

Conquer Variable Web Typography

86/60

Oliver Schöndorfer  glyphe

IT'S TIME FOR *variable web* TYPOGRAPHY

BY OLIVER SCHÖNDORFER

Variable fonts will shape the future of web typography. They offer plenty of possibilities for fine graded control over the display of type on screens. And for the possibilities they create they come at a lower file size and can bring a performance gain.

Say good bye to endless debates about the amount of font files you have to load to give your content a proper typographic voice. This paragraph uses the beautiful typeface **Output Sans Variable** by David Jonathan Ross. It's a variable font that can be adjusted on two axes. It can change its weight and obliqueness. So I only have to load *one font file* to create a lot of typographic expressions. That comes very handy when the web became a very limited

14

font files

453_{KB}

for web fonts only

1

font file

56 KB

overall size

How to get started on variable fonts

1. What are variable fonts?
2. Using variable fonts on the web
3. Golden times
4. Hard times

What are
variable fonts?

Aa

Light

Aa

Regular

Aa

Medium

Aa

Bold

Aa

X-Bold



Aa

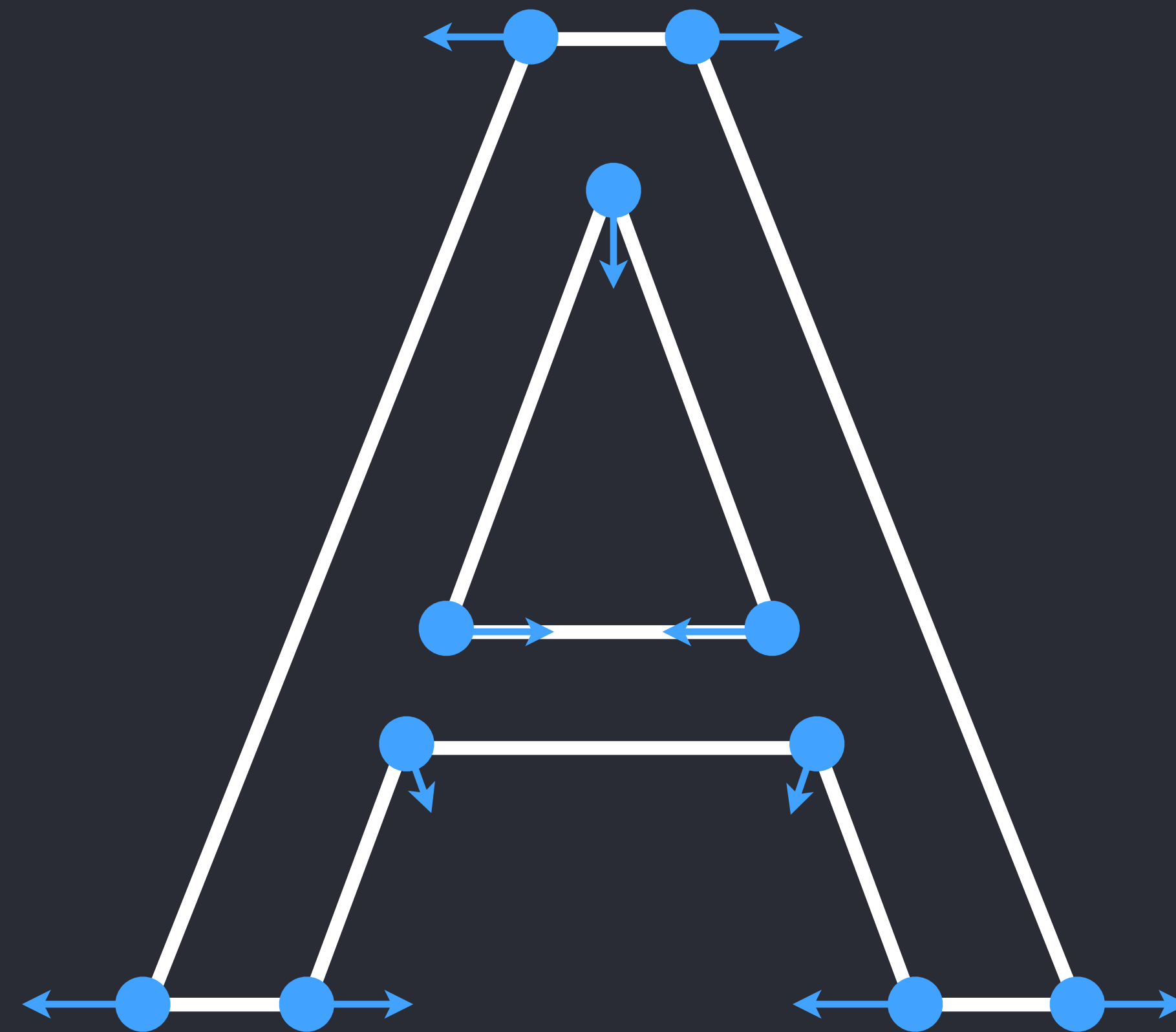
Aa

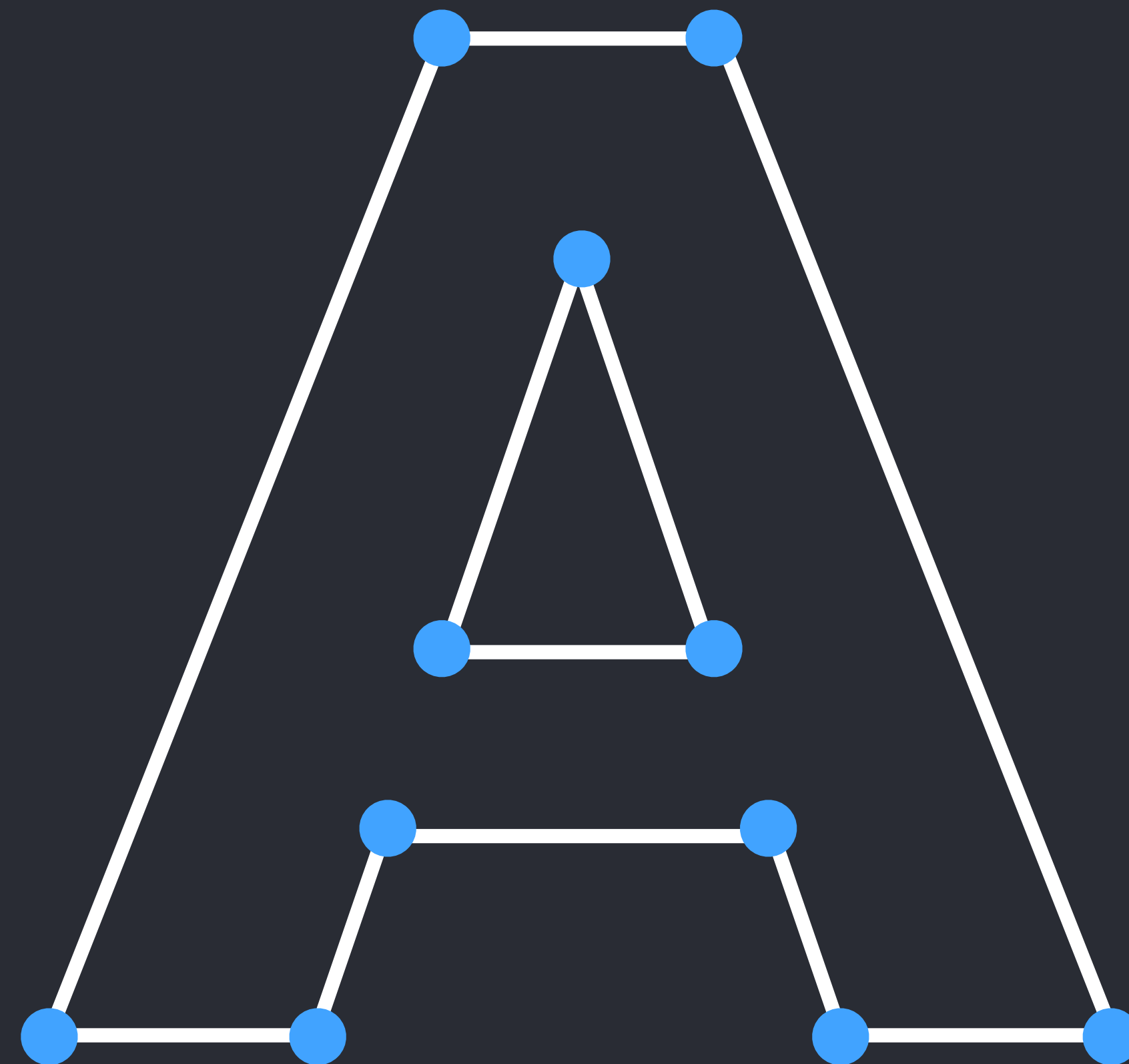
Aa

Aa

Aa

Variable font file





Aa Aa Aa Aa Aa Aa Aa Aa Aa

