

Unifraktur Maguntia

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For those who grew up (partly) with books typeset with blackletter, this typesetting still has some attraction. – There are quite some blackletter fonts out there, however not many are complete or offer the features required for this kind of typesetting. Unifraktur Maguntia is an example of a fairly complete blackletter font and it comes in the open type format as a ttf font. Here I want to present some of the properties and possibilities of this font.

Introduction

From my father in law I got once an old publication “Das Biegen des Holzes, W. F. Exner, bearb. G. Lauboeck, vierte Auflage, Leipzig, 1922”. This publication is typeset in blackletter. The paper of this booklet is however of a poor quality, in the meantime it is brittle due to deterioration/acidity. – Already a long time ago I wanted to re-typeset it for my own purposes. – Until recently I did not know a good way to typeset blackletter, I did not have a good complete font. Then I detected Unifraktur Maguntia.

History of Blackletter Typesetting in German

Blackletter typesetting has a long tradition in German speaking countries. This type of type was in use since the 16th century. Though during time the character-forms did not change fundamentally, each century had its own taste about certain typesetting elements. Interestingly there was never a strict use of these elements and the different tastes always coexisted.

In the first half of the 20th century blackletter typesetting vanished almost completely. The reasons for this are probably manyfold. The blackletter got discredited by the fact of the political situation around the second world war in Germany, but also because of intensified exchange of documents internationally, where the use of latin-roman alphabets were preferred.

Unifraktur Maguntia

Unifraktur Maguntia is a ttf font licensed under the SIL Open Font License, Version 1.1 and downloadable from its project website¹. The font comes with good documentation, which is recommended for further reading.

¹ <http://sourceforge.net/projects/unifraktur/files/fonts/UnifrakturMaguntia.2017-03-19.zip/download>

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Unifraktur Maguntia is a digitalization of a blackletter type known as “Mainzer Fraktur” designed by Carl Albert Fahrenwaldt. Maguntia is the Latin name of Mainz. The first versions of the digitized font were based on a digitalization by Peter Wiegel. In the meantime most of the original forms have been re-digitized and redrawn. Further the original “Mainzer Fraktur” set of glyphs is extended.

In the set of provided fonts there is first of all the font Unifraktur Maguntia, which can be configured in many, many ways. Additionally a series of preconfigured siblings of this font is provided, each of them aiming to reflect the style of typesetting of a specific century.

The following table shows the enabled font features in the preconfigured fonts.

Fontname	Active features
UnifrakturMaguntia16	: cv11, cv12, cv13, cv14, cv15, cv19, hlig, lnum, ss02
UnifrakturMaguntia17	: cv11, cv13, cv14, cv15, cv19, hlig, lnum, ss02
UnifrakturMaguntia18	: cv11, cv13, cv14, cv15, cv19, hlig, lnum
UnifrakturMaguntia19	: cv11, cv13, cv14, cv19, hlig, lnum
UnifrakturMaguntia20	: cv11, cv19, lnum
UnifrakturMaguntia21	: ss01

When using the different predefined fonts one gets results as shown below.

16th century *Rüß vnfre 48 Aerte vor Juan — ꝛ.*
17th century *Rüß vnfre 48 Aerte vor Juan — ꝛ.*
18th century *Rüß vnfre 48 Aerte vor Juan — ꝛ.*
19th century *Rüß vnfre 48 Aerte vor Juan — ꝛ.*
20th century *Rüß vnfre 48 Ärte vor Juan — etc.*
21th century *Rüss vnfre 48 Ärte vor Juan — etc.*

The difference between centuries are numerous and partly subtle.

Until the 17th century the letter v was used instead of the u. Look at “vnfre”. The letter r had a round form as in “vor”. The umlaut on minuscules was written as a small e on top of the vowel, where the capital umlaut was composed of the base letter and a following e. There is no distinction between I and J. The ‘etc.’ shortcut was typeset as a round r and a c. I have to admit that this feature, which is according to the font’s documentation implemented by hlig, I did not get working, so what you see above is composed of a symbol and the glyph c. Where nowadays an enddash is used it was an emdash. Numbers are typeset in antequa (roman).

In the 17th century the round form of the r vanished, but ‘etc.’ was typeset with the round r and a c.

In the 18th century consequently the u was typeset as an u and v as a v. The other characteristics of the previous centuries remained.

In the 19th century lower case umlauts were written as ä, ö and ü, whereas the capital umlauts were still typeset as a combination of the capital base vowel and a following e.

In the 20th century also capital umlauts were typeset with the diaeresis on top of the glyph. The round r plus c for ‘etc.’ is replaced by etc. There is now a distinction between I and J.

