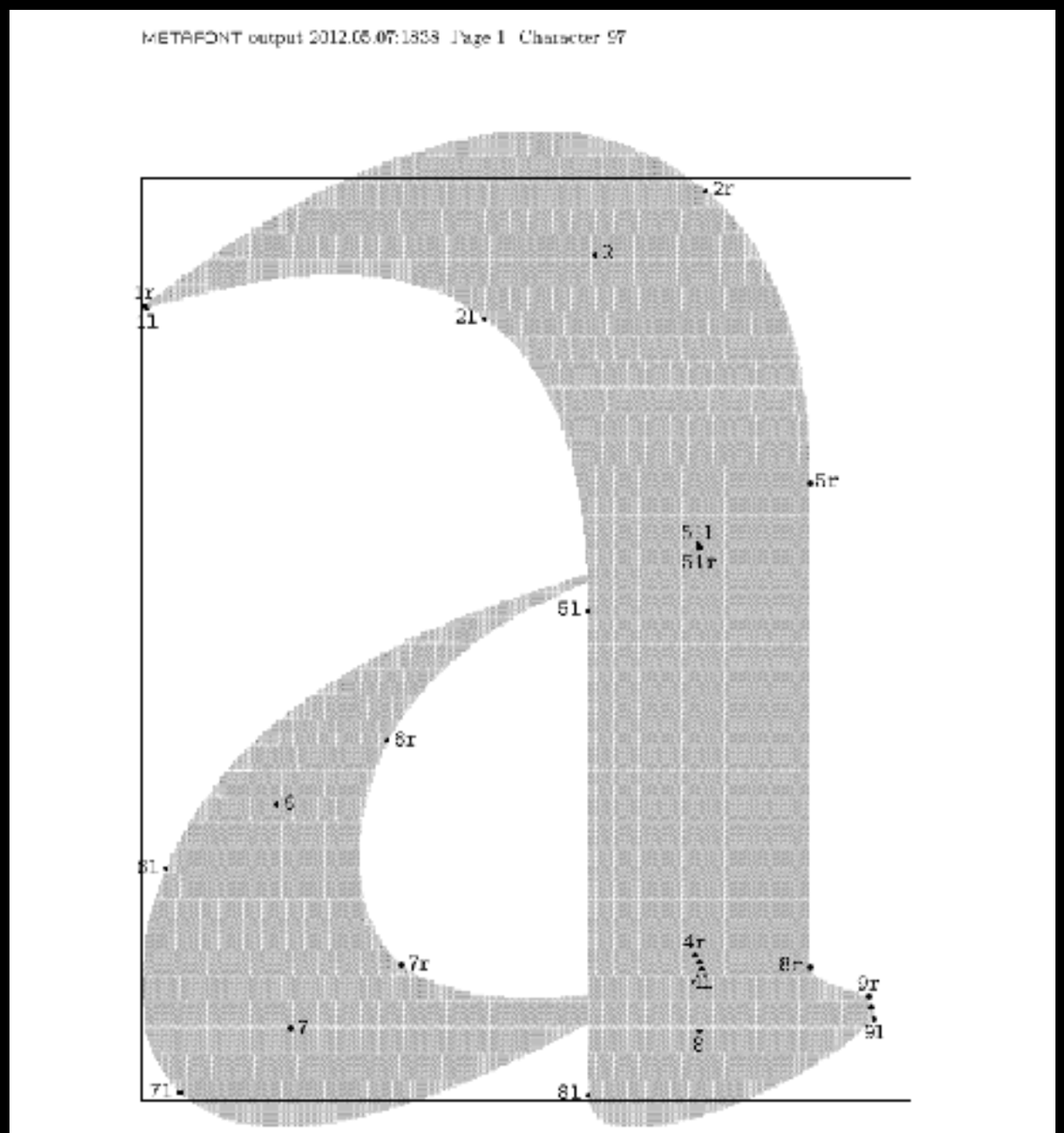


Calligraphy for Computers, A.V. Hershey

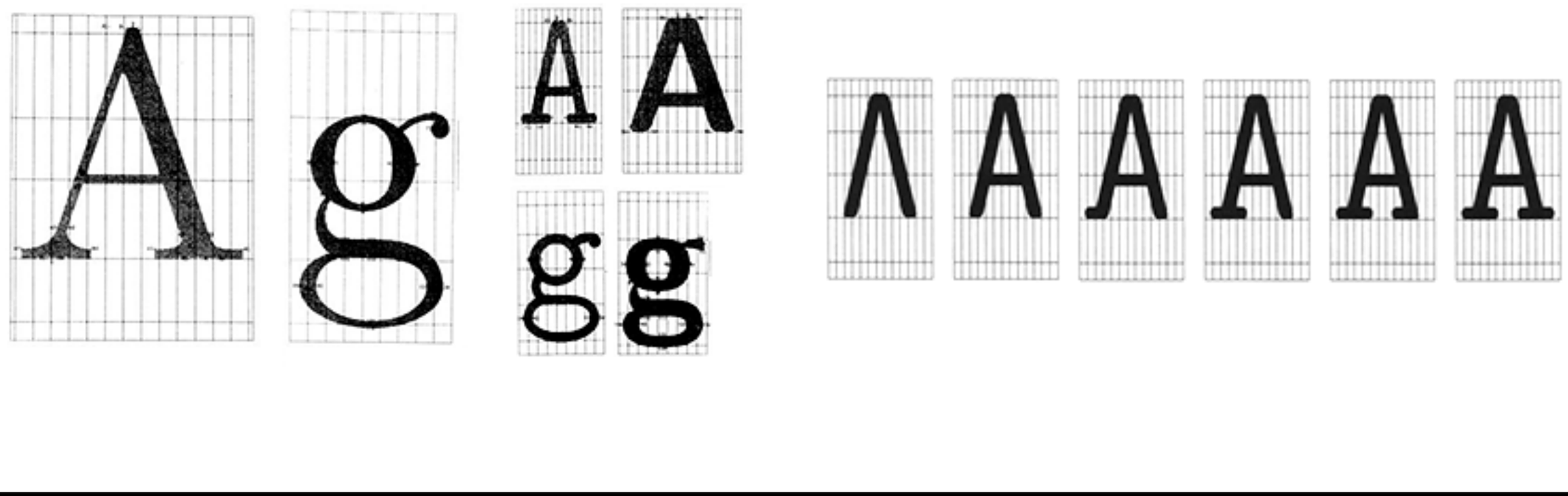
Calligraphy for Computers, A.V. Hershey



Hershey Fonts, Frank Grießhamme



MetaFont, Donald Knuth



MetaFont, Donald Knuth

```
** initialization complete. **\r
Welcome to Meta-the-Difference-Between-the-Two-Font.