← Interpolation →

Named instances



Aa

Light

Aa

Regular

Aa

Aa

Aa

Medium

Aa

Aa

Bold

Aa

Aa

X-Bold

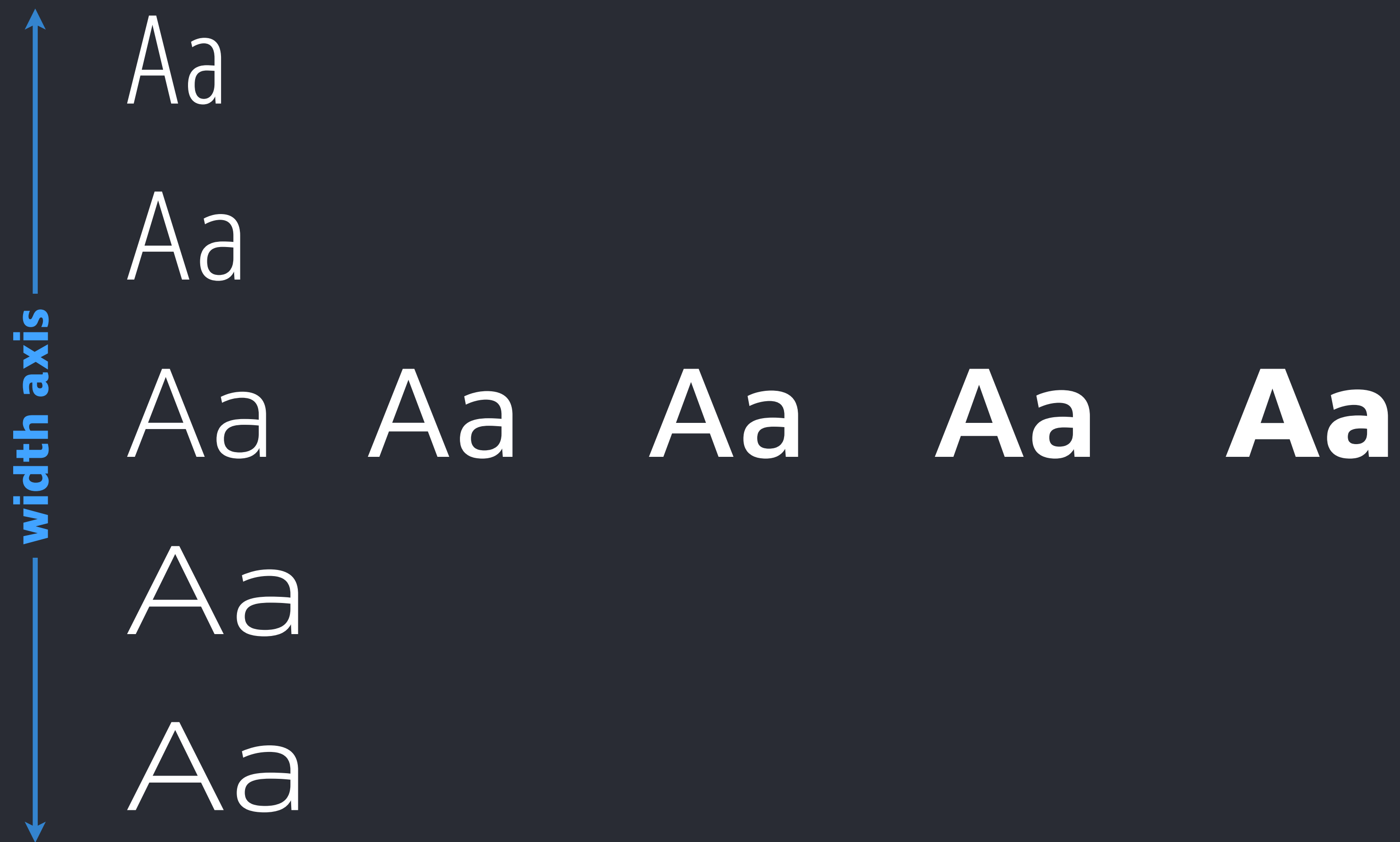


Optional designs in between

Aa Aa Aa Aa Aa

← weight axis →

Aa
Aa
Aa Aa Aa Aa **Aa**
Aa
Aa

A diagram illustrating text alignment and the width axis. On the left, a vertical blue double-headed arrow spans the height of the text block, with the label "width axis" written vertically in blue. To the right of the arrow, the text "Aa" is displayed in five rows. The third row contains five instances of "Aa" with increasing boldness from left to right. The text is white on a dark gray background.



Using variable fonts on the web

66 %

Global support



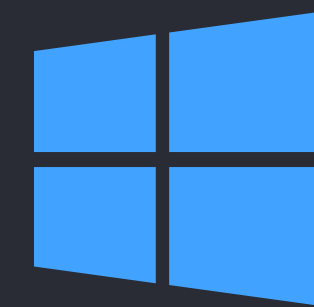
Safari 11



Chrome 62



**MacOS 10.13
iOS 11.2**



Windows 10



Firefox 60



Edge 17

Coming soon

Variable Fonts (beta)

A simple resource for finding and trying variable fonts



Angus Variable

Weight: 0  1000

A rounded sans that maintains consistent widths regardless of changes in weight.

Design: Elliott Amblard
Publisher: Black[Foundry]
Characters: Latin
Licensing: Paid/commercial
Info/fonts: black-foundry.com

Angus Variable

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghi
jklmnopqrstuvwxyz 0123456789

Angus Variable Italic

*ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghi
jklmnopqrstuvwxyz 0123456789*

Eckmannpsych Variable

Optical Size: 0  1000

A psychedelic interpretation of Otto Eckman's Eckmann-Schrift, available with discounted pricing as a work-in-progress design. It comes with a bonus DrawBot script for making variable animations.

Design: James T. Edmondson
Publisher: OH no Type Co.
Characters: Latin
Licensing: Paid/commercial
Info/fonts: futurefonts.xyz

A B C D E F G H I J K L M N O P Q
R S T U V W X Y Z
0 1 2 3 4 5 6 7 8 9

Discover new
variable fonts
try them out,
see where to
get them

```
@font-face {  
  font-family: 'Venn';  
  src: url('Venn.woff2') format('woff2-variations'),  
       url('Venn.woff2') format('woff2');  
}
```

Will become the standard



Fallback for the others

Introduction

MY SPECIMENS

Old Default

SPECIMENS

NEW FounderType YouHei

NEW Gnomon

NEW Venn

文鼎晶熙黑

晶熙ゴシック体

Amstelvar

Avenir Next

Bitcount

Buffalo Gal

Compressa

Decovar

DIN 2014

Dunbar

Fit

Qinshen

Axis-Praxis is a website for playing with OpenType Variable Fonts

Discover 30+ variable fonts. Experiment with the right panel on this default layout, or choose a type column. Every textbox is fully editable: change font, spacing as well as the variation sliders. And type your text.