The version of the 21st century does not take into account historical accuracy and replaces more complex glyphs with simplified forms, and all long s are replaced by round s. The emdash is replaced by an endash. Numbers are typeset as old style numbers.

The main font contains the following types of numbers:

```
default      1234567890
onum + pnum  1234567890
onum + tnum  1234567890
lnum + pnum  1234567890
lnum + tnum  1234567890
```

Normally the swash on the round s is also present when this s is occurring at the beginning or inside of a word. The feature CV20 can be used to replace the swashed s with a round s without swash. Using this feature can increase readability.

```
samstags → samstags
musfulös → musfulös
```

Unifaktur Maguntia and CONT_EXT

After placing the fonts in the `texmf-fonts/fonts` directory one needs to update the font database by issuing two commands:

```
mtxrun --script fonts --reload
mtxrun --generate
```

Setting up the font

There are two basic approaches to set the font up.

Wolfgang’s method

```
\definefontfeature
  [maguntia]
  [mode=auto,script=latn,pnum=no,onum=no,lnum=yes]
\definefontfamily [unifaktur] [rm] [Unifaktur Maguntia]
\definefontfamily [unifaktur] [tt] [Latin Modern Mono]
\setupbodyfont[unifaktur,rm,10pt]
```

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Traditional approach with typescripts

```
\definefontfeature
[maguntia]
[default]
[mode=auto,script=latn,pnum=no,onum=no,lnum=yes]

\starttypescript[calligraphy][maguntia]
\definefontsynonym
[maguntia][file:UnifrakturMaguntia][features=maguntia]
\stotypescript

\starttypescript[calligraphy][maguntia][name]
\definefontsynonym[Calligraphy][maguntia]
\stotypescript

\starttypescript[maguntia]
\definetypface[maguntia][cg][calligraphy][maguntia][default]
\definetypface[maguntia][ss][sans] [latin-modern][default]
\definetypface[maguntia][rm][serif] [latin-modern][default]
\definetypface[maguntia][mm][math] [latin-modern][default]
\definetypface[maguntia][tt][mono] [latin-modern][default]
\stotypescript

\setupbodyfont[maguntia,cg,10pt]
```

This set of typescripts given here is basic. There is also a typescript file available which enables the use of the main font in its different appearances per century. If one needs to take into account more features than the font documentation contains the answers.

Emphasizing and blackletter

Generally there is no bold version of a blackletter font. Sometimes a bolder variant or a different but bolder typeface was used. There are a few slanted fraktur typefaces, however they did not spread widely. Sometimes a Schwabacher typeface of equal weight was used for emphasizing text, but rarely.

The common way to emphasize text in blackletter typesetting is the use of character kerning. There is an important fact to letter spacing: Never should the required ligatures i. e. ch, ck, st, tz and sz be kerned. Unifraktur Maguntia takes care of this.

In ConT_EXt we can define character spacing with

```
\definecharacterkerning[Characterspacing][factor=0.125]
\define[1]\sperr
{\setcharacterkerning[Characterspacing]#1}
```

```

{\definedfont[Maguntia19 at \fraktursize]%
  Gut, dass niemand weiß,
  dass ich {\sperr{Rumpelstilzchen}} heiß!}

```

Gut, dass niemand weiß, dass ich Rumpelstilzchen heiß!

The use of capitals for emphasizing text should be avoided. Even experienced blackletter readers have difficulties to read uppercase text:

THIS TEXT IS HIGHLY UNPLEASANT TO READ

Which is in normal text:

THIS TEXT IS HIGHLY UNPLEASANT TO READ

Hyphenation character

Out of the box no hyphenation char will be active. For Unifraktur Maguntia this must be setup explicitly;

```

\setuplanguage [de] [righthyphenchar=173]

```

German Spelling

When re-typesetting a text one can of course simply copy the way the text is typeset in the original. – Another story is when you want to write a new German text and typeset it in blackletter. Depending on the country where it is published, different rules apply. Austria e. g. tends to use the old spelling (Adelung), whereas Germany rather favors the new spelling (Heyse). On the other hand if the text should be published in Switzerland, again another spelling is used. One of the simpler things is that in Switzerland the ß is not used at all. – The most difficult matter is the choice of long versus round s. There exists a whole set of rules for this, but explaining those would be beyond this article. However, if you want to typeset German text in blackletter, then you will have to carefully study these rules.

Coming back to the afore presented sample it could look different in different environments:

19th century and before: old (Adelung) spelling:

Gut, dass niemand weiß, dass ich Rumpelstilzchen heiß!

