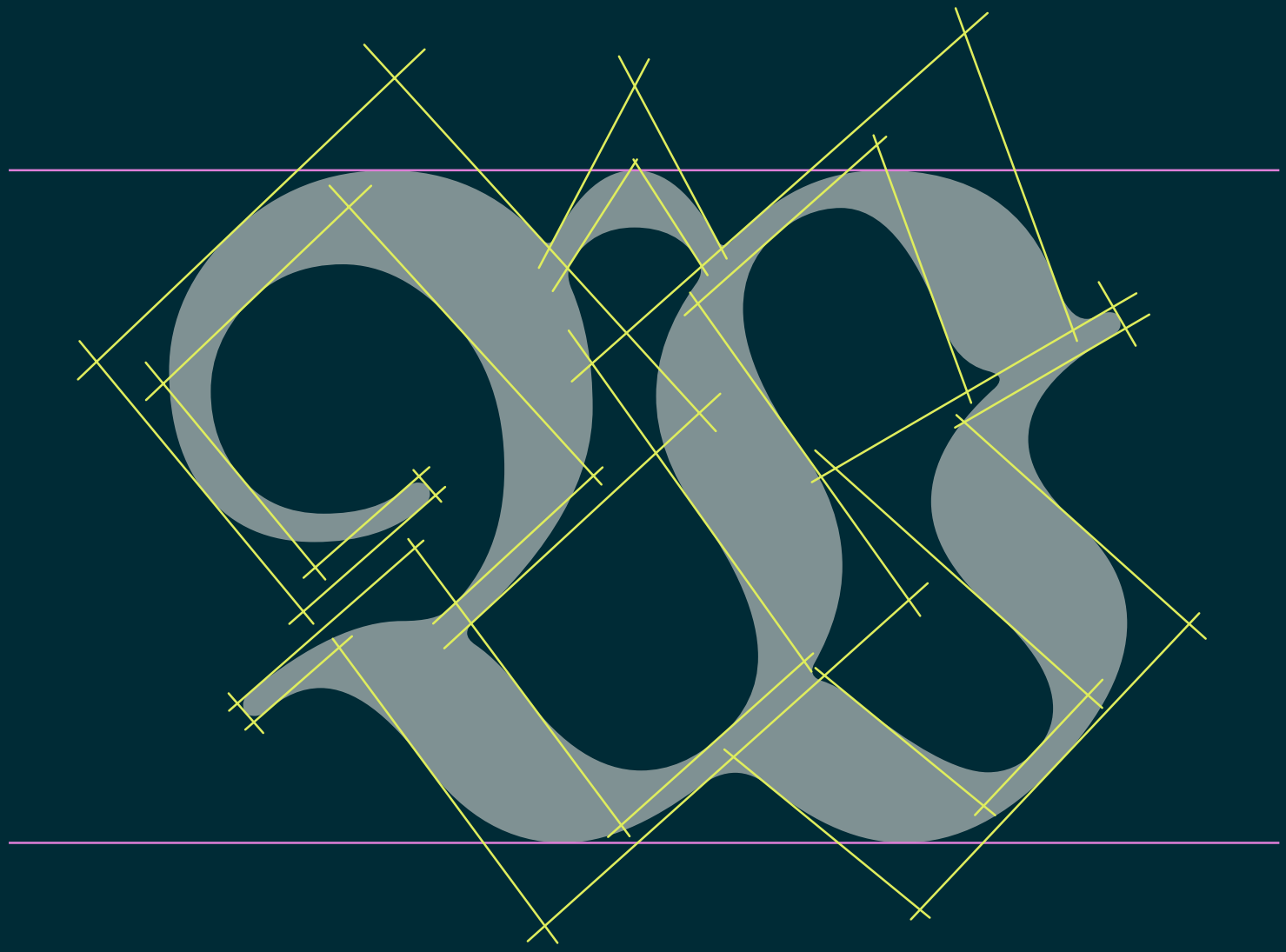
Unifraktur Maguntia



Manual (with General Rules for Typesetting Fraktur)

Gerrit Ansmann

Quick and Sometimes Dirty

If you do not want to read through this manual, try the ready-to-use variants UnifrakturMaguntiax (more):

- x = 16, 17, 18, 19, 20: The font tries to render your text in (German) xth-century typesetting. This strongly relies on OpenType features (and thus does not work with every program) and heuristics (and thus is not perfect).
- x = 21: Modern variant ignoring historical accuracy and aimed at readers who are not used to fraktur.

UnifrakturMaguntia16	Küſs vnſre 48 Aexte vor Juan — ꝛc.
UnifrakturMaguntia17	Küſs vnſre 48 Aexte vor Juan — ꝛc.
UnifrakturMaguntia18	Küſs unſre 48 Aexte vor Ivan — ꝛc.
UnifrakturMaguntia19	Küſs unſre 48 Aexte vor Ivan — ꝛc.
UnifrakturMaguntia20	Küſs unſre 48 Äxte vor Ivan — etc.
UnifrakturMaguntia21	Küss unsre 48 Äxte vor Ivan – etc.

About Unifraktur Maguntia

Unifraktur Maguntia is a digitalisation of the 1901 typeface Mainzer Fraktur by Carl Albert Fahrenwaldt that has been extended by several glyphs.

It aspires the following paradigms:

- Unicode conformity
- Usage of intelligent font standards such as OpenType
- Support of all characters which have ever existed as fraktur types
- Support of all currently used Latin-based alphabets
  – unless a disproportional effort is required

While the first versions of this font were based on a digitalisation by Peter Wiegel, all glyphs have been digitalised again or been redrawn by now.

The name *Maguntia* is derived from a Latin name of Mainz.