Font makers can try out their fonts. Just drag any variable TTF to the current textbox gets set to that font, and its axes show up right away in the Font Variation section.

The Font Variation controls adapt according to the variation axes inside each font, one slider

TEXTBOX

Textbox

summary1

Font

Voto Serif GX

Drag & drop fonts here

Font size

FONT VARIATIONS

Instance

12 1 100

Width

91.4146

Weight

99.0156

Optical Size

12

1.

Select font or drop font file

2.

See available axes and ranges

5

registered axes

wght

wdth

ital

slnt

opsz

Weight Axis

Weight Axis

```
font-weight: 327;
```

```
font-variation-settings: "wght" 327;
```

```
font-weight: 327;
```

High-level property

will become standard with CSS 4 Font Module

```
font-variation-settings: "wght" 327;
```

Low-level property

supported by all participating browsers now

Width Axis

Width Axis

```
font-stretch: 78%;
```

```
font-variation-settings: "wdth" 78;
```

Slant *Axis*

Slant Axis

```
font-style: oblique 10deg;
```

```
font-variation-settings: "slnt" 10;
```

Optical Sizing Axis

Aa Aa Aa Aa

Low contrast
for small sizes

Aa

12px

Aa

24px

Aa

48px

High contrast
for large sizes

Aa

72px

Aa Aa Aa Aa

```
font-optical-sizing: auto;
```

```
font-variation-settings: "opsz" 72;
```

CUSTOM AXIS

CUSTOM AXIS

```
font-variation-settings: "TRMC" 1000,  
                          "SKLA" 400,  
                          "SKLB" 800, ...
```

Good Times

ANZEIGE

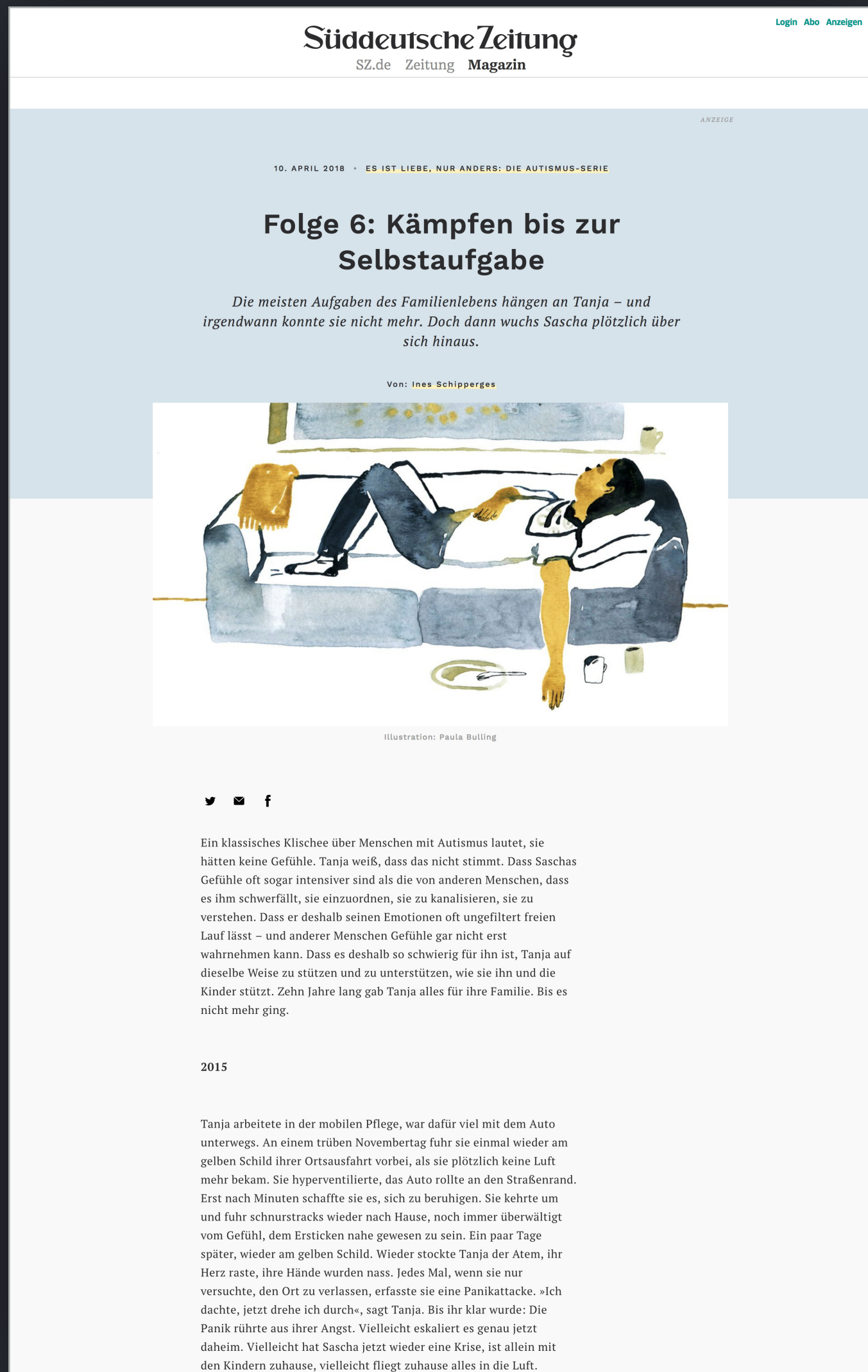
10. APRIL 2018 • ES IST LIEBE, NUR ANDERS: DIE AUTISMUS-SERIE

Folge 6: Kämpfen bis zur Selbstaufgabe

Die meisten Aufgaben des Familienlebens hängen an Tanja – und irgendwann konnte sie nicht mehr. Doch dann wuchs Sascha plötzlich über sich hinaus.