Today is Fri Mar  2 15:27:30 EST 2012
*
Current working directory is /Users/reinfurt/Documents/Projects/META THE DIFFERE
NCE BETWEEN THE 2 FONT/Source/Meta-the-difference between-the-two-Font/v0.6c

                SLANT    | SUPERNESS
                   \     |
                    \    |
                     \   |
                      \  |
                       \ |
                        \|____________ WEIGHT

                          PEN ===>

WEIGHT=50.000000000000000000
SLANT=.200000000000000000
SUPER=.575000000000000000
PENTYPE=0
PENX=349.500000000000000000
PENY=100
PENR=216.000000000000000000
Welcome to Meta-the-Difference-Between-the-Two-Font.
Today is Fri Mar  2 15:27:30 EST 2012
*
Current working directory is /Users/reinfurt/Documents/Projects/META THE DIFFERE
NCE BETWEEN THE 2 FONT/Source/Meta-the-difference between-the-two-Font/v0.6c
mftrace 1.2.16
Font `mtdbt2f4d'...
Using encoding file: `/usr/local/texlive/2011basic/texmf/fonts/enc/dvips/tetex/m
tdbt2f.enc'
Running Metafont...
Tracing bitmaps... [0][1][2][3][4][5][6][7][8][9][10][11][12][13][14][15][16][17
][18][19][20][21][22][23][24][25][26][27][28][29][30][31][32][33][34][35][36][37
][38][39][40][41][42][43][44][45][46][47][48][49][50][51][52][53][54][55][56][57
