Vindolanda: a font that reproduces old Roman cursive

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Abstract

Vindolanda is an open-source and free font that reproduces the letterforms in Latin manuscripts found during excavations at a Roman auxiliary fort in northern England. Most of the letters in this font copy the writing on the wooden tablets from Vindolanda, i.e. early Roman cursive, but in a strict modern sans-serif, which allows you to combine the originality of the lettering in manuscript documents with the beauty of regularity in the typographic era. The font can be used for more authentic reproduction in books and on websites of texts written in Roman cursive, as well as for educational purposes to practice reading texts written in Roman cursive. Uppercase and lowercase letters are not distinguished. In addition to the letters of the Latin alphabet, the font contains the letters of the Cyrillic alphabet and the extended Cyrillic alphabet for minor languages. These letters were created for entertainment purposes and have no historical basis.

Introduction

This document presents a typeface that reproduces the appearance of the Roman cursive in its ancient version. It is modeled on the letters read on wooden tablets found during excavations in Vindolanda

> The anaerobic conditions at the Roman fort of Vindolanda, close to Hadrian's Wall in northern Britain, have famously preserved a variety of finds made of organic materials, including wooden writing tablets and a pair of leather boxing gloves. [1]

The most famous is tablet 291 with a birthday invitation from Claudia Severa. Her letters are mainly used as a model for the font.

> The elegant script in which this letter is written is also probably to be recognised in 243, 244 and 248. The letters are slim, with marked ascenders and descenders, and very little use of ligature. [2]

The goal of the font is to combine the specificity of lettering in handwritten documents with the beauty of regularity in the typographic era. In this sense, the task of creating a font is similar to the one pursued in the creation of the antiqua. In the era of creating typefaces for early book printing, typographers also focused on how letters were handwritten, but the letters were uniform and didn't look too varied.

Vindolanda font is a modern sans-serif font that is designed in a unified style. Its character is determined by the antiquity and manuscript character of the prototype 1, and at the same time by the opposite trend: the modern appearance of mass-produced fonts.

