The oldgerm package for use with LaTeX 2_ε*

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1 Introduction

This file defines commands to use the old German fonts for Fraktur, Schwabacher, and Gothic designed by Yannis Haralambous. To access them, use the package oldgerm in a \usepackage command.

\gothfamily \frakfamily \swabfamily This package option defines the commands \gothfamily, \frakfamily and \swabfamily to switch to the corresponding font families (thus these commands behave similar as \sffamily or \ttfamily). Since these families only consist of one shape in one series, commands like \bfseries or \itshape have no effect when typesetting in these families. However, size changing commands are honoured.

\textgoth \textfrak \textswab In addition the package defines the corresponding font commands with arguments, that is \textgoth, \textfrak, and \textswab.

1.1 Important notes

These fonts are currently encoded in a way that does not correspond to any standard encoding (for this reason they are classified by NFSS as U encoded. In addition the fonts uses special ligatures with the character " to access accents and sharp s. For this reason commands accessing special characters like \ss or accents like \" will not really work directly when used with these fonts. You can either declare them for the U encoding manually, e.g., by saying something like

```
\DeclareTextCommand{\"}{U}[1]{\UseTextAccent{OT1}#1}
\DeclareTextCompositeCommand{\"}{U}{a}{"a}
\DeclareTextCompositeCommand{\"}{U}{u}{"u}
...
\DeclareTextCommand{\ss}{U}{"s}
```

and so on, or you use the ligatures directly. However, declaring composite characters for the U encoding means that they are declared for every font with U encoding which might be totally inappropriate for other fonts.

Please also note that while "a, etc. looks very much like the convention used by the german or babel packages the internal mechanism to produce the accents is completely different. These packages define "a to produce something like \"a which isn't defined for the U encoding, while "a without the package is interpreted as a ligature generating the accented letter "ä" in the font. Using these packages with these fonts will therefore produce some undesired effects.

*This file contains a reproduction of an article by Yannis Haralambous

Finally please note that there might be some strange hyphenations in the German examples of the article by Yannis below. The reason is that this document is typeset with standard English hyphenation patterns to ensure that it does work everywhere (this could be improved).

> The following section is a reproduction of an article by Yannis about these fonts which was presented at the Cork '90 TEXconference and was later published in *TUGboat* 12#1, pages 129–138. It is complete except for the picture of Emanuel Breitkopf and the appendices which have been left out (at the moment).

Yannis uses different names in his article

2 Typesetting old german: Fraktur, Schwabacher, Gotisch and Initials

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Typesetting in the old style, with the corresponding types, besides being an art, is also a real pleasure. Metafont allows the creation of faithful copies of these types and TEX gives the possibility of using them in the most traditional manner. In this spirit, the necessary fonts and macros to typeset in the old german types Gotisch (also called Textur), Schwabacher and Fraktur are presented in this paper, together with an historical introduction to each of them. Also, a set of initials is described. Rules for typesetting in these types are given, together with extracts from the original sources.

This paper is dedicated to
D. E. Knuth.

This article shows the first results of a longterm project on reconstructing old types and typesetting following the old rules, with TEX and Metafont. The work presented in this paper has been done on a Mac SE/30 with OzTEX and MacMetafont.

2.1 General Introduction to the Project: What's the Use of Reconstructing Old Types

Old types are beautiful. Until now, one could find either modernized copies of them (for decorative use) or facsimiles of historical books. With TEX and Metafont at last we have the possibility to approach these types in the manner — and with the care— of a *collectionneur*. Since there is no commercial scope, no compromise needs to be made in the creation of the fonts. And once the Metafonting is done, we can bring the fonts back to life, by using them in typesetting texts, new or old ones. TEX and Metafont are strong enough to achieve a faithful reproduction of old works, and what's more, delicate enough to allow a personal tone and new ideas. Thanks to D. E. Knuth's work, typesetting becomes an interpretative art at the reach of everybody. And you can believe me, it is the same pleasure to read (resp. typeset) Goethe's poems in Breitkopf's Fraktur as to hear (resp. play) Mozart's Sonatas on a Stein's Pianoforte.

2.2 Old German Types Gotisch

Gutenberg choosed the bible as his first work for merely commercial reasons: only the churches and monasteries could afford to buy quantities of books. Consequently, the first types he created had to imitate manuscript characters, to be able to concurrence the beautiful manuscript bibles produced by the monasteries themselves. This explains the fact that Gutenberg's font is so elaborated. A similar situation arose with Venetian greek renaissance types, which had to imitate alexandrinian and byzantine greek handwriting: hundreds of ligatures were used.

Gutenberg's font had 288 characters: besides the 25 uppercase (there is no distinction between I and J) and 27 lowercase (there are two kinds of s), all the others are variant types, accented characters and ligatures.