Von: Ines Schipperges





23 KB PT Serif Regular

23 KB PT Serif Bold

24 KB *PT Serif Italic*

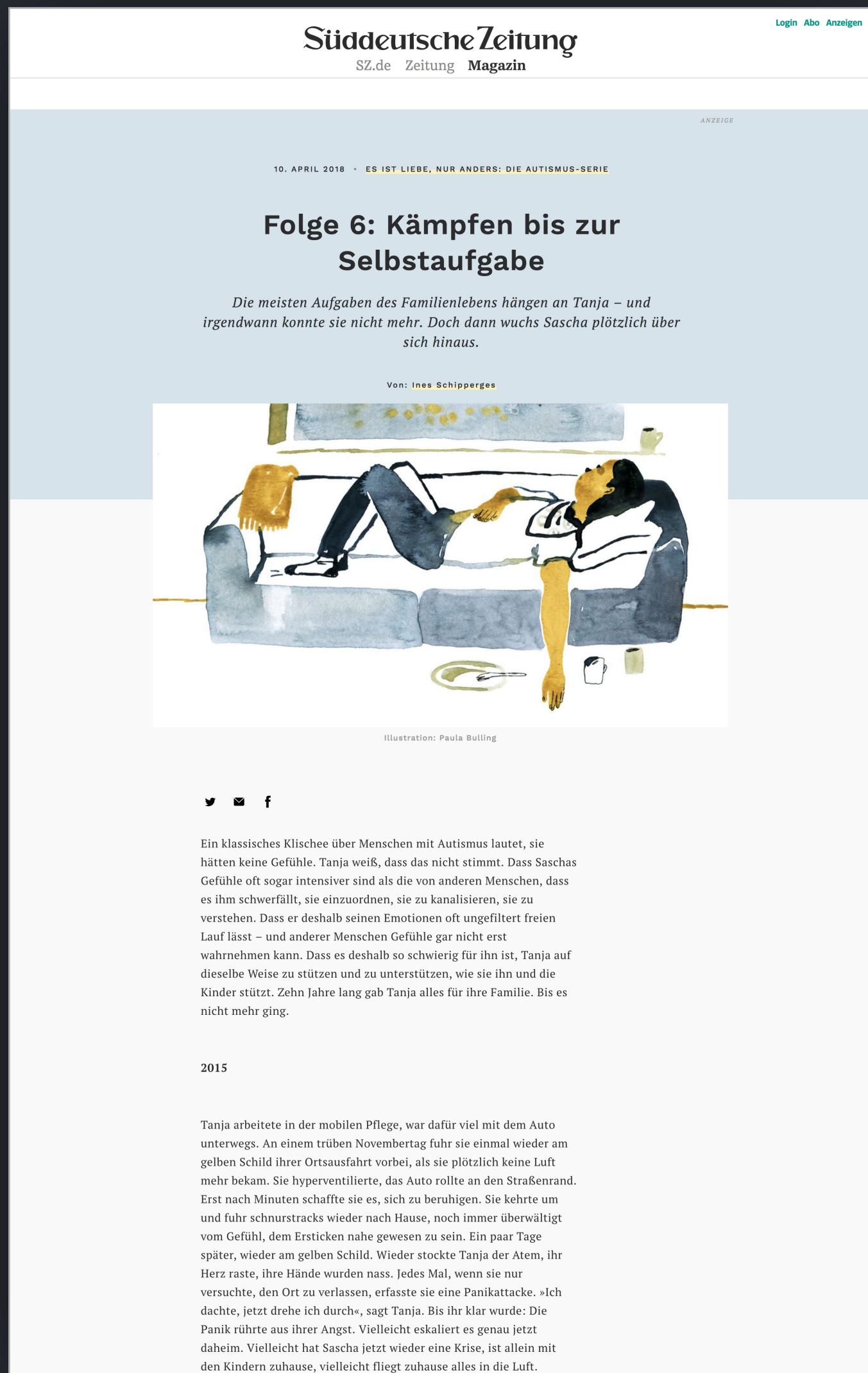
36 KB Work Sans Regular

39 KB Work Sans Medium

39 KB Work Sans SemiBold

52 KB Work Sans Bold

166 KB



Work Sans Regular

Work Sans Medium

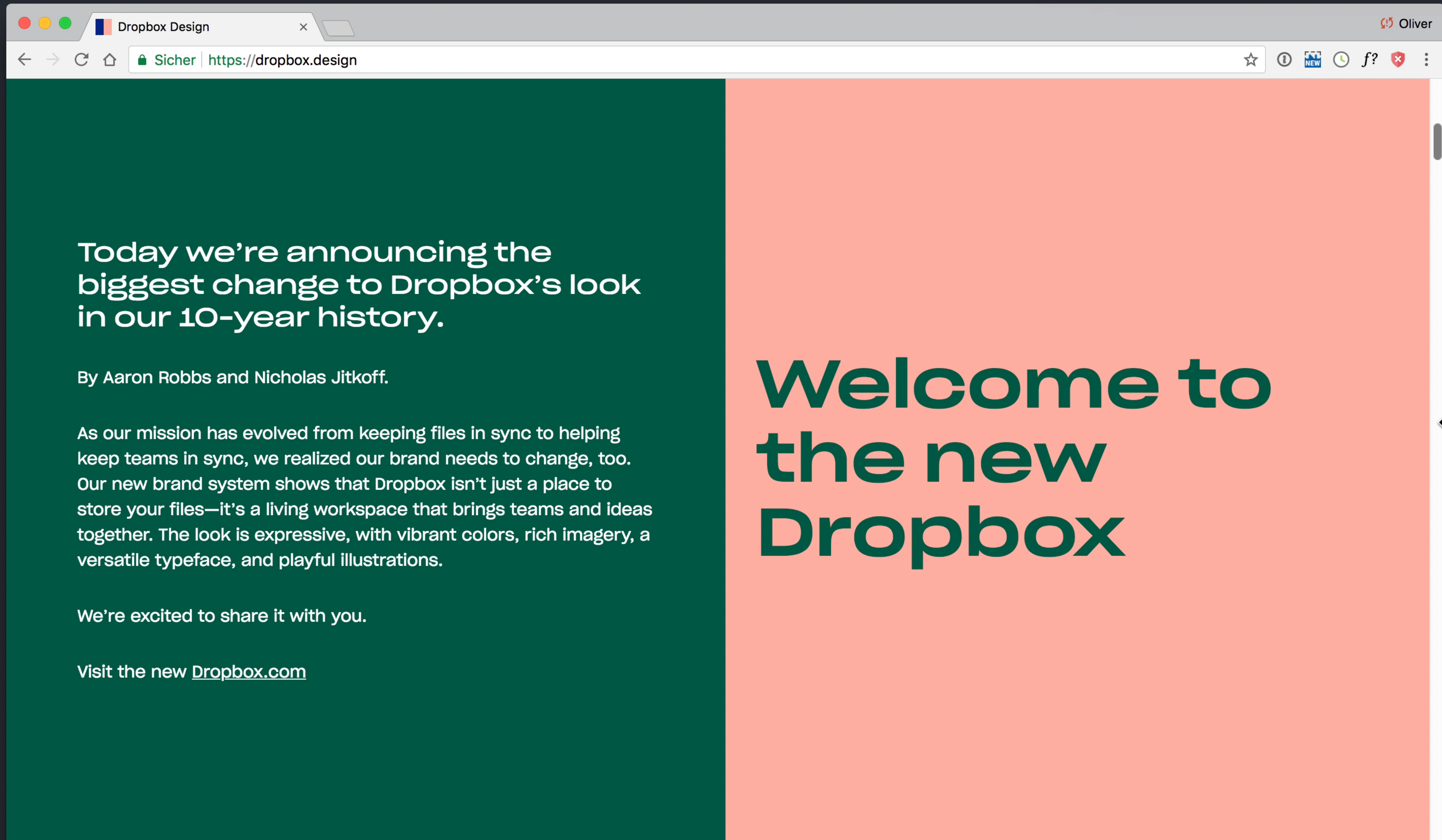
Work Sans SemiBold