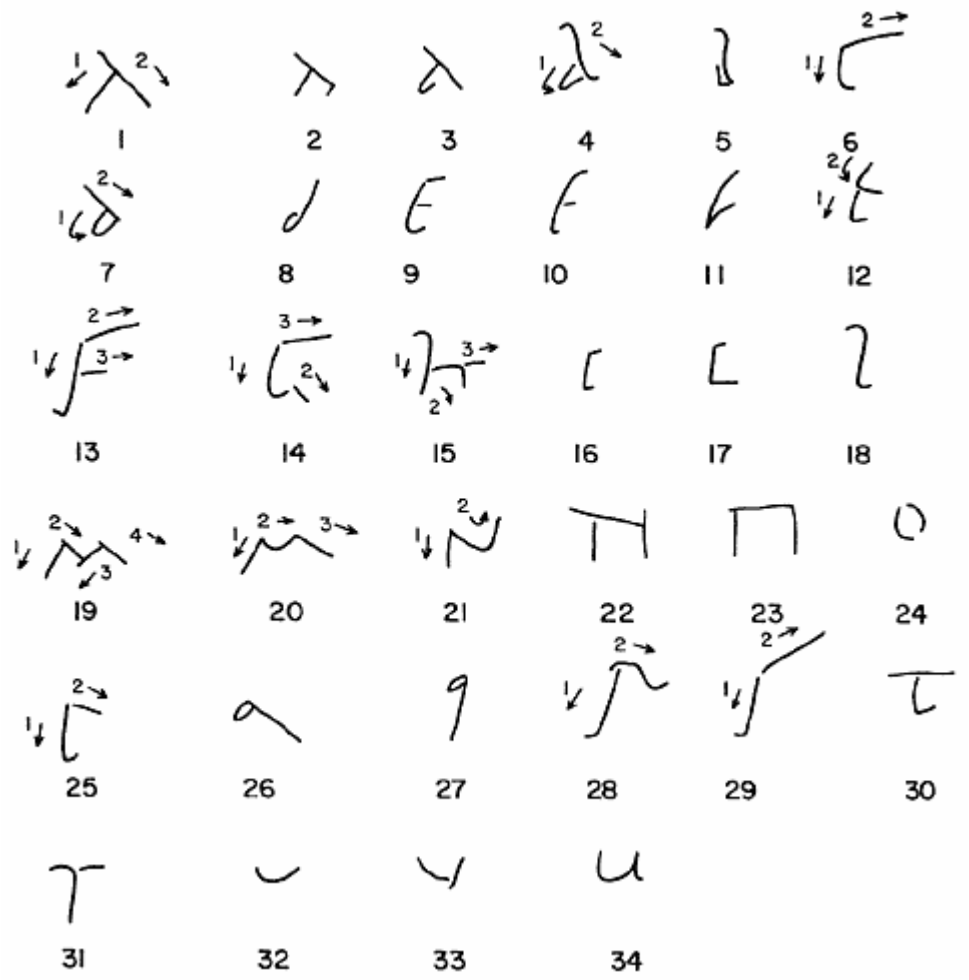


Figure 1: Letter-forms in the tablets. Image ownership: © Society for the Promotion of Roman Studies.

B. Voronetsky and E. Kuznetsov say on ancient Greek writings:

> It is unusually simple, built sparingly clear lines of uniform thickness. [3]

I'm aiming for the same stylistic guidelines when I'm working on the Vindolanda font.

They also write about the Latin font:

> Roman font was not something uniform and constant: it was noticeably modified and existed in various forms. Its basic and original form is the capital font (lat. *caitalis* – large, main, solid), also called majusculus (lat. *majusculis* – somewhat larger), because it consists exclusively of capital (large) letters. An inscription made by majusculus is placed strictly between two horizontals, without a single line going beyond the line formed by them. Majuscule is, first of all, the font of solemn writings carved on columns, triumphal arches and walls. (...) Its technology (...) is careful slow carving in a stone slab along a predetermined contour. (...) He is clear, harmonious and stately. (...) Another variant of the handwritten Latin writing was cursive (lat. currêre – to run; running, means slanted). In cursive, letters were simplified, joined together, and lost some details. Quickness was achieved at the cost of loss: clarity, clarity, beauty suffered. Therefore, italics (in its various forms) was used only for business records and letters.

Vindolanda returns clarity and precision of Greek writings to Roman cursive.

Thus, it is not necessary to appeal to modernity to justify the need for this typeface.

In addition to the letters of the Latin alphabet, the font contains the letters of the Cyrillic alphabet and the extended Cyrillic alphabet for minor languages such as Bashkir, Tatar and Udmurt. These letters were created for entertainment purposes and have no historical basis. They represent only my fantasies on how the Cyrillic alphabet based on Roman cursive could have been look like. Nevertheless, the Cyrillic letters are based on the Latin letters in one way or another. How they were designed is explained in a special section in this document.

This fancy Cyrillic was created out of a desire to make the typeface more usable and out of a desire to popularize the Roman cursive lettering.

The font can be used for more authentic reproduction in books and on websites of texts written in Roman cursive, as well as for educational purposes to practice reading texts written in Roman cursive. The font can also serve as a secret spelling for kids who want to start their own private club, like in the “Dead Poets Society” movie.

The shape of the letters

Overview

Traditionally, letters are drawn on the background of a grid of 16 squares proposed by A. Dürer to show their correct proportions 2. But the very nature of cursive contradicts this idea.

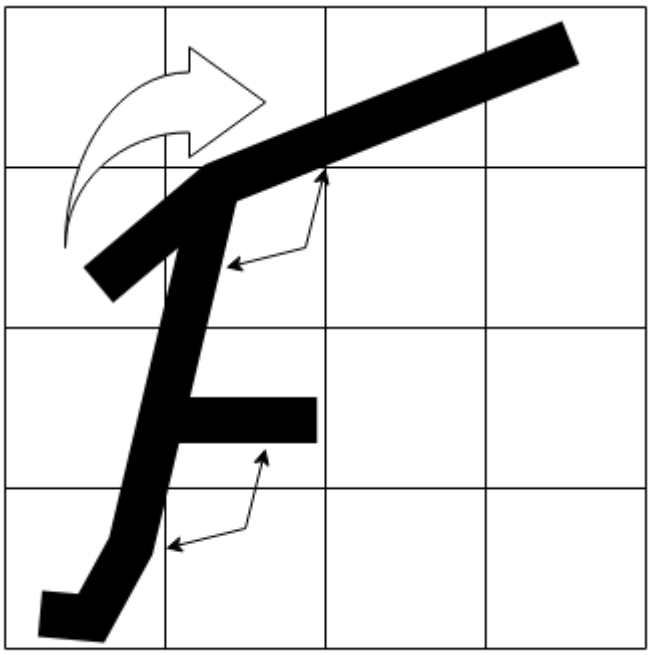


Figure 2: Letter F in Vindolanda..