About this Manual

The term *fraktur* is used in its narrower sense, i.e., for a certain kind of blackletter fonts and not for blackletter fonts in general.

Unless noted otherwise, all descriptions of historical typesetting conventions and customs are based on surveying actual historical texts and dictionaries.

Table of contents:


Þjórsá
Åmål
Krišjāņi
Eðuvík
Værløse
Alšėnų
Pont-y-pŵl
Kłupońca
Łęczna
Wzendijke
Žďár
Topoľčany
Freÿr
Zeichenvorrat
Győr
Ëlwen
Gatscheab
Charnay-lès-Mâcon
Ţânţăren
Dulovac
Cruïlles
Forlì
Korçë
Çiçekdağı
Sátão
Haż-Żebbuġ
Ɔski Ġqrığ

Supported Current Alphabets

The following languages' current latin-based alphabets are covered by Unifraktur Maguntia:

Albanian
Azerbaijani
Catalan
Czech
Dansk
Dutch
English
Esperanto
Estonian
Faroese
Finnish
French
German
Icelandic
Irish
Hungarian
Latin
Latvian
Lithuanian
Lower Sorbian
Luxembourgish
Maltese
Norwegian
Polish
Portuguese
Romanian
Serbo-Croatian
Slovak
Slovene
Spanish
Swedish
Turkish
Upper Sorbian
Welsh

This list is not exhaustive and in particular omits alphabets that do not contain any characters in addition to the respective country's dominant alphabet. To conclusively tell whether a language is supported, you need to check the glyph coverage.

Supported Historic Alphabets

The following is a list of historically used characters sorted by language.
It also lists features that are of particular interest for historically typesetting
the respective languages.

- German: Aͤ aͤ Oͤ oͤ ſz Uͤ uͤ uͤ cv11 cv12 cv13 cv14 cv15 ss02 ss03
- Latvian: Â â Ê ê Ģ ģ Î î Ķ ķ Ļ ļ Ņ ņ Ô ô Ŗ ŗ Ś ś ſ ﬀ Û û cv28
- Norwegian: Aͤ aͤ Æ æ
- Czech and Slovak: ď ě Ğ ğ ň ř š š̈ ſ ť ž cv16 cv18 cv23 cv25 cv26 cv27
- Sorbian: ȧ ȧ̈ ä á â Ḃ ḃ ƀ ɓ Ć ċ ė é ẽ ê ḫ ḱ l̇ Ṁ ṁ ḿ Ṅ ṅ ȯ ô õ Ṗ ṗ ṕ Ṙ ṙ Ṛ ṛ ſz Ṡ ṡ Ś ſ Ś ś ů Ẇ ẇ Ẃ ẃ ẏ ÿ Ż ż Z̄ z̄ cv16 cv18 cv24

Characters that are neither accessible via their own Unicode points nor via a feature
can be accessed using combining diacritical marks. Ẅ and ẅ can be accessed
via U+E002 and U+E003 or using U+0337.

Glyph Coverage – Colours

The following pages contain all glyphs of Unifraktur Maguntia.
They are colour-coded as follows:

- Glyphs which were contained in Mainzer Fraktur
  (sometimes with a different design)
- Glyphs for support of contemporary texts of living languages
- Glyphs contained in some historic fraktur
- Modern variants (more information)
- Other Glyphs