][58][59][60][61][62][63][64][65][66][67][68][69][70][71][72][73][74][75][76][77
][78][79][80][81][82][83][84][85][86][87][88][89][90][91][92][93][94][95][96][97
][98][99][100][101][102][103][104][105][106][107][108][109][110][111][112][113][
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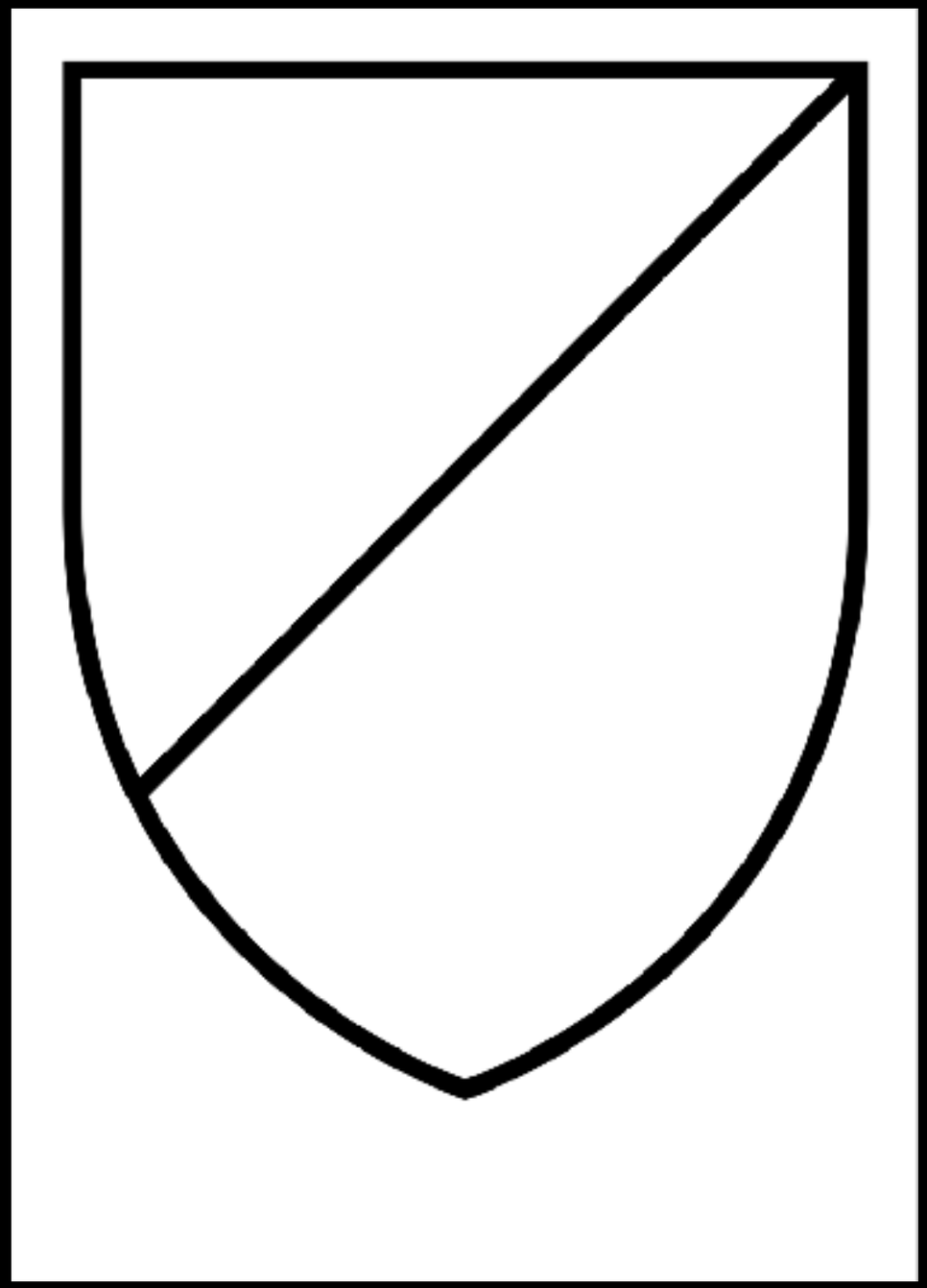
Meta Font, Donald Knuth



Dexter Sinister

** Hello world **
** Hello world **
** Hello world **
** Hello world **
** Hello world **
** Hello world **
** Hello world **
** Hello world **
** Hello world **

Meta-The-Difference-Between-The- Two-Font, Dexter Sinister

Letter & Spirit, Dexter Sinister

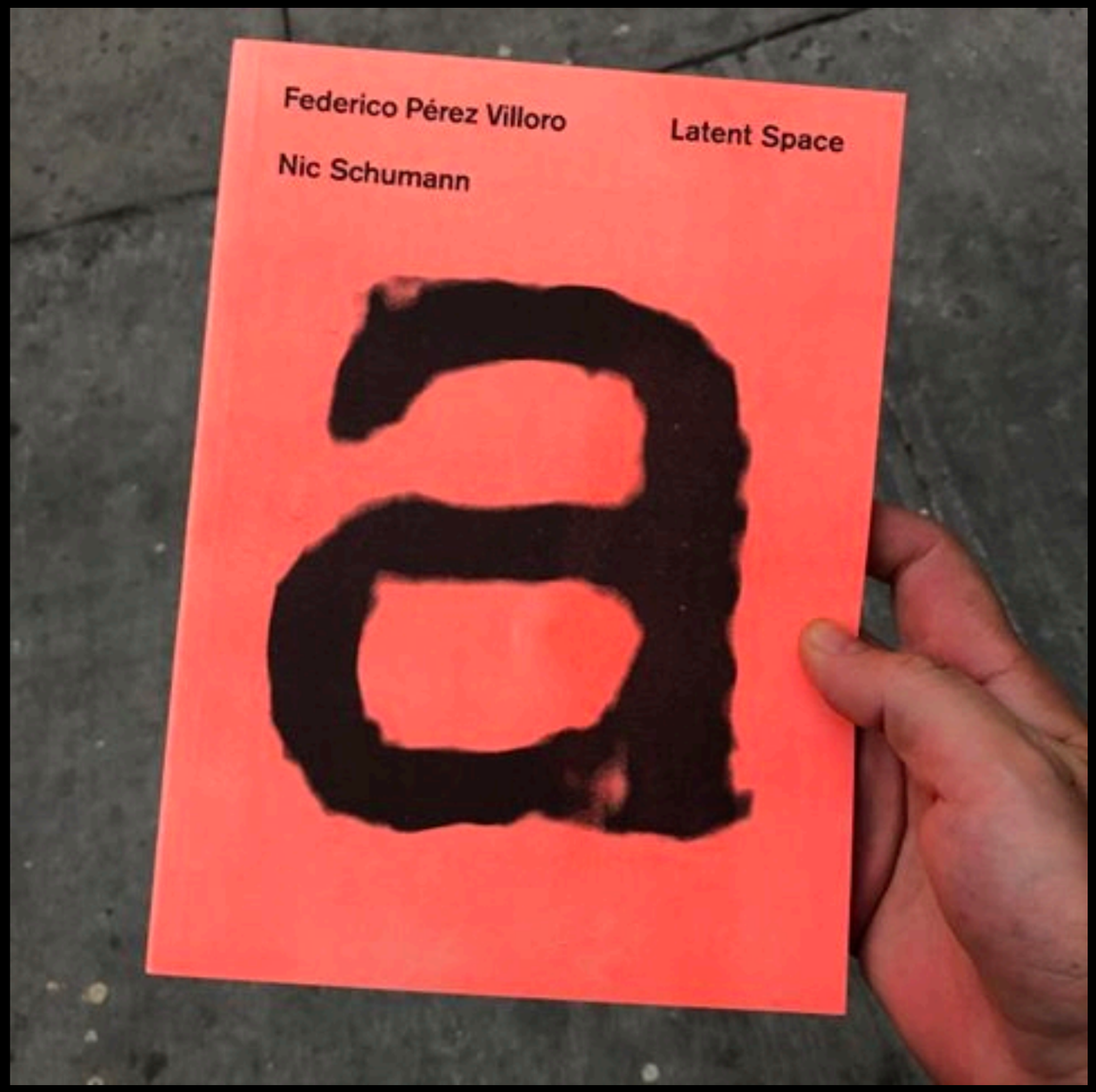
KADIST

KADIST

KADIST

Kadist Logo, Dexter Sinister

The Contemporary Edition, Cover Design by Dexter Sinister



Latent Space, Federico Pérez Villoro and Nic Schumann

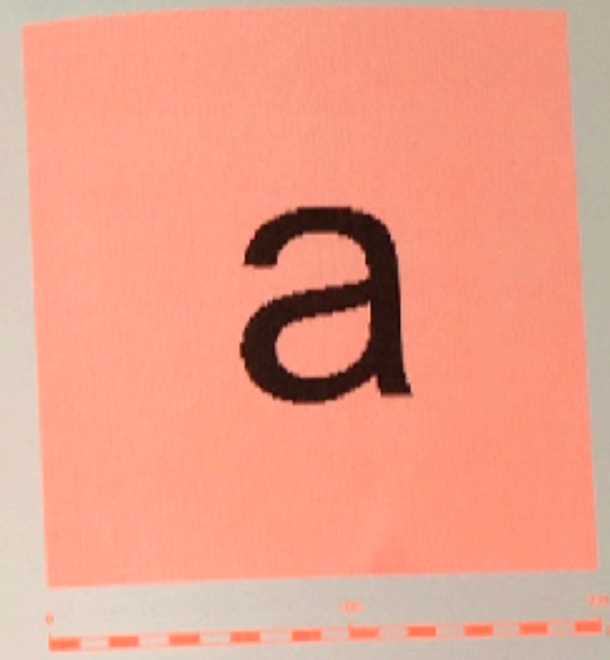
VARIATIONAL AUTOENCODERS: VAEs are a type of model in unsupervised machine learning.[30] With variational autoencoders, the goal is to take messy image space and produce a much smaller and more organized space. Often, this latent space is thought of as parameterizing the elements of image space we're interested in. The net of this abstraction is that we can use latent space to find images in image space that look like characters.