Vindolanda is a disproportionate, fractured typeface in which the free spirit of hand-drawn letters is slightly reduced to the order we know from book printing. And it is in these fractured lines that the archaic beauty of this typeface lies. The result is something between ancient runes and the constructed writings of space civilizations in sci-fi movies 3.

Figure 3: Letter permutations, a fragment.

Letters

Let's compare original letters from Vindolanda and letters from Vindolanda fontface, starting with the letter A 4.

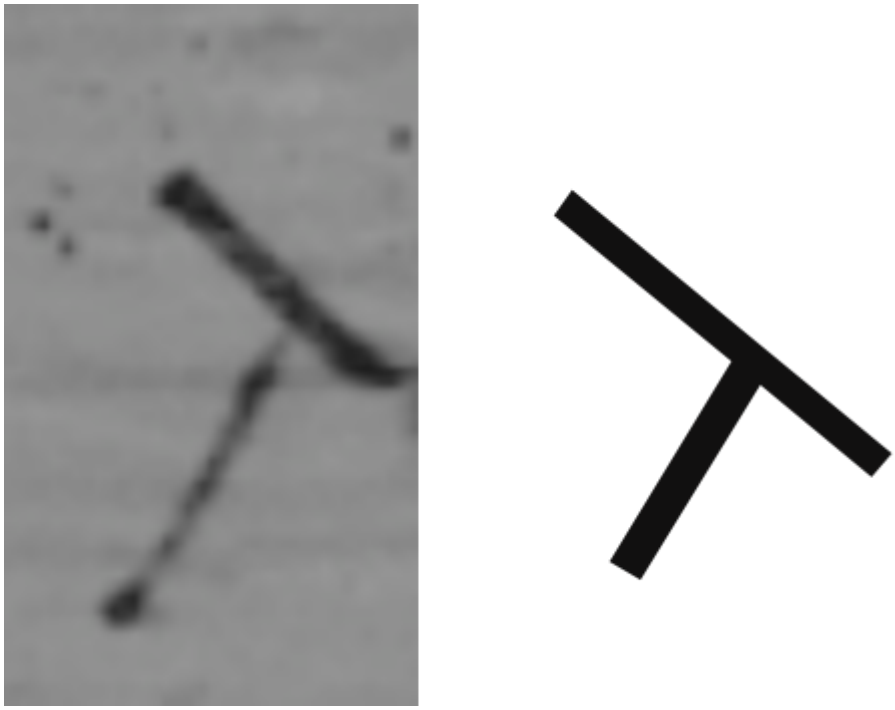


Figure 4: Letter A from tablet and from the fontface.

One of the most unlike letters we're used to 5.

Figure 5: Letter B from tablet and from the fontface. Very vertical with a stand-alone element.

It was very important to keep the angle of the stem 6. Through such lettering, we better understand the history of letters. The C was not always rounded. It was written in two linear movements. In cursive, this method is captured.

Figure 6: Letter C from tablet and from the fontface.

The letter d had to be modified a bit to keep the overall character and uniformity of the font, it became more like a and b 7.