𝔄, 𝔞 and Similar

𝔄 𝔄̈ 𝔄̀ 𝔄́ 𝔄̂ 𝔄̃ 𝔄̊ 𝔄̄ 𝔄̆ 𝔄̨

𝔞 𝔞̈ 𝔞̀ 𝔞́ 𝔞̂ 𝔞̃ 𝔞̊ 𝔞̄ 𝔞̆ 𝔞̨

𝔄 𝔄̈ 𝔄̀ 𝔄́ 𝔄̂ 𝔄̃ 𝔄̊ 𝔄̄ 𝔄̆ 𝔄̨

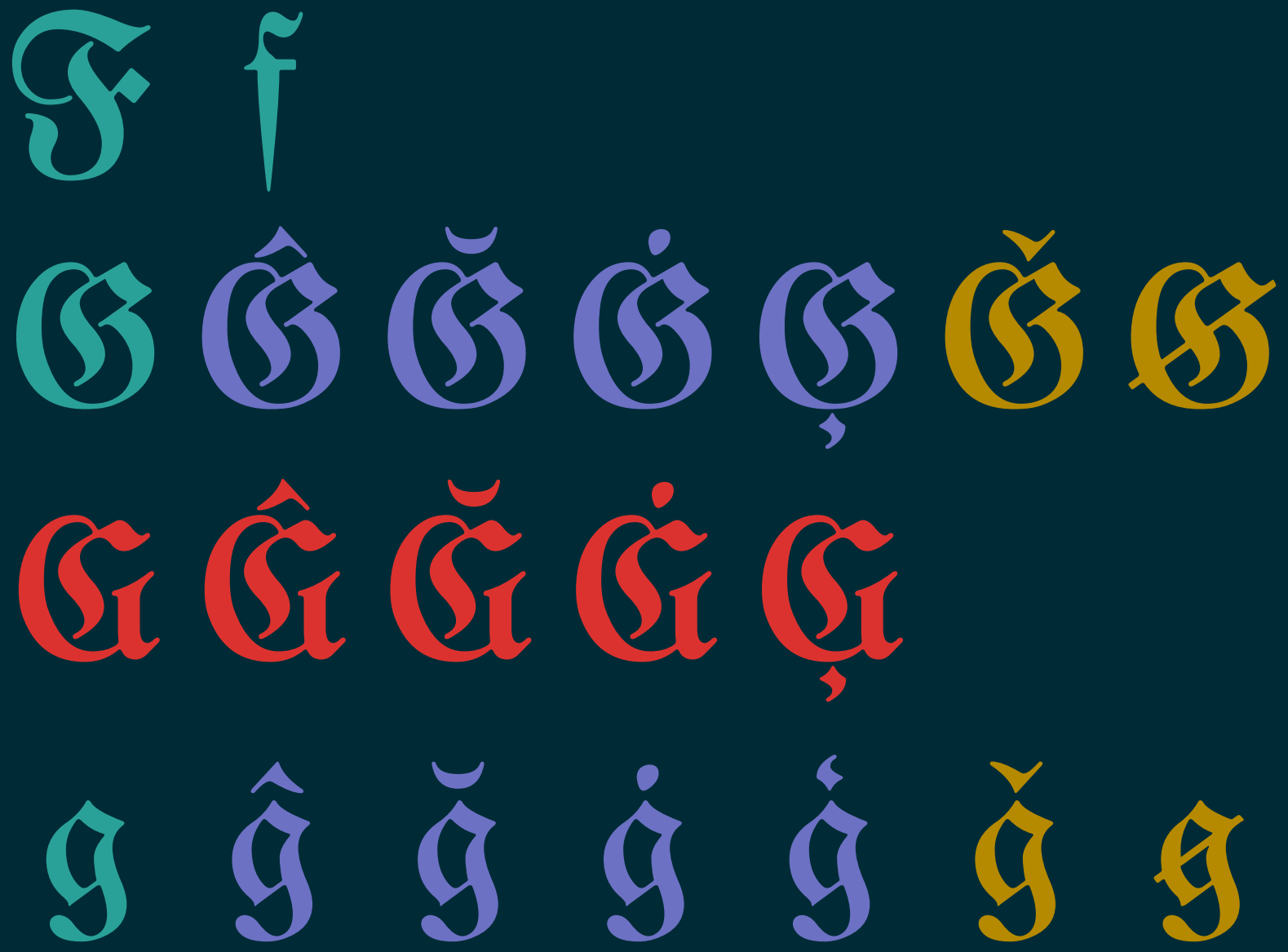
𝔞 𝔞̈ 𝔞̀ 𝔞́ 𝔞̂ 𝔞̃ 𝔞̊ 𝔞̄ 𝔞̆ 𝔞̨

𝔄̊ 𝔞̊ 𝔄̇ 𝔞̇ 𝔞̇ 𝔞̇

𝔄𝔈 𝔈 𝔄𝔈 𝔞𝔈 𝔄̄𝔈 𝔈̄ 𝔄̄𝔈 𝔞̄𝔈

𝔅, 𝔟, 𝔈, 𝔢, 𝔇, 𝔡, 𝔈, 𝔢 and Similar

F, f, G, g and Similar



ℌ, ℎ, ℑ, i, ℑ, j and Similar

ℌ ℎ Ĥ ĥ ℌ ℎ Ħ

ℑ i ℑ̀ ì ℑ́ í ℑ̂ î ℑ̈ ï

ℑ̃ ĩ ℑ̄ ī ℑ̆ ĭ ℑ̨ į ℑ̇ ı

ℑ ȷ ℑ̂ ȷ̂ 𝔍 ȷ̈ 𝔍́ ȷ́

𝔎, 𝔨, 𝔏, 𝔩, 𝔐, 𝔪 and Similar

𝔎 𝔨 𝔎̨ 𝔨̨ 𝔨́ 𝔎𝔨

𝔎 𝔨 𝔎̨ 𝔨̨ 𝔨́ ℜ

𝔏 𝔩 𝔏́ 𝔩́ 𝔏̨ 𝔩̨

𝔏̌ 𝔯 𝔏 𝔩 𝔩̇ 𝔩̇

𝔐 𝔪 𝔐̇ 𝔪̇ 𝔪́ 𝔪̄

𝔑, 𝔫 and Similar

𝔑 𝔑̃ 𝔑́ 𝔑̣ 𝔑̌ 𝔑̇

𝔑 𝔑̃ 𝔑́ 𝔑̣ 𝔑̌ 𝔑̇

𝔫 𝔫̃ 𝔫́ 𝔫̣ 𝔫̌ 𝔫̇

𝔑 𝔫 𝔫̄

𝔇, 𝔡 and Similar

𝔓, 𝔭, 𝔔, 𝔮, ℜ, 𝔯 and Similar

ſ, ſ, ſ and Similar

𝔗, 𝔱, 𝔘, 𝔲, 𝔙, 𝔳 and Similar

𝔗 𝔱 𝔗̌ 𝔱́ 𝔱̌ 𝔗̣ 𝔱̣

𝔘 𝔲 𝔘́ 𝔲́ 𝔘̀ 𝔲̀ 𝔘́ 𝔲́

𝔘̂ 𝔲̂ 𝔘̃ 𝔲̃ 𝔘̄ 𝔲̄ 𝔘̆ 𝔲̆

𝔘̊ 𝔲̊ 𝔘̋ 𝔲̋ 𝔘̨ 𝔲̨

𝔘̈ 𝔲̈ 𝔘̈ͤ 𝔲̊ͤ 𝔲̈ͤ

𝔘, 𝔲, 𝔚, 𝔴, 𝔛, 𝔵 and Similar

𝔘 𝔲 𝔙

𝔚 𝔴 𝔚̂ 𝔴̂ 𝔚̀ 𝔴̀

𝔚́ 𝔴́ 𝔚̈ 𝔴̈

𝔚̇ 𝔴̇ 𝔚̄ 𝔴̄

𝔛 𝔵 𝔵 𝔵

Ȝ, ȝ and Similar

Ȝ Ȝ́ Ȝ̂ Ȝ̈ Ȝ̀ Ȝ̄

ȝ ȝ́ ȝ̂ ȝ̈ ȝ̀ ȝ̄

ȝ ȝ́ ȝ̂ ȝ̈ ȝ̀ ȝ̄ ᷒

ȝ ȝ́ ȝ̂ ȝ̈ ȝ̀ ȝ̄

ȝ, ȣ, Similar and Miscellaneous Letters

Punctuation and Mathematical Operators

. , ; : = — —— ? ¿ ! ¡ _ ~ ” ’