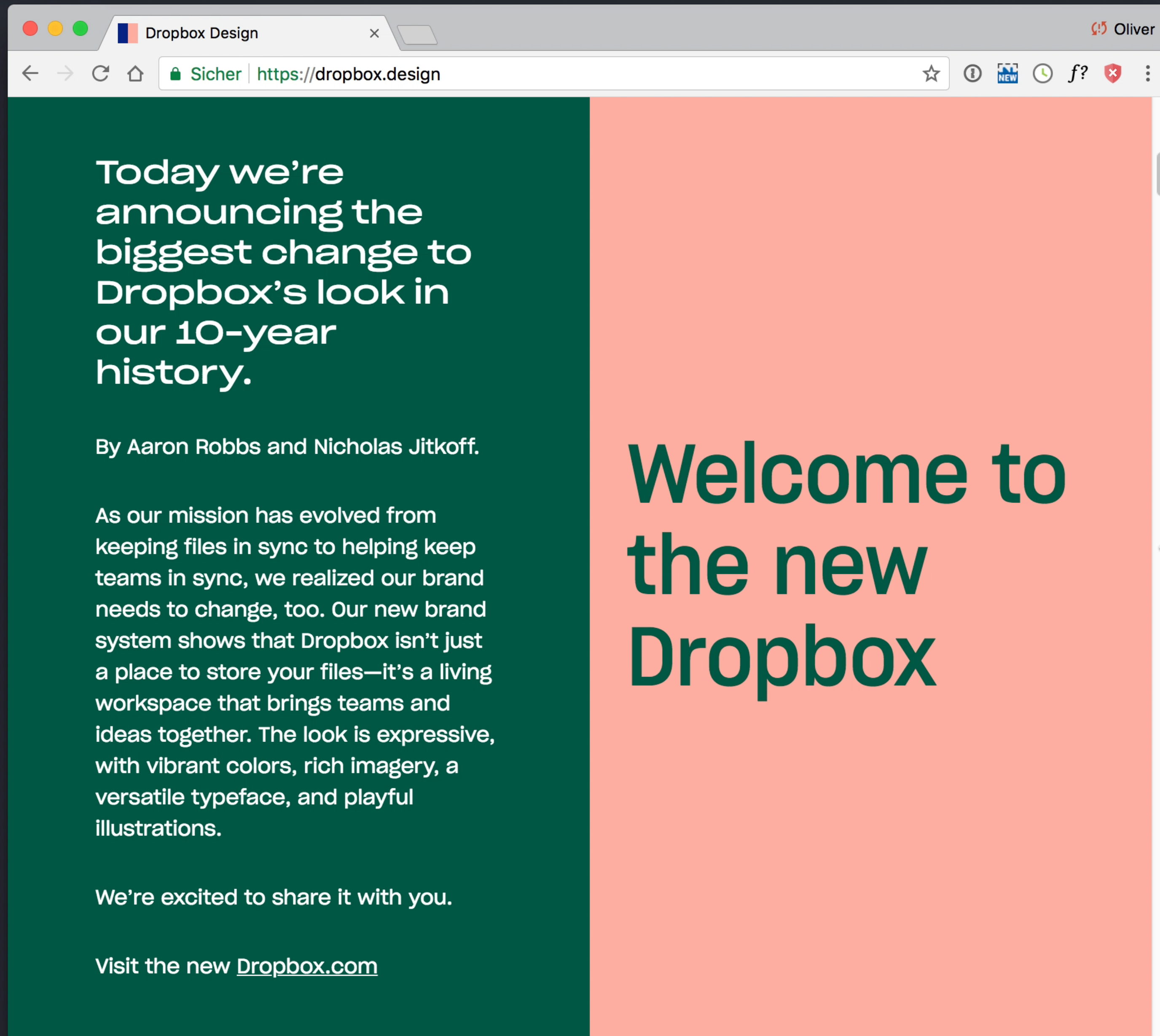
Work Sans Bold

166 KB

Work Sans Variabel?

~80 KB





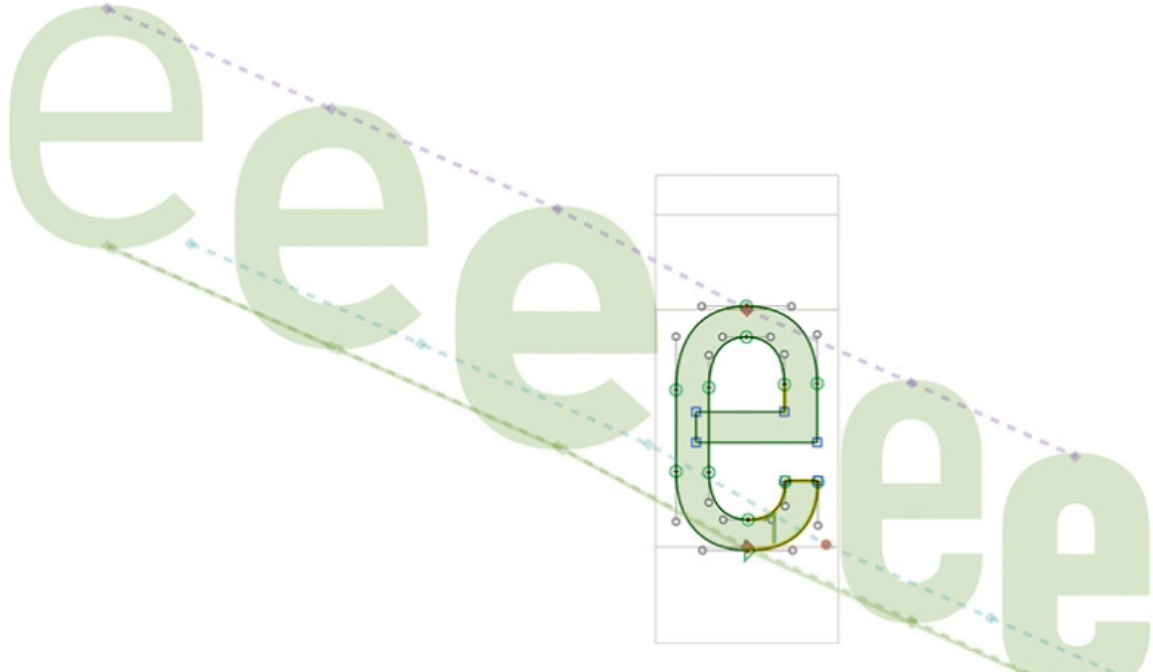
Variable Fonts Demo | Microsoft x

Sicher | https://developer.microsoft.com/en-us/microsoft-edge/testdrive/demos/variable-fonts/

Oliver

Contents

ENTER VARIABLE FONTS



Similarly, many web developers have advocated a return to system font stacks, prioritizing performance over brand cohesion or design differentiation. Performance has the potential for major impact on user experience and a business's bottom line, and so the web community needed to figure out how to balance this priority against the desire for beautiful typography.