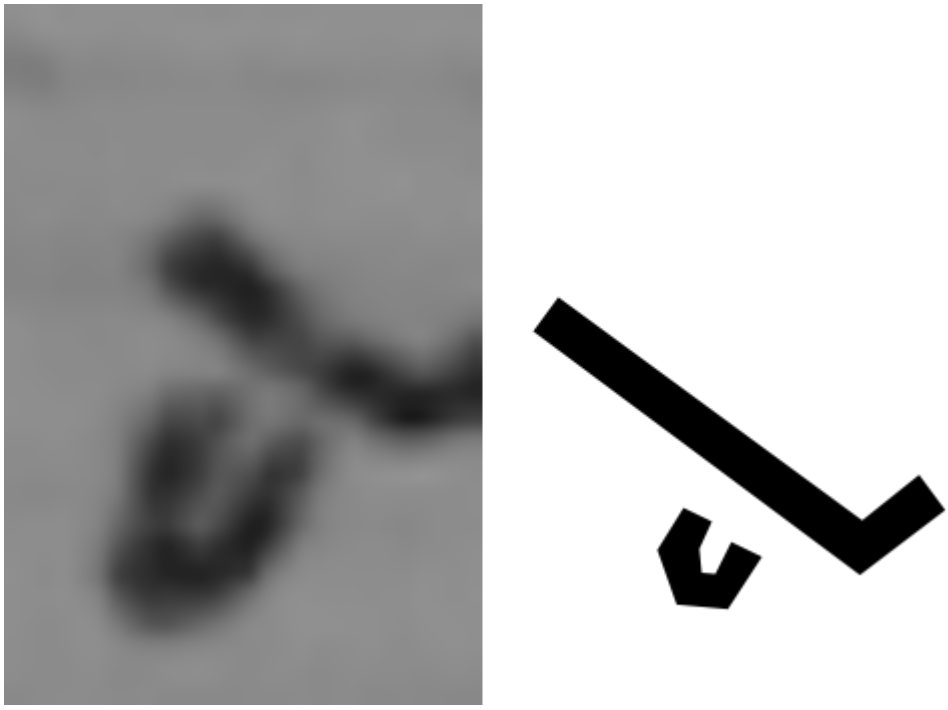


Figure 7: Letter D from tablet and from the fontface.

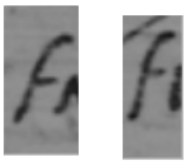
e		
f		
g		
h		

Figure 8: Letters from tablet and from the fontface. 1/3

Sans-serif fonts are not only sans serif. They also tend to have stems, hairlines and bars of equal thickness. In general, this rule is followed, except for the letter L, in which the seal in the crossbar

emphasizes the origin of the letter from handwriting.

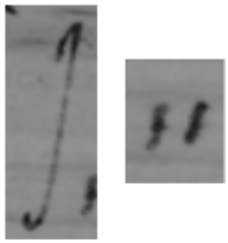
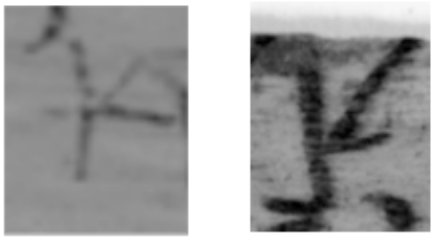
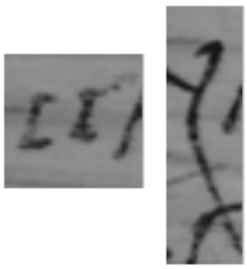
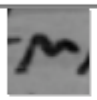
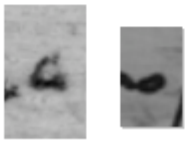
i		I
j	=i	J
k		K
l		L
m		M
n		N
o		C

Figure 9: Letters from tablet and from the fontface. 2/3

It was a challenge not only to draw the letter q, but even to find it on tablets from Vindolanda. It is here, but it is very different from the other lettering. I had to change the appearance of the letter and adjust it to the general character of the font 10.

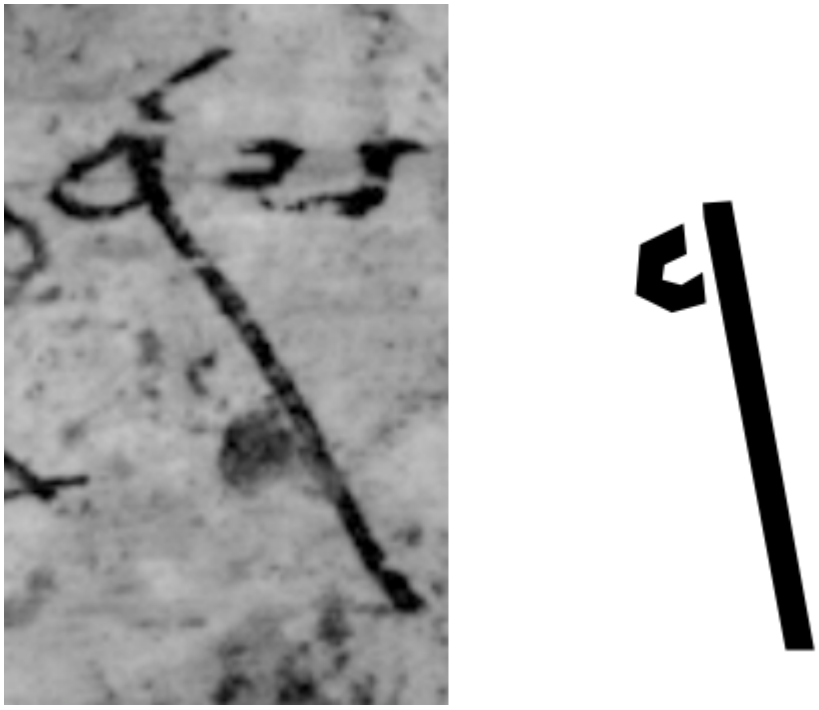


Figure 10: Letter D from tablet and from the fontface.