( ) [ ] { } < > / | \ & § † ‡

› ‹ » « ‚ ‘ ’ „ “ ” • · ✲ ✲ ✣

\+ − × ÷ ± = #

Numerals

0 1 2 3 4 5 6 7 8 9 –

1 3 4 7

0 1 2 3 4 5 6 7 8 9 –

0 1 8

More Number Forms

0 1 2 3 4

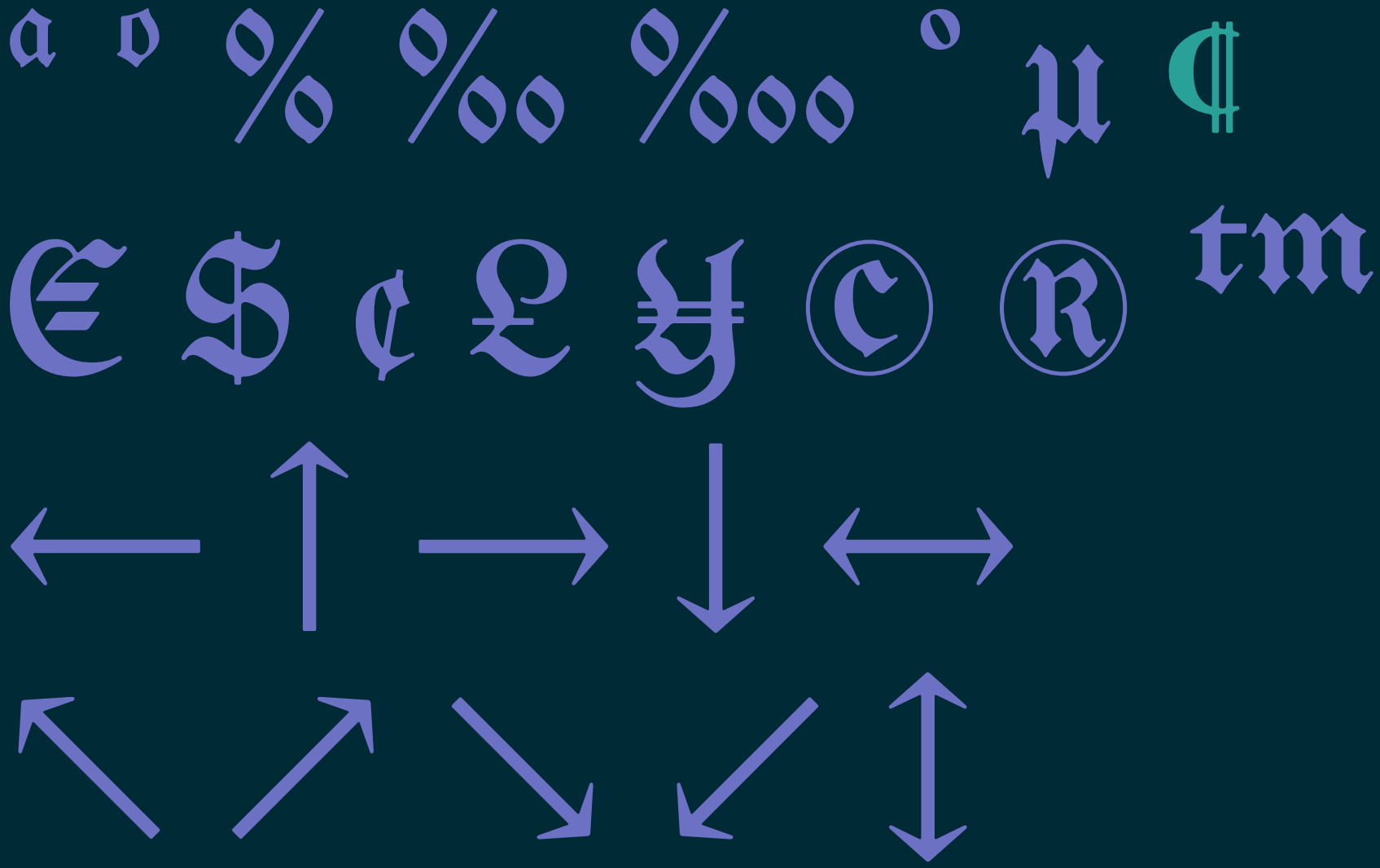
0 1 2 3 4

1/4 1/2 3/4 1/3 2/3

Ⅰ Ⅱ Ⅲ Ⅳ Ⅴ Ⅵ Ⅶ Ⅷ

Ⅸ Ⅹ Ⅺ Ⅻ Ⅼ Ⅽ Ⅾ Ⅿ

Miscellaneous Characters



Ligatures

Schatzstück Schatzstück

Graubrot Graubrot

Regeln und Features

Ausschank Ausschank

Krähenfüße Krähenfüße

Ligatures

In fraktur typesetting, there are two kinds of ligatures:

- Typographic ligatures, which avoid ugly collions or large gaps between letters, respectively, e.g., ﬁ or ﬂ. These ligatures are implemented in the feature liga, which is usually activated by default.