20th century old spelling:

Gut, daß niemand weiß, daß ich Rumpelstilzchen heiß!

20th Century new (Heyse) spelling:

Gut, dass niemand weiß, dass ich Rumpelstilzchen heiß!

Notation for a localized text for Switzerland:

Gut, dass niemand weiss, dass ich Rumpelstilzchen heiss!

Sample Pages

The reason for investigating the Unifraktur Maguntia font is, as mentioned in the beginning, the publication “Das Biegen des Holzes, W. F. Exner, Leipzig, 1922”.

I did the effort to re-enter the whole text. I established a preliminary layout of the original page and it is possible to see how the text looks like with Unifraktur Maguntia.

In the following I would like to present some sample pages. When comparing the original with the new typesetting, one sees that the running width (tracking) of Unifraktur Maguntia is different from the original font. Further in the original the printer used a different font for the headline of the half-title.

When looking at the “Vorwort” (preface) page, it is obvious that the typesetter of the original text not only used a larger interlinespace but also added considerably bigger spacing between words. When looking at the table of contents it appears that they used some kind of bolder version of the font for the chapter titles, which can not be matched with Unifraktur Maguntia. – Although tuning is still needed, the typeset text already looks quite fine.

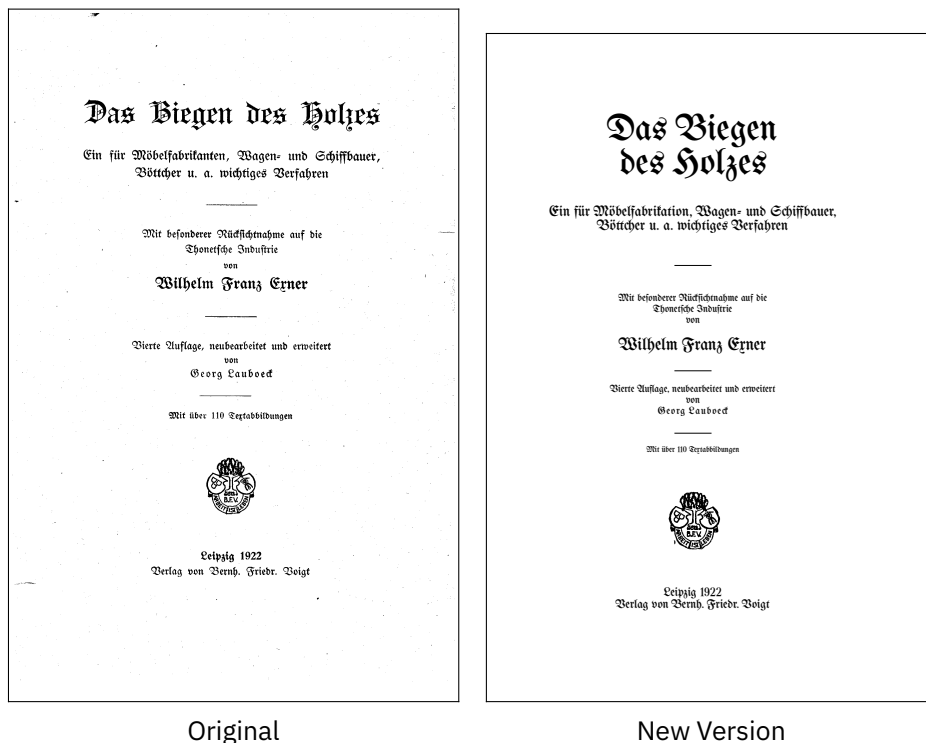
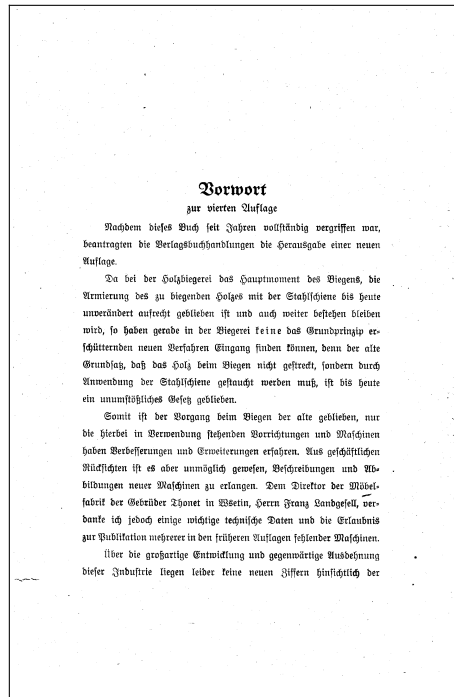
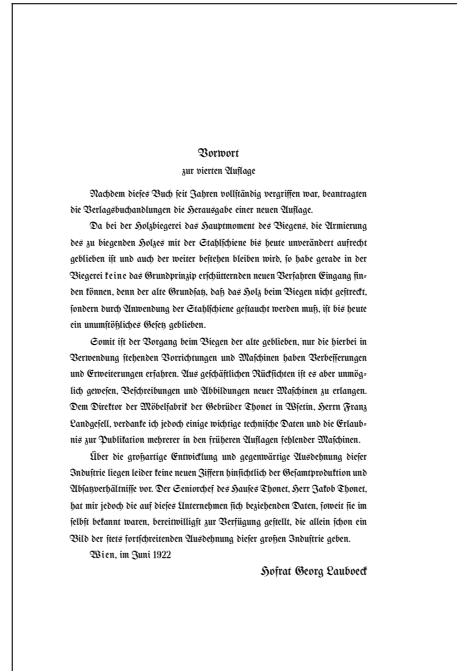