Letters U and V are the same.

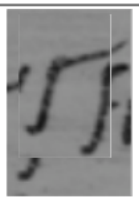
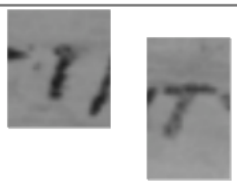
r		
s		
t		
u		

Figure 11: Letters from tablet and from the fontface. 3/3

Kerning

Examples

Typically, fonts are demonstrated using pangrams. But is there a pangram for Latin? This is a bit of a complicated question, internet users try to answer it here. Let's take advantage of their findings 12.

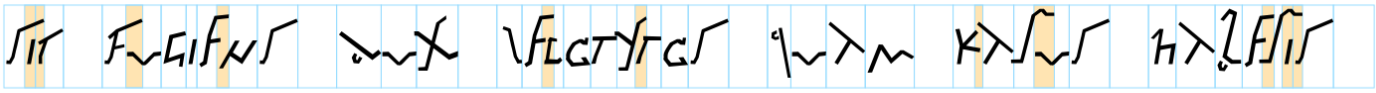


Figure 12: Latin pangram. Sic fugiens, dux, zelotypos quam Karus haberis.

> The translation I see floating around the internet is odd, though: *Thus fleeing, O leader, you are regarded with jealousy like Karus.*

And one more 13.

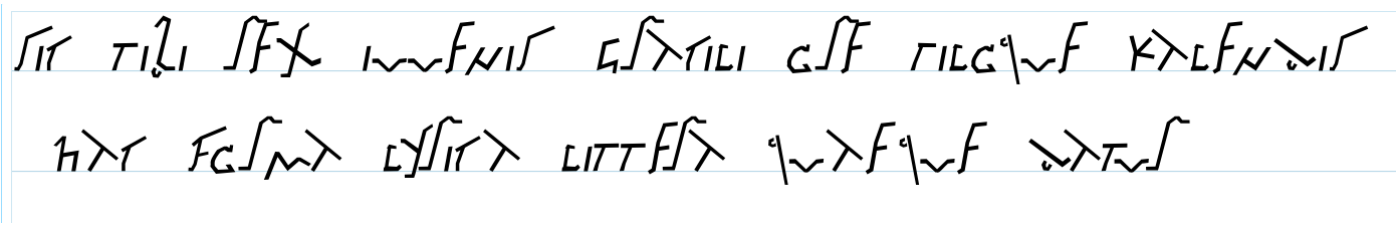


Figure 13: Latin pangram. Sic tibi rex iuvenis gracili ore piloque Kalendis / hac forma lyrica littera quaeque datur.

> Free translation: *Young king with simple face and hair, this is how you are given every letter through this lyrical form on the first day of the month.*

Now let's try to type an original birthday invitation from Vindolanda's tablet 14. See original here.