- The required ligatures ch, ck, ſt, tz and ß. It does not matter whether ß is regarded as a separate letter or belonging to this group. Except for ß, the required ligatures are implemented in the feature ccmp, which is activated by default.
  These ligatures were not affected by letter-spacing and except ſt, they were used in almost all fraktur typefaces and texts. ck and ß were exclusively used for the sounds they typically represent and therefore they weren't used in words like obſzön or Ranicki.

Like today, Ligatures weren't used over boundaries in composite words. For example, one would typeset auflegen and entzwei instead of auflegen and entzwei.

Emphasis in Fraktur Typesetting – Letter-Spacing

The predominant mode of emphasis in fraktur typesetting was letter-spacing, which did not affect required ligatures, however. The latter are implmented via the feature ccmp instead of liga, which facilitates the implementation of fraktur letter-spacing.

For example, using the LaTeX package Fontspec, letter-spacing can be used in place of boldface as follows:

```
\setsansfont[
    BoldFont = UnifrakturMaguntia,
    BoldFeatures = {LetterSpace=8.0, Ligatures=NoCommon, Kerning=Off}
  ]{UnifrakturMaguntia}
^^|^^|
```

Ach, wie gut, daſs niemand weiß, daſs ich Rumpelſtilzchen heiß!

Emphasis in Fraktur Typesetting – Roman Type

Certain loaned and foreign words were set in roman type in fraktur typesetting.
The Duden dictionary recommended for the German language:

- Use roman type for words from Romance languages (Latin, French, …), unless their pronunciation or inflection is German or they are part of an unhyphenated word composition.
- Never use roman type for names of persons or places.
- Use roman type for the abbreviations Dr., Lic. and Mag. as well as similar ones such as Dr. rer. nat., but not for Prof., Dr.-Ing., Doktor, Magiſter or Lizentiat.

Im Grand Hôtel von Chalon-ſur-Saône frönte Prof. Dr. François Dupont dem Dolcefarniente bei Crêpes, Horsd'œuvres und Vol-au-Vents.

Roman type was occasionally used for all-caps acronyms, but mostly those were avoided altogether.

Direkt nach dem Abc lernte er das CGS-Maßſyſtem.

Emphasis in Fraktur Typesetting – All Caps

All caps were particularly used in old religious texts for *God*, *Jesus* and similar as well as for pronouns referring to them:

GOD, the LORD, ſpoke to JESUS, HIS ſon.

In a variant of this, only the first two letters were capitalised:

GOd, the LOrd, ſpoke to JEſus, HIs ſon.

Moreover, sometimes parts of title pages were set in all caps.

In general, using all-caps fraktur is not recommended as even trained fraktur readers have trouble deciphering it:

THIS TEXT IS HIGHLY UNPLEASANT TO READ.

Accordingly, all-caps acronyms were mostly either avoided or set in roman type.

Emphasis in Fraktur Typesetting – Others

- Sometimes, other, bolder blackletter typefaces or a bolder variant of the same typeface were used for emphasis.

- There are a few slanted fraktur typefaces, which however never took hold.

- An **equal-weight** schwabacher was rarely used for emphasis, mostly for proper names or similar. The restriction to such an application was probably due the fact that certain lowercase letters and thus certain uncapitalised words were hardly distinguishable from there fraktur counterparts, while the uppercase letters were sufficiently distinct.

  Neither with samples nor historical sources could I confirm the common claim that, besides letter-spacing, schwabacher was the predominant method for emphasis in fraktur typesetting.

The Long S in German – Preface

The following rules capture the spelling of dictionaries from the early 1900s, which had not undergone a recent change affecting the usage of the long s.

Some preliminary remarks and defintions:

- Knowing the ſz spelling paradigm of your choice (old/Adelung or new/Heyse) is regarded as a prerequisite.

- In general, ſ has precedence over s and thus a given ſ is often required by more than one rule.

- A *meaningful unit* denotes a non-inflectional morpheme, i.e., a word, part of a composite word, prefix, or suffix. This also applies if composites that were loaned as a whole.

The Long S in German – Rules, Part 1

1) ſ is used at the beginning of meaningful units.
This also applies if two s were merged into one at a morpheme boundary.

ſieben, ſtill, ſpät, kreiſte, ſchwarz, ſkandalös, ſlawiſch, ſzeniſch, wieſo, Wildſau, Anſatz, Schickſal, Botſchaft, Neckarſulm, Weilerſwiſt, Aſbeſt (from ἄ-σβεστος), Aſphalt (from ἀ-σφαλής), tranſzendent (from tran(s)-scandere), Diſtrikt (from di(s)-strictus), Jablonſki, Skłodowſka

2) ſ is used before the vowel of a syllable.

roſig, Leſung, Raſerei, Tranſit, Proſodie, Pſyche, Tſingtau, Cſárdás

3) ſ is used in groups of letters denoting a special pronunciation (digraph, trigraph, …).
This does not apply, if the s is the last letter of the group **and** of a meaningful unit.

Fiſch, laſſen, aſſoziieren, Diſſertation, Squaſh, Krzyſztof, Cſárdás
but: daſs, häſslich (Heyse spelling); Ischias (no sch sound)

The Long S in German – Rules, Part 2

4) ſ is used in the middle of meaningful units, if the following letter is ꝑ, t or ʒ.