To help solve this problem, one of the most impactful changes was made to the OpenType font format in collaboration by Adobe, Apple, Google, Microsoft and others. The solution was to enable font designers to provide

Pause animations



Chrome

```
h1 { font-size: 20vmax; }  
h2 { font-size: 11vmax; }  
h3 { font-size: 5vmax; }
```



Safari

Supports font-optical-sizing: auto by default

Hand times

Axis-Praxis: Variable Fonts in t x

Sicher | https://www.axis-praxis.org/specimens/amstelvar

Oliver

AXISPRAXIS

playgroundblogresourcessupport

Introduction

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Old Default

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Dunbar

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Amstelvar

The OpenType Font Variations format includes a broad range of standard variables:

weights from heavy to light, widths from wide to narrow, optical sizes from small to large, contrast, serif slope, and a few others which are currently on the drawing board. This demo variation font includes a Weight axis that lightens without change horizontally or vertically, to the white space, and darkens the same way, without decreasing the white space, just changing the black, and the widths of the glyphs.

TEXTBOX

Textboxheading

FontAmstelvarAlpha Default

Drag & drop fonts here

Font size

Line-height

Alignment

CSSNew textboxDelete textbox

FONT VARIATIONS

Instance

Weight94.373

Width804

Optical Size48.606

x opaque157.825

x transparent291.84

y opaque50

lc y transparent500

Serif height18

Grade88

x transparent C1000

y transparent C1000

y transparent a750

y transparent d250

y transparent u750

y transparent1000

Overchoice
Many options make it harder and require much more knowledge

Static Fonts

Variable Font



Static Fonts

Variable Font



90 KB



220 KB

Single font



€ 30–60

Font family



€ 300–700

Single font



€ 30–60

Variable font



€ ?

Font family



€ 300–700

MutatorSans

MUTATOR
MUTATOR
MUTATOR
MUTATOR

This project consists of [UFO](#) source font data for a small 2 dimensional [designspace](#).

- Weight and width axes, 2 intermediates.
- Intended for testing all sorts of [variable](#) and [mutator math](#) and making it not look entirely stupid.
- Contains components.
- Cubic outlines.
- Working minimal Variable Font, however without STAT table, or complete characterset
- I may or may not add to the characterset.

Building in RoboFont

- Install the [Batch RoboFont extension](#)

Open
Source

TYPE+TECH®

SHOP

Buy 12 styles Get variable fonts

Black[Foundry] strives to stay on top of the latest advancements in font technology.

To help you get acquainted with the groundbreaking new font format, we offer you the Vesterbro variable fonts for free when you buy the full family.

Vesterbro



FREE TRIAL

Buying options

CHOOSE LICENCE

- ☒ Desktop Up to 3 users
- ☐ Webfont
- ☐ App

VESTERBRO FULL FAMILY

- ☐ 12 fonts + 2 Variables **-20%** 344€

VESTERBRO ROMANS

- ☐ 6 weights + Variable **-20%** 172€

VESTERBRO ITALICS

- ☐ 6 weights + Variable **-20%** 172€

INDIVIDUAL WEIGHTS

- ☐ Vesterbro-Light 35€
- ☐ Vesterbro-LightItalic 35€
- ☐ Vesterbro-Regular 35€
- ☐ Vesterbro-Italic 35€

Add on

Dunbar variable font

Example movie of what a single variable font can do with weight and x-height axes. Live demo.

Dunbar Series | ← Buy Var Font

Tall Tall Tall Tall Tall Tall Tall Tall Tall Tall Low Low Low Low Low Low Low Text Text Text Text

Dunbar Tall | ← Buy Var Font

Tall Tall Tall Tall Tall Tall Tall Tall Tall Tall

Dunbar Low | ← Buy Var Font

Low Low Low Low Low Low Low Low

Dunbar Text | ← Buy Var Font

Retail

Variable font technology from Adobe

Adobe is deeply involved with the development of the technology behind variable fonts. This page is where we'll keep an ongoing record of our progress.

Our team is keeping track of the conversation on [TypeDrawers](#), and you can also keep an eye on us via [Twitter](#).

Articles & Interviews

[Introducing Variable Fonts](#)

Start here with our overview: What are variable fonts, and what's so different about the way they work?

[Adobe releases a prototype variable font](#)

Font developers will need to see how variable fonts work from the inside out, and we're making the tools openly available on GitHub.

Subscription Model?

Summing up

- **One font file** with many possible styles
- **Fine graded influence** for better typography – when you know what you're doing
- **Improvements by default** with optical-sizing
- **Performance gain** under certain conditions

Resources

- **For new releases** v-fonts.com and twitter.com/variablefonts
- **Testing variable fonts** axis-praxis.org
- **List of available variable Fonts** by Indra Kupferschmid
- **Various talks** about variable fonts by [TYPO Labs 2018](#)
- **Getting started with variable fonts** by Richard Rutter
- **How to use variable fonts in the real world** by Richard Rutter

Be more variable

Slides on speakerdeck.com/glyphe

Oliver Schöndorfer  [glyphe](#) [8660.at](#)