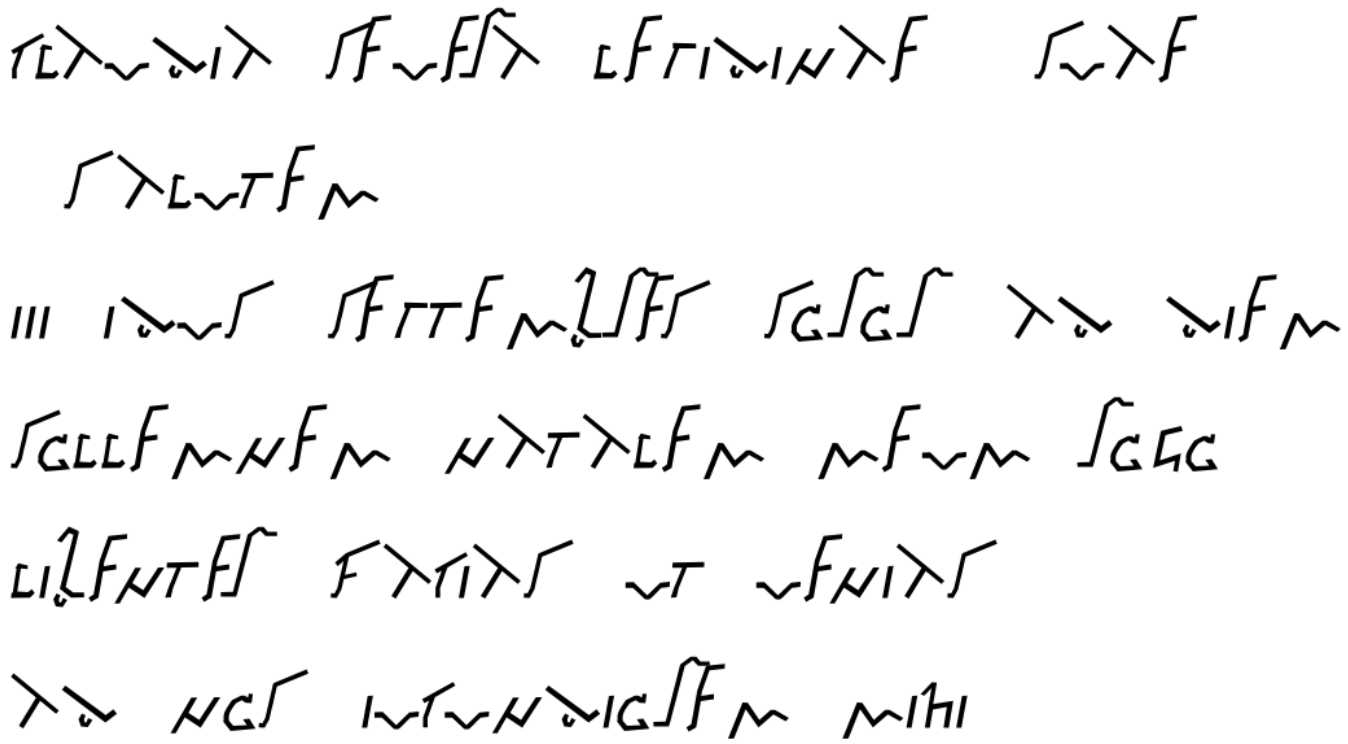


Figure 14: Birthday Invitation of Sulpicia Lepidina.

Cyrillic

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Source project

My other fonts

Bold text

Semi-bold text

Centered text

Right-aligned text

Italic text

Combined *italics and **bold***

~~Strikethrough~~

1. Ordered list item
2. Ordered list item
    a. Sub-item
    b. Sub-item
        i. Sub-sub-item
3. Ordered list item
    a. Sub-item

- List item
- List item
- List item

subscript: H_2O is a liquid

superscript: 2^{10} is 1024.

unicode superscripts^{0123456789}

unicode subscripts$_{0123456789}$

A long paragraph of text. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Putting each sentence on its own line has numerous benefits with regard to editing and version control.

Line break without starting a new paragraph by putting
two spaces at end of line.

Document organization

Document section headings:

A heading centered on its own printed page

Horizontal rule:

Links

Bare URL link: https://manubot.org

Long link with lots of words and stuff and junk and bleep and blah and stuff and other stuff and more stuff yeah

Link with text

Link with hover text

Link by reference

Citations

Citation by Wikidata ID [4].

Citation by ISBN [5].

Citation by alias [6].

Multiple citations can be put inside the same set of brackets [5,6,7]. Manubot plugins provide easier, more convenient visualization of and navigation between citations [6,8,9,10].

Citation tags (i.e. aliases) can be defined in their own paragraphs using Markdown's reference link syntax:

Referencing figures, tables, equations

Figure 15

Figure 16

Figure 17

Figure 18

Table 1

Equation ??

Equation ??

Quotes and code

Code `in the middle` of normal text, aka `inline code`.

Code block with Python syntax highlighting:

```python
from manubot.cite.doi import expand_short_doi

def test_expand_short_doi():
    doi = expand_short_doi("10/c3bp")
    # a string too long to fit within page:
    assert doi == "10.25313/2524-2695-2018-3-vliyanie-enhansera-copia-i-
        insulyatora-gypsy-na-sintez-ernk-modifikatsii-hromatina-i-
        svyazyvanie-insulyatornyh-belkov-vtransfetsirovannyh-geneticheskih-
        konstruktsiyah"
```

Code block with no syntax highlighting:

```
Exporting HTML manuscript
Exporting DOCX manuscript
Exporting PDF manuscript
```