Leiſtung, Weſpe, laſziv, Feſt, brauſte
but: Maske, grotesk, Roswitha, Zynismus, Dresden, lesbiſch, Gleisner, Kosmos, Oslo, Esquire, Esra (not followed by ꝑ, t or ʒ)
Samstag, Bistum, Disput, Transport (end of the meaningful unit)

5) ſ is used before an omitted reduced e (schwa, /ə/).

unſre (from unſere), Drechſler (from Drechſeler), Pilſner (from Pilſener)

6) In all other cases, ſ is used.

das, bis, Haus, lies, Aasgeier, Blaskapelle, Drecksvieh, deshalb, Samstag, grasgrün, löslich, Wachstum, Häuschen, Ausfahrt, dasſelbe, Phosphor (from φωσ-φόρος)

The Long S in German – Notes

- The following rule of thumb fails only in one of about five hundred cases:
  ſ is used at the end of seperately pronounced meaningful units; otherwise ſ is used.

- The spelling of a very small set of words **usually** deviated from the above rules:
  Iſlam, Iſmael, Iſrael and Moſlem. Some dictionaries recommended
  the alternative spelling (with ſ) or were even inconsistent.

- Nowadays, there is no basis for regarding using
  the long s in blackletter texts as exclusively correct:
  - The official spelling rules do not mention the long s.
  - Only for very few people, if any, does it make texts easier to read.
  - Using the long s for blackletter not prevalent anymore.

- The rules for long-s spelling in the current Duden dictionary yield the same results as our ones, except for omitting ʒ in rule 4. They thus yield, e.g., laſziv instead of laſʒiv.

The Long S in German – Heuristic

Character Variant 11 (cv11/ss11) activates a heuristic that decides whether an s should be ſ or ſ on basis of the preceding and succeeding letter. It fails for about 0.7 % of all s. It can be corrected with a zero-width non-joiner (before ſ, after ſ).

before \ after	a c t	e i o u y ä ö ü p and other lowercase vowels	k r	b d f g h j l m n q v w x z ß . ’ and other lowercase consonants	ſ ſ	other
g	ſ	ſ	ſ	ſ	ſ	ſ
vowels except u	ſ	ſ	ſ	ſ	ſ	ſ
b d f h k l r ſ t u	ſ	ſ	ſ	ſ	ſ	ſ
c j m n p q v w	ſ	ſ	ſ	ſ	ſ	ſ
other	ſ	ſ	ſ	ſ	ſ	ſ

The Long S in Other Languages

In West European languages other than German, the distinction between the long and round s was rather a typographical than a morphological one. Andrew West gives a meticulous account of his findings on this on his blog Babelstone, from which I hypothesise following:

- At the end of a word, only ſ was used.
- Otherwise ſ was used, except if only a big gap could have avoided a collision of ſ and the following glyph and the respective ligature was not available.

According to this, the English word husband would have been typeset huſband if an ſb-ligature was available. Otherwise it would have been typeset husband to avoid the ugly huſband. Either way, it was hyphenated huſ=band as ſ and = do not collide.

Miscellaneous Features of Fraktur Typesetting

In fraktur typesetting, an em dash was used for all current uses of the en dash. Character variant 19 (cv19) automatically replaces en dashes with em dashes.

cv19: Iceland–Peru – 15 goals in minutes 27–36
→ Iceland—Peru — 15 goals in minutes 27—36

What Died Out Before Fraktur – The Round R

In early fraktur texts, the round r (ꝛ) replaced the regular r after certain characters, namely:

- Letters that were round to the right between baseline and midline such as 𝔅, 𝔇, 𝔊, 𝔒, 𝔓, 𝔟, 𝔡, 𝔥, 𝔬 and 𝔭;
- 𝔯 and ꝛ (there are counterexamples for these though).

Character variant 12 (cv12) automatically performs this replacement:

cv12: Herr Hrdlicka fror in Syrien. ⟶ Herꝛ Hꝛdlicka froꝛ in Syꝛien.

The round r was also used to replace et in the abbreviation etc. This usage originated from the round r's similarity to the Tironian Et and survived until ca. 1900 and hence, ironically, the round r in its original use. This replacement is automated via a historical ligature (hlig).

hlig: etc. ⟶ ꝛc.

What Died Out Before Fraktur – Old Umlauts

Today's umlaut dots originate from a small e that was placed above the respective basic letter up to the 19th century, e.g. å. Capital umlauts, however, emerged only at the beginning of the 20th century. Before, the basic capital letter plus e was used, e.g. Ae. There are only few examples of a small e over a capital letter.

- Character Variant 15 (cv15) replaces the umlaut dots with a small e, even over capital letters.
- Character variant 14 (cv14) replaces the capital umlauts with the respective base letter plus e and has priority over Character Variant 15.

cv15:	Übergrößengeschäft ⟶ Übergrößengeschäft
cv14:	Übergrößengeschäft ⟶ Uebergrößengeschäft
cv14+cv15:	Übergrößengeschäft ⟶ Uebergrößengeschäft

What Died Out Before Fraktur – I–J Merger

Until the early 20th century, there was no distinction between the capital letters I and J and both were written as J. Character Variant 13 (cv13) implements this:

cv13: Im Juni in Ingolſtadt ⟶ Im Juni in Ingolſtadt

In some early fraktur texts, j was used at the beginning of a word for both, i and j, while everywhere else i was used for both. Stylistic Set 3 (ss03) implements this together with the above:

ss03: In der Kajüte iſt jemand. ⟶ In der Kaiüte jſt jemand.

What Died Out Before Fraktur – U–V Merger

Today's distinction between u and v emerged in the 17th century. Until then, 𝔳 was used for both, u and v at the beginning of words, while 𝔲 was used elsewhere. As a capital letter, 𝔙 was used for both.

The Stylistic Set 2 (ss02) implements this:

ss02: unſer Univerſum ⟶ vnſer Vniverſum

Easy Reading – No Long S

If you want to ease reading for an audience that is not familiar with reading fraktur, the first thing that suggests itself is not using the long s.