VAE STRUCTURE: VAEs are composed of two neural networks, connected tip to tail. The first half of the VAE is called the encoder network, often denoted E. The second half is called the decoder network, denoted D. FIG 3.3 In general, the encoder network learns a rule for mapping elements of image space—200×200 pixel images of characters—into the much smaller latent space. The decoder network learns an analogous, but inverted rule: given an element of the latent space, it learns to expand that element back into the original 200×200 dimensional image space. Through this process, the VAE learns to encode and compress images into latent space elements and to decode and expand latent space elements into images.

LATENT SPACE: Our latent space is a 32 dimensional bottleneck in between the encoder and the decoder.[31] By passing images through this tiny bottleneck, our VAE is forced to learn how to represent each larger image as 32 individual numbers in latent space. As the network is trained, it will learn to identify and organize the key factors that define characters visually in image

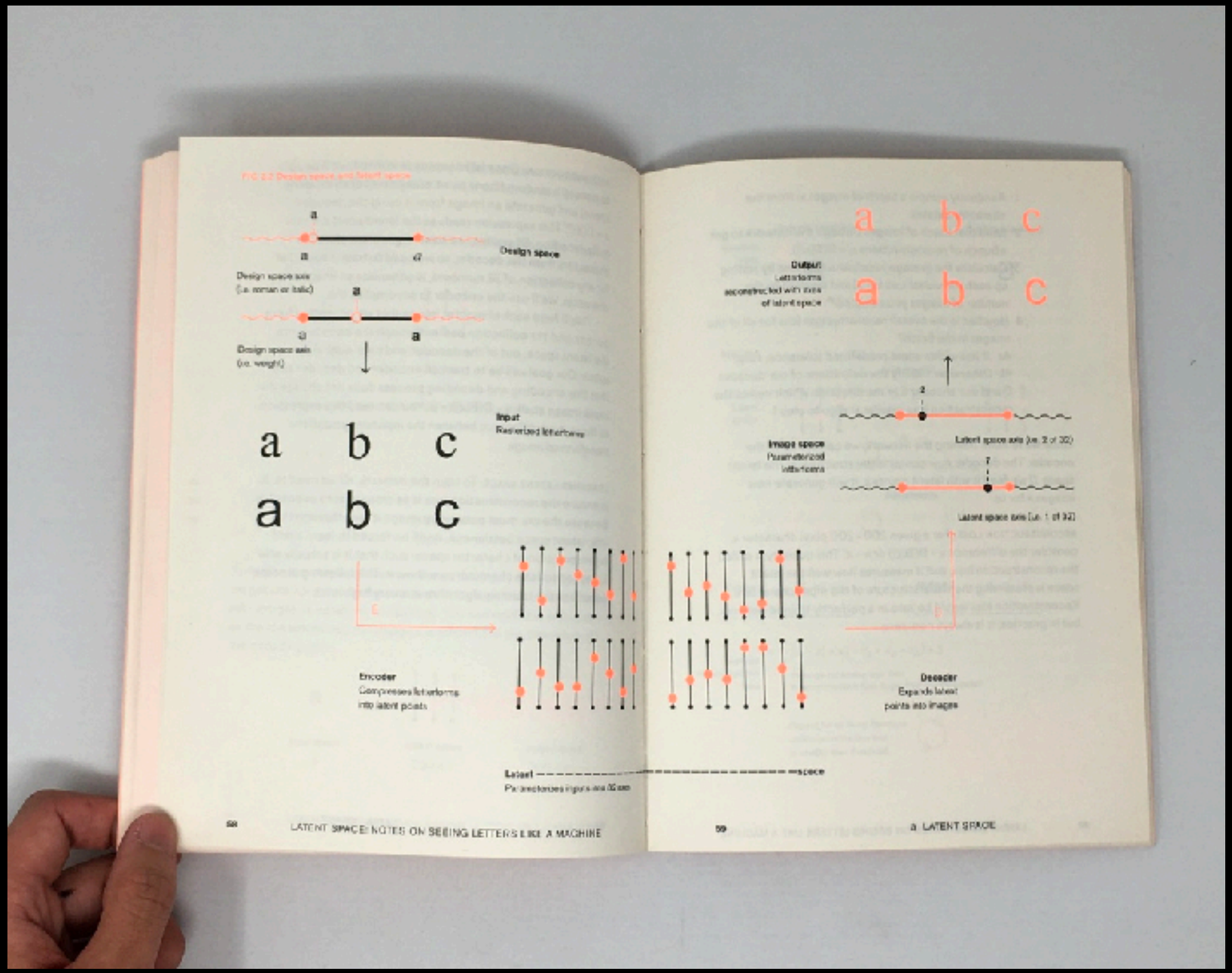
30 Unsupervised learning is a kind of machine learning that handles learning useful, compressed representations of some sort of data. The way this works is by passing all of the input data to the model through a kind of narrow bottleneck. Typically, the input data is some kind of messy, unstructured representation: think high-resolution images where the value of each pixel in the image is one dimension (in three dimensions of input in the case of RGB images, where each color channel is a single dimension of input

FIG 3.1 An image with 200 pixel per a side

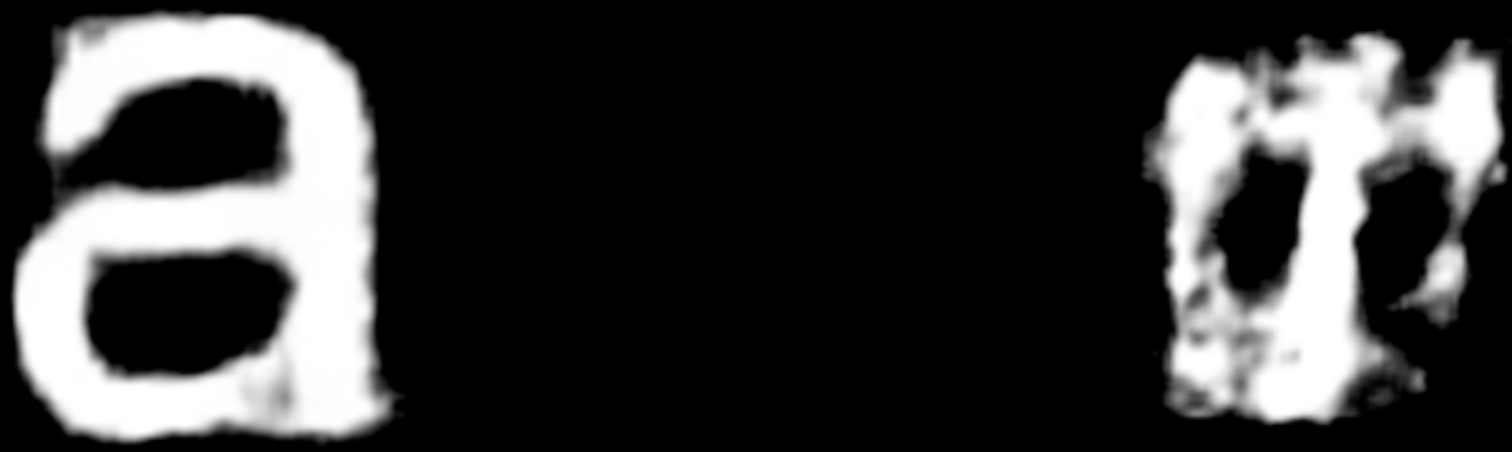


0) Check your intuition: how many dimensions of input does a 200 × 200 grayscale image have? The bottleneck is a section of the neural network with a much lower dimensionality, something like 32, rather than (A.) 40,000. By forcing the the images through the bottleneck we train the network to represent 40,000 dimensional images in terms of 32 numbers.