Figures

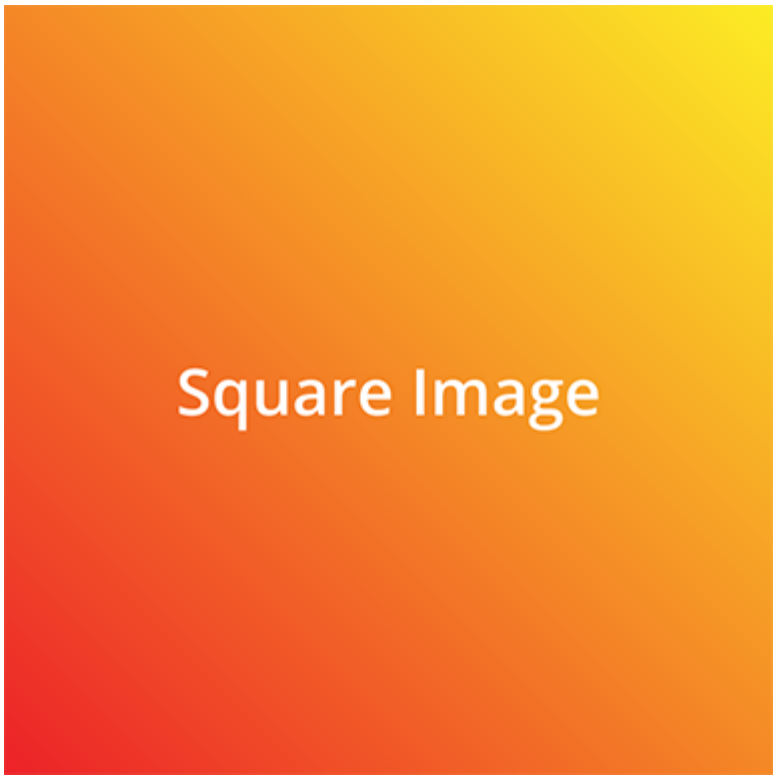

Figure 15: A square image at actual size and with a bottom caption. Loaded from the latest version of image on GitHub.

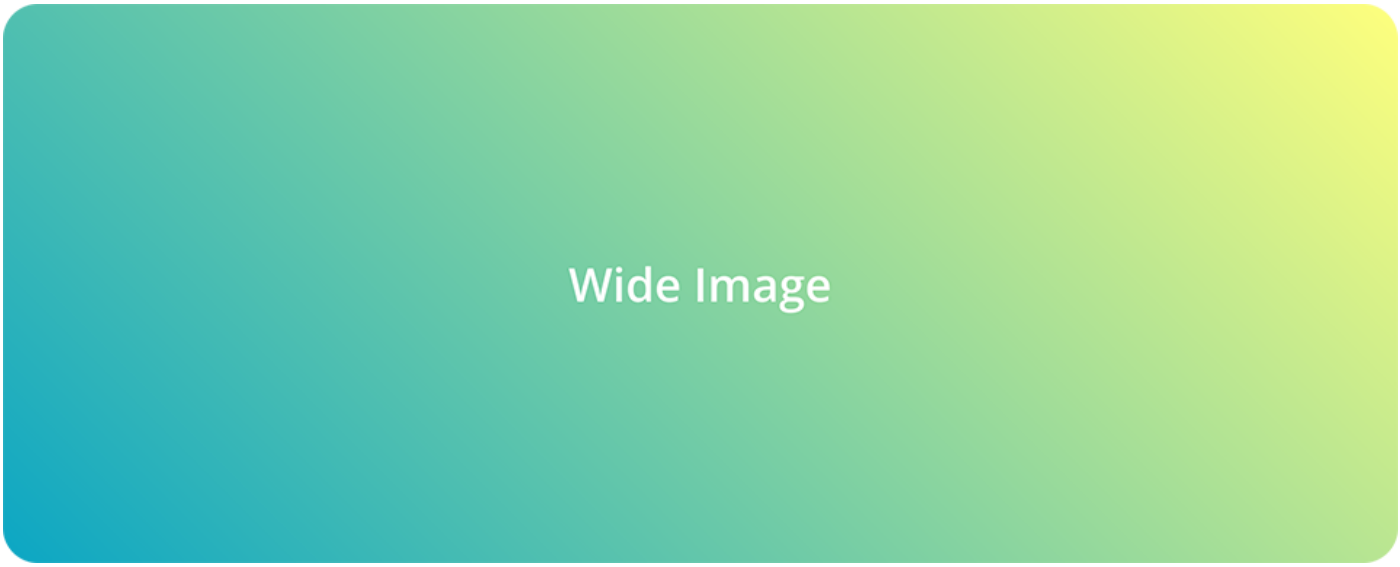

Figure 16: An image too wide to fit within page at full size. Loaded from a specific (hashed) version of the image on GitHub.