Character variant 0 (cv00[1]) replaces every long s with a round one and allows to easily switch between typesetting with and without a long s.

While the swash of the round s hardly poses a problem in texts using the long s (as the round s mostly occurs at the end of words and similar), it one may regard it as diminishing readability and aesthetics in texts without it. For such a case, Character Variant 20 (cv20) "deswashes" every round s that is not at the end of a word (or before a zero-width non-joiner). One might argue that this is also a good thing for texts **with** a long s.

cv00: ſtreſſigſt ⟶ stressigst
cv20: samstags ⟶ samstags
cv20: muskulöſes ⟶ muskulöſes
cv00+cv20: ſeriöſes ⟶ seriöses

[1] Also available via cv40 for software that does not support cv00.

Easy Reading – Modern Forms

Another difficulty of fraktur for today's readers are letters whose fraktur form is unfamiliar or can be confused with another letter. Character Variants 1 to 10 (cv01 – cv10) address this issue by providing one or two "modern" variant of such letters.

Stylistic Set 1 (ss01) comprises all easy-reading features (cv00 – cv10, cv20).

cv01: 𝔨 𝔨̨ 𝔨́ 𝔠𝔨 ⟶ 𝔨 𝔨̨ 𝔨́ 𝔠𝔨

cv02: 𝔵 ⟶ 𝔵 ⟶ 𝔵

cv03: 𝔶 𝔶́ 𝔶̈ … ⟶ 𝔶 𝔶́ 𝔶̈ …

cv04: 𝔄 𝔄̈ 𝔄̊ 𝔄𝔈 … ⟶
𝔞 𝔞̈ 𝔞̊ 𝔞𝔢 … ⟶ 𝔄 𝔄̈ 𝔄̊ 𝔄𝔈 …

cv05: 𝔊 𝔊̇ 𝔊̨ … ⟶ 𝔊 𝔊̇ 𝔊̨ …

cv06: 𝔎 𝔎̨ ⟶ 𝔎 𝔎̨

cv07: 𝔑 𝔑̃ 𝔑̨ … ⟶ 𝔑 𝔑̃ 𝔑̨ …

cv08: 𝔖 𝔖́ 𝔖̨ … ⟶ 𝔖 𝔖́ 𝔖̨ …

cv09: 𝔙 ⟶ 𝔙

cv10: 𝔜 𝔜̂ 𝔜̈ … ⟶ 𝔜 𝔜́ 𝔜̂ …

ss01: Analyſis ⟶ Analysis

Numerals

Unifraktur Maguntia comes with two kinds of numbers and mathematical operators:

- Uppercase numerals as we use them today, together with huge operators. These were predominant in fraktur typesetting and are activated via the feature Lining Numbers (lnum).
- Fraktur lowercase numerals with moderate operators, which were rarely used, but which better match the other glyphs. They are activated by default and via the feature Oldstyle Numbers (onum).

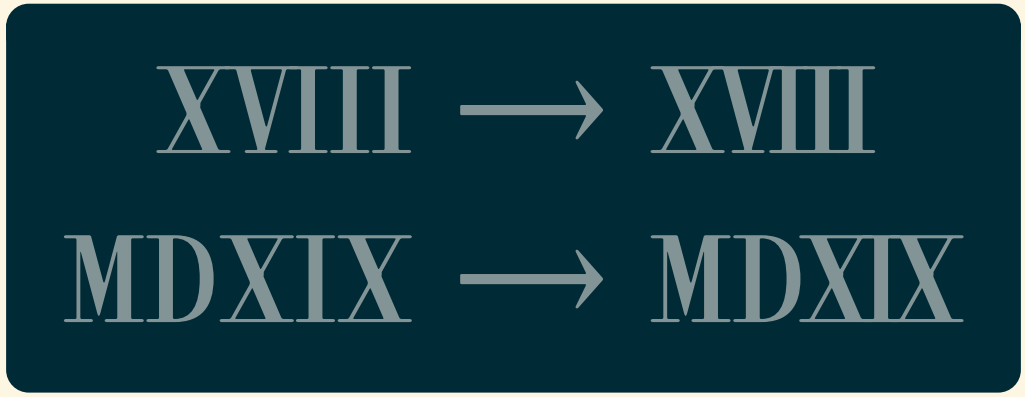
lnum: $16 + 5 \times 9 - 27 = 34 \longrightarrow 16 + 5 \times 9 - 27 = 34$

Both kinds of numbers are available as proportional numbers (pnum, default) and monospaced numbers (tnum):

	onum[1]	lnum	
pnum[1]	0123456789	0123456789	[1] default
tnum	0123456789	0123456789	

Roman Numerals

Roman numerals are implemented on the Unicode code points U+2160 to U+216F.
Successive numerals are automatically aligned properly (via kerning):



Kerning

Unifraktur Maguntia was kerned extensively and manually. This includes rarely used, but particularly problematic pairs with a capital letter in second position.

„Kanzlers“ → „Kanzlers“
(je Fotograf) → (je Fotograf)
MacPherson → MacPherson
IHR (GOTT) → IHR (GOTT)
¿XïPRKſk? → ¿XïiPRKſſi?