Latent Space, Federico Pérez Villoro and Nic Schumann

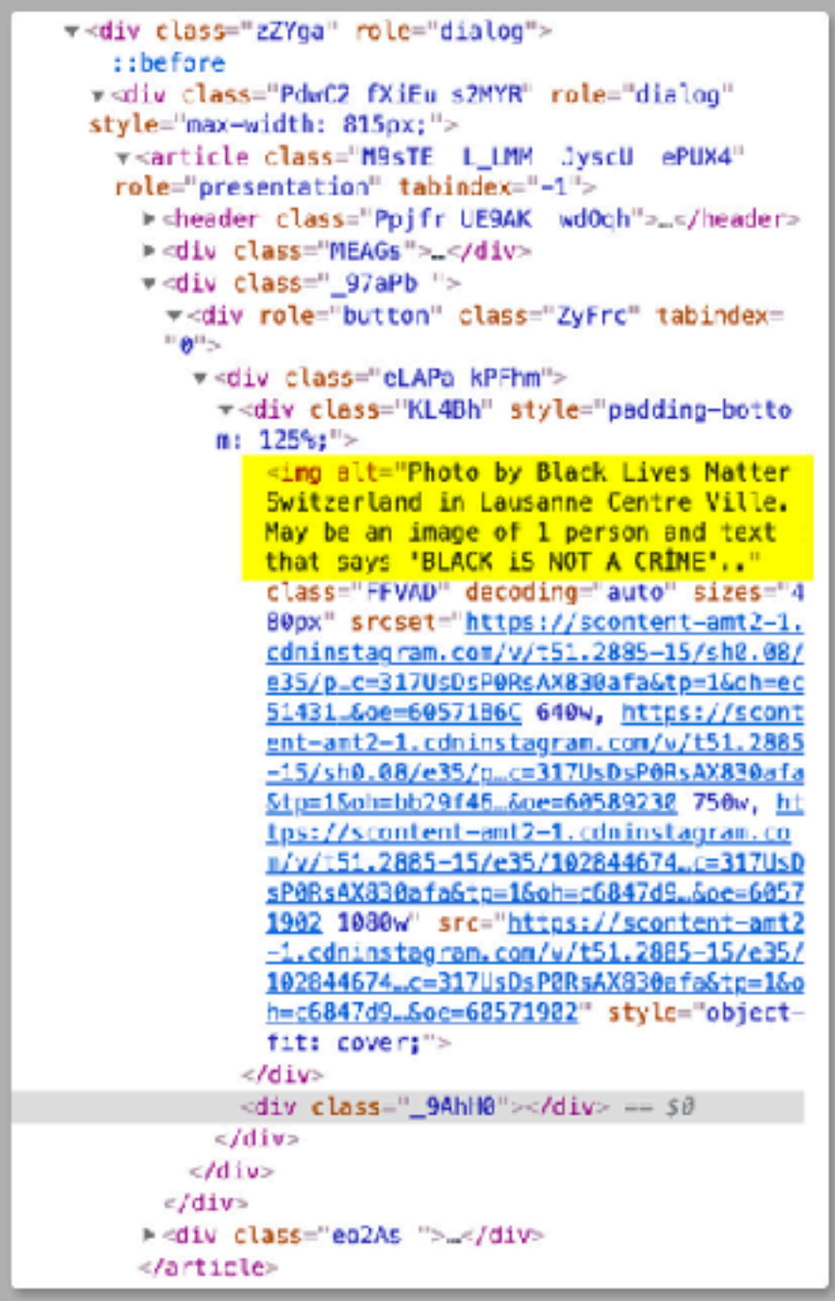


Latent Space, Federico Pérez Villoro and Nic Schumann



Latent Space, Federico Pérez Villoro and Nic Schumann

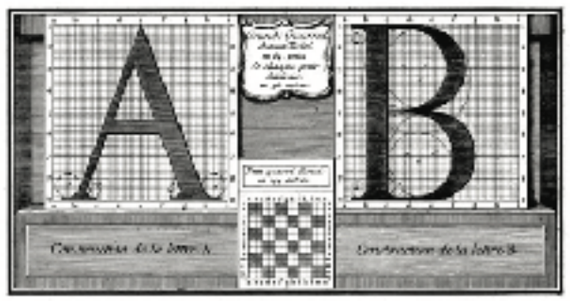
Adversarial Alphabets #1: How Machines Read, Federico Pérez Villoro and Nic Schumann



Instagram’s Alt Text Feature

Typeface as Program

COMPUTED
TYPE DESIGN



Christoph Knoth

Computed Type Design, Christoph Knuth

1952

A handmade prototype of a **"light gun"** as part of the Whirlwind Project at MIT.[4] It was one of the first electronical input devices and was used to change the state of the memory.

The names of the objects shown on this radar screen are in line art and are therefore real vector letters.