Figure 17: A tall image with a specified height. Loaded from a specific (hashed) version of the image on GitHub.

Figure 18: A vector `.svg` image loaded from GitHub. The parameter `sanitize=true` is necessary to properly load SVGs hosted via GitHub URLs. White background specified to serve as a backdrop for transparent sections of the image. Note that if you want to export to Word (`.docx`), you need to download the image and reference it locally (e.g. `content/images/vector.svg`) instead of using a URL.

Tables

Table 1: A table with a top caption and specified relative column widths.

Bowling Scores	**Jane**	**John**	**Alice**	**Bob**
Game 1	150	187	210	105
Game 2	98	202	197	102
Game 3	123	180	238	134

Table 2: A table too wide to fit within page.

	Digits 1-33	**Digits 34-66**	**Digits 67-99**	**Ref.**
pi	3.14159265358979323 846264338327950	28841971693993751 0582097494459230	78164062862089986 2803482534211706	`piday.org`
e	2.71828182845904523 536028747135266	24977572470936999 5957496696762772	40766303535475945 7138217852516642	`nasa.gov`

Table 3: A table with merged cells using the `attributes` plugin.

	Colors	
Size	**Text Color**	**Background Color**
big	blue	orange
small	black	white

Special

⚠ **WARNING** *The following features are only supported and intended for* `.html` *and* `.pdf` *exports. Journals are not likely to support them, and they may not display correctly when converted to other formats such as* `.docx`*.*

LINK STYLED AS A BUTTON

Adding arbitrary HTML attributes to an element using Pandoc's attribute syntax:

> Manubot Manubot Manubot Manubot Manubot. Manubot Manubot Manubot Manubot. Manubot Manubot Manubot. Manubot Manubot. Manubot.

Adding arbitrary HTML attributes to an element with the Manubot `attributes` plugin (more flexible than Pandoc's method in terms of which elements you can add attributes to):

> Manubot Manubot Manubot Manubot Manubot. Manubot Manubot Manubot Manubot. Manubot Manubot Manubot. Manubot Manubot. Manubot.

Available background colors for text, images, code, banners, etc:

`white` `lightgrey` `grey` `darkgrey` `black` `lightred` `lightyellow` `lightgreen` `lightblue` `lightpurple` `red` `orange` `yellow` `green` `blue` `purple`

Using the Font Awesome icon set:

✔ ? ★ 🔔 ⊗ •••

Light Grey Banner
useful for *general information* - manubot.org

Blue Banner
useful for *important information* - manubot.org

Light Red Banner
useful for *warnings* - manubot.org

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6. **Opportunities and obstacles for deep learning in biology and medicine**
Travers Ching, Daniel S Himmelstein, Brett K Beaulieu-Jones, Alexandr A Kalinin, Brian T Do, Gregory P Way, Enrico Ferrero, Paul-Michael Agapow, Michael Zietz, Michael M Hoffman, … Casey S Greene
Journal of The Royal Society Interface (2018-04) https://doi.org/gddkhn
DOI: 10.1098/rsif.2017.0387 · PMID: 29618526 · PMCID: PMC5938574

7. **Sci-Hub provides access to nearly all scholarly literature**
Daniel S Himmelstein, Ariel Rodriguez Romero, Jacob G Levernier, Thomas Anthony Munro, Stephen Reid McLaughlin, Bastian Greshake Tzovaras, Casey S Greene
eLife (2018-03-01) https://doi.org/ckcj
DOI: 10.7554/elife.32822 · PMID: 29424689 · PMCID: PMC5832410

8. **Open collaborative writing with Manubot**
Daniel S Himmelstein, Vincent Rubinetti, David R Slochower, Dongbo Hu, Venkat S Malladi, Casey S Greene, Anthony Gitter
PLOS Computational Biology (2019-06-24) https://doi.org/c7np
DOI: 10.1371/journal.pcbi.1007128 · PMID: 31233491 · PMCID: PMC6611653

9. **Bitcoin for the biological literature.**
Douglas Heaven
Nature (2019-02) https://www.ncbi.nlm.nih.gov/pubmed/30718888
DOI: 10.1038/d41586-019-00447-9 · PMID: 30718888

10. **Reproducibility of computational workflows is automated using continuous analysis**
Brett K Beaulieu-Jones, Casey S Greene
Nature biotechnology (2017-04) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6103790/
DOI: 10.1038/nbt.3780 · PMID: 28288103 · PMCID: PMC6103790