Kerned pairs in the first four examples:
„K Ka zl rs (j Fo to ra f) Ma cP Ph IH HR OT TT T)

Variants of s-Based Special Characters

- Per default, the swash of the ſ is removed if there is a diacritical mark above it. Character Variant 16 (cv16) suppresses this.
- ś, š and ŝ are also available with a long s as the base character via Character Variant 17 (cv17) or using Unicode's combining diacritical marks (U+0301, U+0302 and U+030C).
- Character Variants 21 to 25 (cv21–cv25) allow to access alternates on a per-character basis. For š, this includes further characters and character variants that were used in its place historically, in particular a swashed long s (ſ), that can only be accessed this way.

cv16: ś š ŝ ṡ s̈ ⟶ ś š ŝ ṡ s̈

cv17: ś š ŝ ⟶ ſ́ ſ̌ ſ̂

cv21: ś ⟶ ś ⟶ ſ́

cv22: ŝ ⟶ ŝ ⟶ ſ̂

cv23: š ⟶ š ⟶ ſ̌ ⟶ ſ ⟶ s̈ ⟶ s̈

cv24: ṡ ⟶ ṡ

cv25: s̈ ⟶ s̈

Miscellaneous Features

A very few fraktur texts adopted the custom from handwriting to indicate a double m or n with a bar (macron). This is implemented via discretionary ligatures (dlig).

dlig: Donnerſtimme ⟶ Doñerſtim̄e

Character Variant 18 (cv18) replaces ȣ and t́ by variants with a “true” caron, as used historically. Character variants 26 and 27 (cv26 and cv27) allow to access these variants separately.

cv18: ȣ t́ ⟶ ȣ ť cv26: ȣ t́ ⟶ ǒ t́ cv27: ȣ t́ ⟶ ȣ ť

Character variant 28 (cv28) activates the ﬅ and ﬆ ligatures, which were used in some old Latvian texts:

cv28: ﬅ ﬆ ⟶ ﬅ ﬆ

Schadenfreude Weltschmerz Zeitgeist
Fragen Götterdämmerung Autobahn
Glockenspiel Oktoberfest Wunderkind
Rucksack Antworten Leitmotiv Ansatz
Hinterland Zugzwang Doppelgänger
Kindergarten Gesundheit Realpolitik
Poltergeist Kirschwasser Wanderlust
Gedankenexperiment Fräuleinwunder
Sauerkraut Eigenvektor Danksagung
Weltanschauung Baumkuchen Kitsch

Questions the Author Would Like to Answer 1

Question: What exactly do the ready-to-use variants do?

Answer: They are equivalent to activating the following features and removing features and glyphs that do not fit into the respective epoch:

- 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

Questions the Author Would Like to Answer 2

Question: I found an unsupported character in a historical text. Can you implement it?

Answer: As long as it is typeset fraktur: yes. Send me a picture of the character and, if possible, tell me what you know about it.

Question: I lack some special characters to use my language. Can you implement them?

Answer: As long as they do not require too much effort, your wish is all I need to do this. If possible, please provide non-trivial design guidelines for your characters. Please understand that I will only spend effort on extensive languages (e.g., Vietnamese) if there are multiple requests.

Questions the Author Would Like to Answer 3

Question: Will you include medieval abbreviatures or similar?

Answer: Only, if they existed in movable type and in fraktur (not textura).

Question: Why are uppercase variants (and only those) missing for some letters?

Answer: Because they were never used at the beginning of the word and fraktur all-caps are a bad idea. Should have been wrong about such a letter, I am grateful for hints though.

Question: But why are there some capital versions of lowercase letters that have never been used at the beginning of the word then?

Answer: Because implementing the letter was easier than checking all of its possible usages. If you have solid proof that a capital letter is not needed, let me know.

Questions the Author Would Like to Answer 4

Question: Do you plan to support non-Latin alphabets, such as Greek or Cyrillic?

Answer: No.

Question: When should I use the characters from Unicode's Private Use Area?

Answer: Preferrably never. These characters are only a makeshift alternative for programs that do not support smart font features. They can lead to all sorts of problems, in particular with respect to compatibility and searchability. In the case of W and w, the Private Use Area is only a temporary solution until these characters are encoded in Unicode.

Questions the Author Would Like to Answer 5

Question: Why is UNZ (Unicode-gerechte Norm für Zusatzzeichen) not supported?

Short answer: To avoid encouraging anybody to use it.

Long answer: The zero-width non-joiner (U+200C) allows to encode all fraktur texts with Unicode and therefore UNZ is not needed for this, but only for programs that do not support OpenType or similar. Thus, UNZ is an increasingly unnecessary, localised solution for those users of blackletter who want to use such a program, but are willing to spend a considerable effort on having blackletter ligatures rendered. Advancing UNZ helps only this group – advancing, e.g., the OpenType support of some program helps users of several languages and writing systems worldwide. Moreover, UNZ has all the general problems of the Private Use Area, namely compatibility issues and no searchability. Therefore I consider supporting UNZ to do more harm than good.

Acknowledgements 1 – Content

I acknowledge contributions to Unifraktur Maguntia
from J. “Mach” Wust, Georg Duffner and Peter Wiegel.

I am also grateful to:

- several users of the Unifraktur board and of Typografie.info
  for critique and inspiration, in particular Ralf Herrmann;
- Ralf Gawlista for providing his e-books as a corpus
  for developing the heuristics for the long s;
- Fabian Kaulfürst, Kamil Stumpf and Sonja Wölke for providing extensive
  information about the usage of fraktur in the Sorbian language;
- Tonda Kavalec for providing information about fraktur and the Czech language;
- Bruno Martuzāns for providing information about fraktur and the Latvian language.

Acknowledgements 2 – Software

I am furthermore grateful to the creators of the following software, which was used for creating Unifraktur Maguntia or this manual:

- FontForge,
- TTF Autohint,
- Yanone Kaffeesatz,
- Solarized,
- TeX, LaTeX, XeLaTeX, the LaTeX Beamer class
- Inkscape