1957

The picture shows one of the first digitally scanned letters displayed on an oscilloscope. It was fed into a computer with a rotating drum scanner at the National Bureau of Standards.[5]

1959

Paul de Casteljau developed what was later known as **Bézier curves** using de Casteljau's algorithm. The ideas there are based on were widely publicized in 1962 by the French engineer Pierre Bézier, who used them to design automobile bodies.[6][7] They were a primer part for the later to come postscript language.

1960

William Fetter (1928–2002) coined the term **Computer Graphics**.

4 Image from the courtesy of The MITRE Corporation Archives

5 http://www.webbox.org/cgi/1957%20First%20image-processed%20photo.html – article from paper: R. A. Kirsch, L. Cahn, L. C. Ray, and G. H. Urban, Experiments in processing pictorial information with a digital computer, Proceedings of the Eastern Joint Computer Conference, Dec. 9-13, 1957, Institute of Radio Engineers, New York (1958)

6 http://en.wikipedia.org/wiki/B%C3%A9zier_curve

7 Picture taken from http://www-gmm.insa-toulouse.fr/~rabut/bezier/DonneesHistoriques/SectionHistoireUsineRenault/UsineBb2.htm

1962–1963

Sketchpad is a computer program written by Ivan Sutherland. It was the first program ever to utilize a complete graphical user interface.

- The program used line art that was displayed on a CRT and not a pixelated screen as we know it today. The reason for this has nothing to do with its progressiveness, the reason has much more to do with the lack of memory for a buffer to store all the pixels that would be needed.

It had lots of great ideas inbuilt that are not even standard functions in today's programs. It was object oriented and had the possibility that objects could be scaled and reused, geometrical constructions could be made that would depend on each other, it also had magnetic lines and options to make lines parallel and perpendicular.

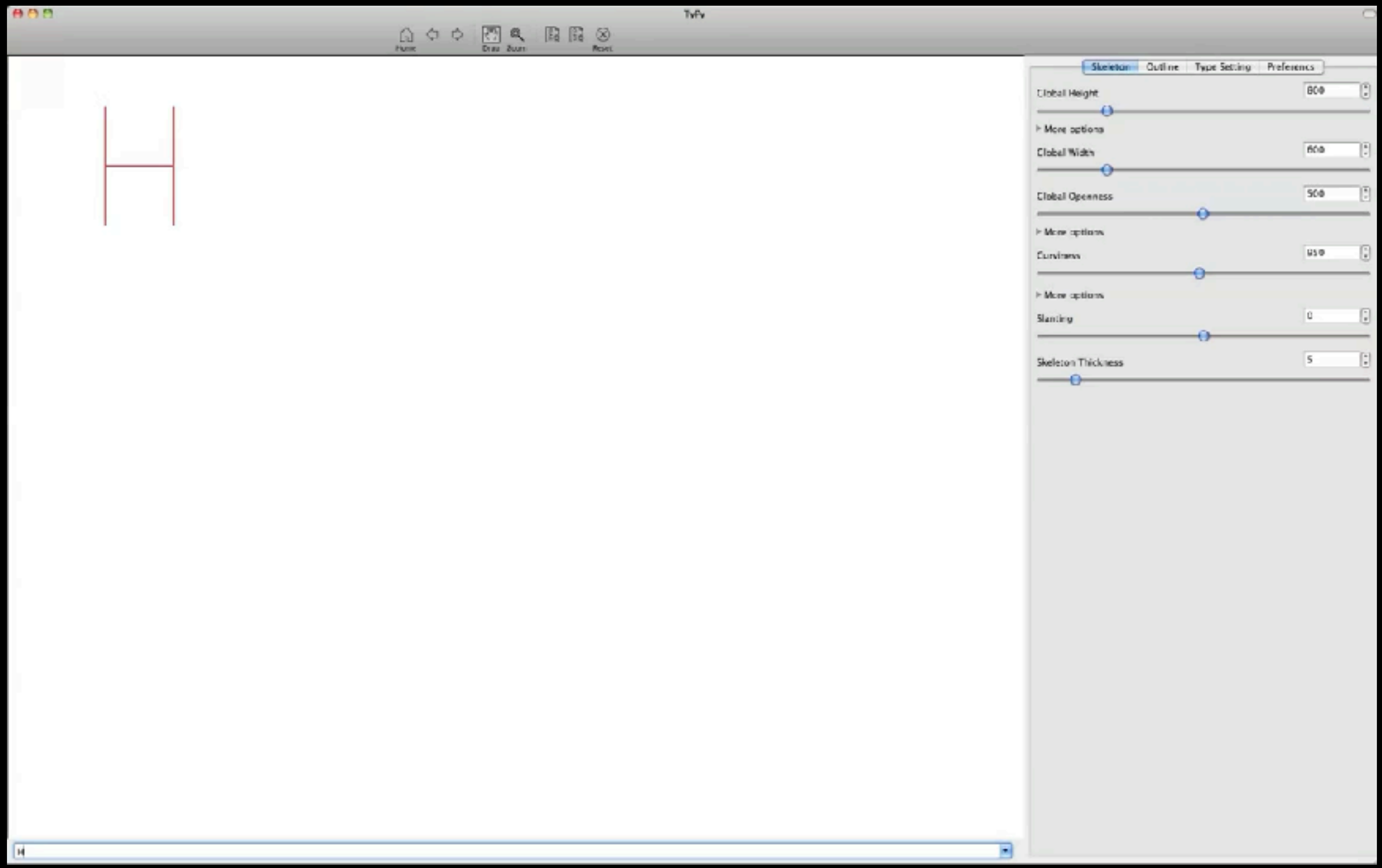
The further development of the light gun resulted in a light pen that was a used to draw and drag-and-drop shapes. Which turned out to be quite tiring because one had to have their arm all the time in a lifted position.[8]

Because all the graphics were made up of line art they could also be outputted by a plotter that could draw straight lines and circles.