Figure 1. Title Page

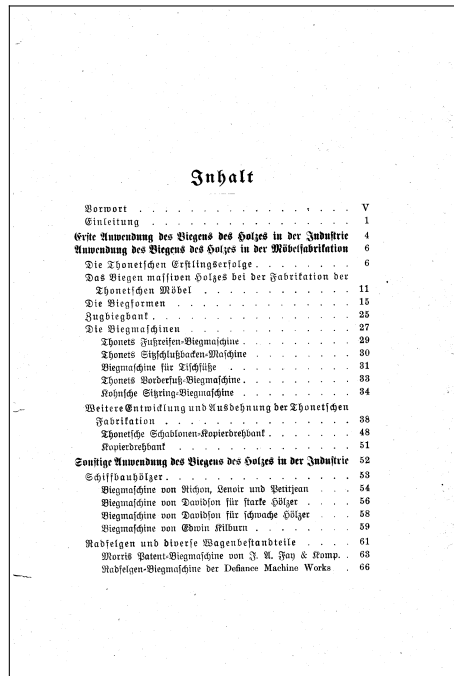


Original

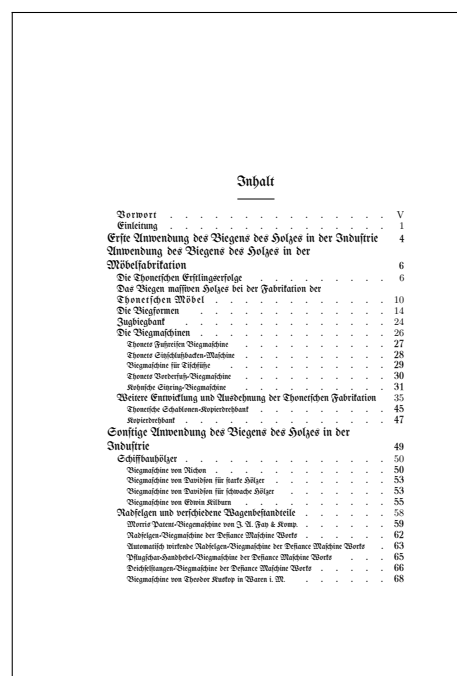


New Version

Figure 2. Preface



Original



New Version

Figure 3. Table of Contents

Summary

Unifraktur Maguntia appears to be a very complete font. It not only supports German, but also many other languages which have many diacritics on characters. There is a lot of heuristics built into the font, which enables it to deal with the choice of whether to typeset a long or a round s, and it can be configured to reflect the commonly used style of typesetting in a specific century. On top of this for untrained readers it is possible to use a stylistic set which activates the use of simpler forms of capital letters and some of the lower case letters. – Strangely the font contains only incomplete sub and superscript number sets.

Configuring the font Unifraktur Maguntia for a specific century can either be done by choosing the respective ttf file or add to the main font the necessary font features which are explained in the font documentation. Using the typescript provided in the distribution allows to use the main font and its variants per century based on the main font file.

Typesetting German text in blackletter requires to familiarize yourself with the rules concerning ß and long versus round s and carefully take into account localization.

Concerning the project's text I will have to accept that the result will never be a perfect reproduction of the original.

Acknowledgement

I would like to thank Wolfgang Schuster and Taco Hoekwater in helping me to get this font working properly. A big thank you to Hans Hagen for all the trickery available in ConT_EXt to manipulate modern/opentype fonts.