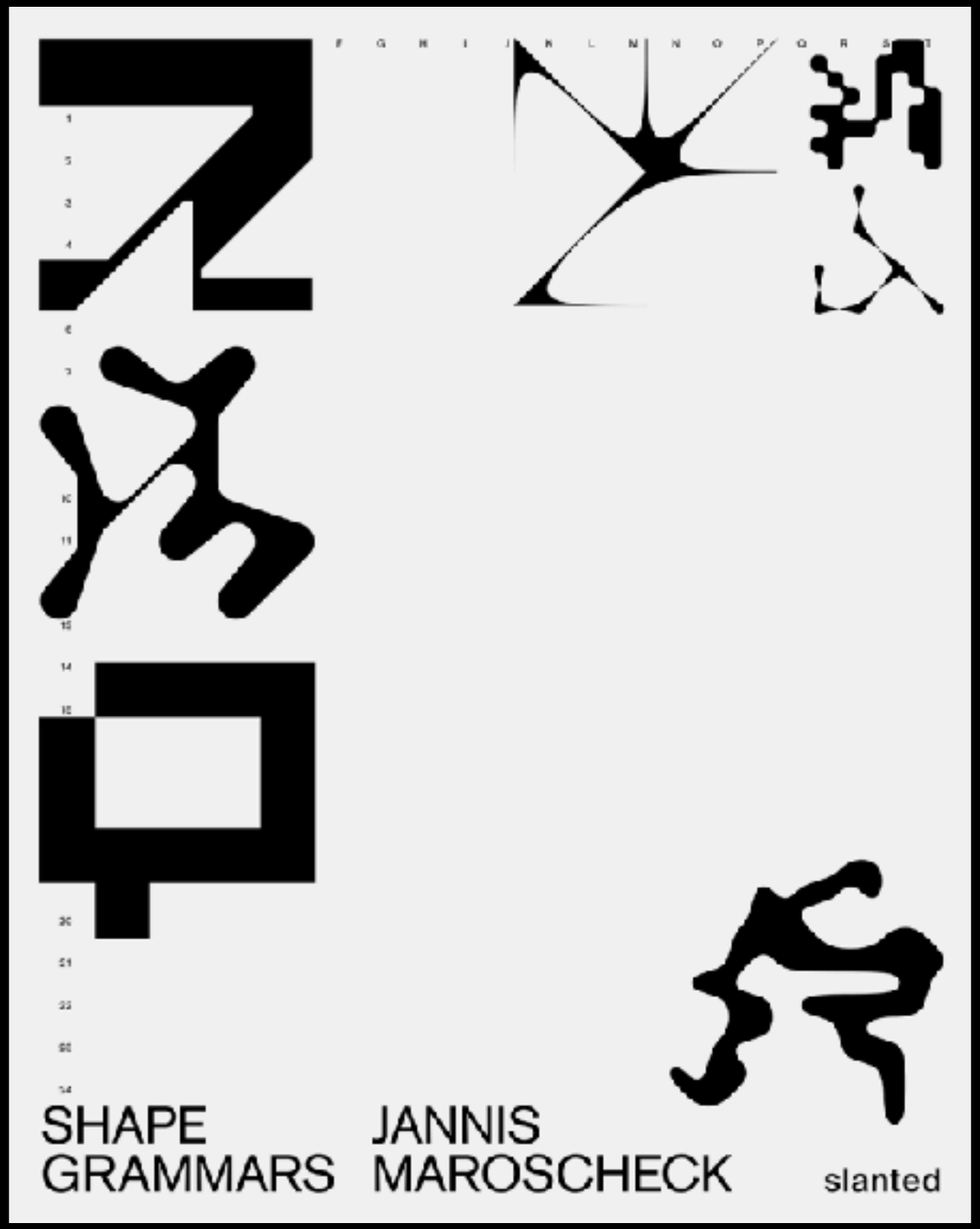
- When Ivan Edward Sutherland was asked: "How could you possibly have done the first interactive graphics program, the first non-procedural programming language, the first object oriented software system, all in one year?" He replied: "Well, I didn't know it was hard."

8 Pictures from Ivan Edward Sutherland, Technical Report Number 574, Computer Laboratory – Sketchpad
A man-machine graphical communication system. September 2003. New preface

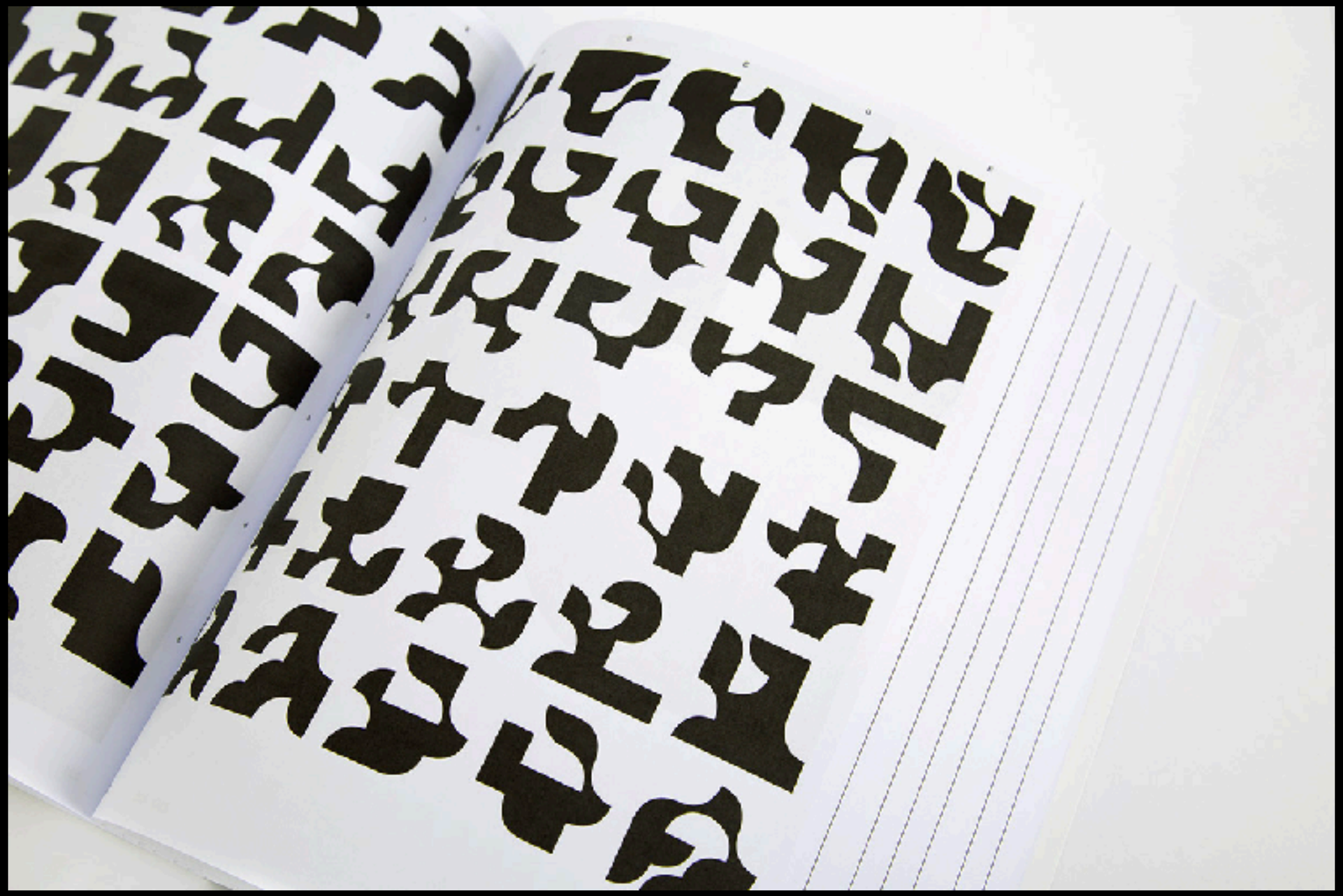
Computed Type Design, Christoph Knuth



Computed Type Design, Christoph Knuth



Shape Grammars, Jannis Maroscheck



Shape Grammars, Jannis Maroscheck

← Regular
Outline
→ Stencil

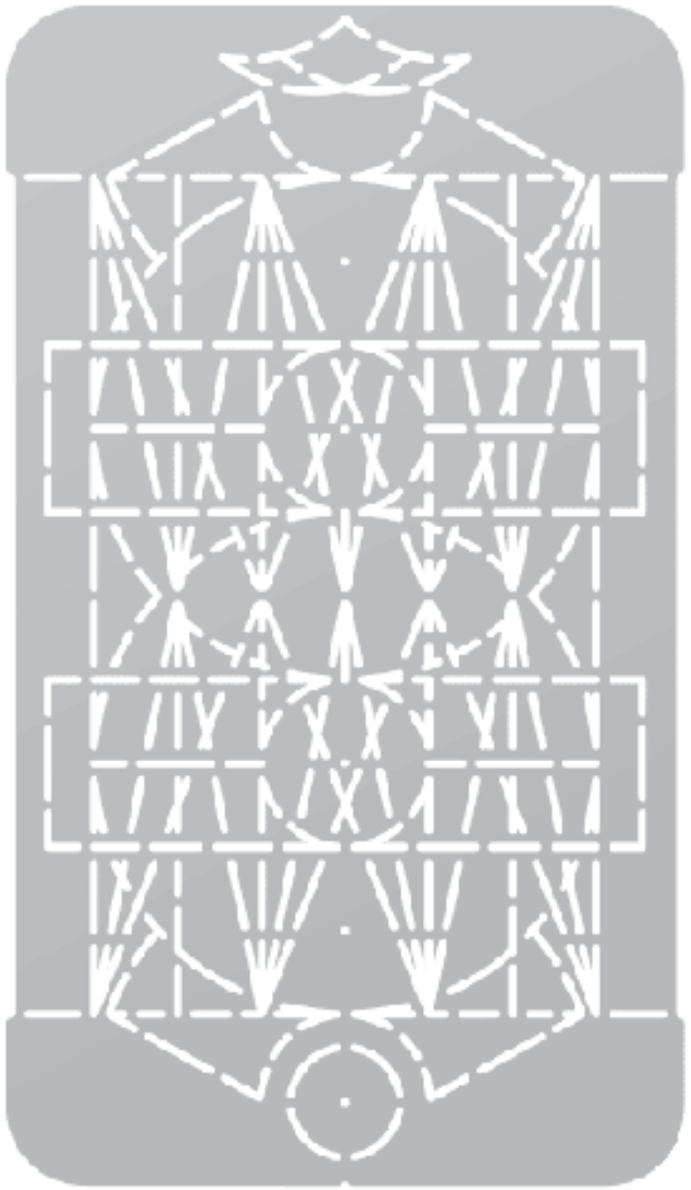
330pt

Regular 60pt

PDU

Font Version
1.001

PDU, Dries Wiewauters



PDU, Dries Wiewauters

PDU Metal Stencil, Dries Wiewauters

	ē [eː]	i [i]	o [o]	a [a]	ā [aː]	ī [iː]	ō [oː]	final
								
w [w]								o
p [p]								l
t [t]								′
k [k]								ˋ
m [m]								⊂
n [n]								⊃
s [s]								∩
y [j]								+
c [ʧ, ːs]								-

r [r]		h [h]		A dot after the symbol = w
l [l]		hk		e.g. = kwē

Cree Alphabet

“On his way to a sacred society meeting one evening Calling Badger and two singers came upon a bright light and all three fell to the ground. Out of the light came a voice speaking Calling Badger’s name. Soon after, Calling Badger fell ill and the people heard he had passed away. During his wake three days later, while preparing to roll him in buffalo robes for the funeral, the people discovered that his body was not stiff like a dead person’s body should be. Against all customs and tradition the people agreed to the widow’s request to let the body sit one more night. The next day Calling Badger’s body was still not stiff so the old people began rubbing his back and chest. Soon his eyes opened and he told the people he had gone to the Fourth World, the spirit world, and there the spirits taught him many things. Calling Badger told the people of the things he was shown that prophesized events in the future, then he pulled out some pieces of birch bark with symbols on them. These symbols, he told the people were to be used to write down the spirit languages, and for the Cree people to use to communicate among themselves.”

This Was Written On Stolen Indigenous Land, Chris Lee

Next Steps:

- Select one product direction and make progress on a prototype

Reminder:

- Workshop next weekend (Nov 12, 13)
- No class on Nov 10, optional 1:1 meetings