The font `ygoth` presented here, is not an exact copy of Gutenberg's font. It merely follows Gutenberg's guidelines on lowercase characters and selects the uppercase ones from different 15th century types. Please note that these uppercase characters are not suitable for "all capitals" typesetting. Here are the basic upper and lowercase characters:

A B C D E F G H

J K L M N O P Q R

S T U V W X Y Z

a b c d e f g h i j

k l m n o p q r

ſ s t u v w x y z

For all old german types there is no distinction between I and J; also there are two kinds of s: the middle and initial "long s" and the final "short s"

ſ s

In composite words, a short s is used when some component of the word ends on s:

Ausgang, but Anſtand.

Since it's almost impossible for a computer to know if some s is long or short, you have to do it manually: type `s:` for a short s, like in `Aus:gang` or `Alles:`.

The following ligatures are part of the font:

ae ba be bo ch ck ct

da de do ha he ho

ff fi fl ffi ffl ij ll

oe pa pe po pp qq qz

ſſ ſſi ſt tz va ve vu

Beside the ones shown beyond, there are variant forms

ſſ ſſi ſt

at positions *'052, '057, '075* of the font. Because of the many ligatures, there is no place left for special characters (I used only 128-character fonts); you'll have to switch to `CM` for #, $, %, &, *, +, = etc. For the vowels a, e, o, u with Umlaut and for the ß, I followed Partl's [1988] convention: just type `"a`, `"e`, `"o`, `"u`, `"s` (ë is used in flemish) to obtain

ä ë ö ü ß.

The difference with Partl's approach is that in our case `"a`, `"e`, etc are ligatures. Since ß historically comes from the ligature s+z (ß is called es-zet), by typing either `"s` or `sz`, you get the same output.

In Appendix A you can find a sample of the font; it is an extract of Luther's bible (1534), in the original orthograph.

2.3 Schwabacher

The name comes from Schwabach, a little german town on the south of Nürnberg. According to Updike [1927], *in fifteenth century German gothic or black-letter fonts, a differentiation of type-faces began to show itself, as we have seen, in the last twenty years of the century, between types that were somewhat pointed and a rounder, more cursive gothic letter, with certain peculiarities —the closed a, looped b, d, h, and l, and a tailed f ans s. The first type was called "fraktur." The second was ultimately known as "schwabacher."* Schwabacher was in some extend the "boldface" font, compared to the usual Fraktur. The font presented here is called `yswab`; it is based on 18th century types. Nevertheless, some characters (like the "hebrew-like question mark ?) have been taken from a contemporary book: A. Wikenhauser [1948], *Das Evangelium nach Johannes*, where John's text is written in Schwabacher and comments in Fraktur. Here are the basic upper and lowercase characters:

A B C D E F G H I K L M N

O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n

o p q r s ſ t u v w x y z.

The following ligatures are included in the font:

ff, ſſ, ſſ, ſt, ß

For the vowels a, e, o, u with Umlaut, you have the choice between two forms: for the older one (a small "e" over the letter) you need to type a `*` + vowel combination, and for the newer one a `"` + vowel combination. So, by typing `*a`, `*e`, `*o`, `*u`, `"a`, `"e`, `"o`, `"u` you get

aͤ eͤ oͤ uͤ ä ë ö ü

respectively.

2.4 Fraktur

The first Fraktur type was created by Johann Schönsperger in Augsburg to typeset the book of prayers of Kaiser Maximilian (1513). Some years later, Hieronymus Andreæ created a new Fraktur type, used by Dürer for the printing of his theoretical works. In the 17th century, Fraktur had a period of decline. It was only in the fall of the 18th century that some progressive typographers like G. I. Breitkopf and J. F. Unger gaved Fraktur a new breath, by creating new fonts with the aesthetic standards of their time. Especially Unger's font seems to lay more in the 19th century spirit.

Gottlob Immanuel Breitkopf (1719–1794) lived in Leipzig. He travelled a lot, studied french, english and other foreign fonts and wrote himself an article (Breitkopf [1793]) on the situation of typographers and typography in Leipzig at his time. In 1754 he was to first to use removable types to typeset music. His name is familiar to all musicians and friends of music, because of the famous Breitkopf & Härtel editions of complete works of Bach, Beethoven etc.

After Breitkopf, the "official" version of Fraktur (newspapers and official documents) didn't evolved very much. In the 19th century, with all its social —and artistic— turbulences many decorative Fraktur types have been made, most of them are monstruous (for example see Knebel [1870]). A final renovative effort has been made in the twenties of our century by artists like Walter Tiemann and others. Unfortunately, the destructive trend for uniformisation of nazism didn't left much place for æsthetic improvements or changements.

Texts like Warum deutſche Schrift? (Why german type?) by G. Barthel [1934], and Heraus aus der Schriftverelendung! (No more degenerate writing!) by T. Thormeyer [1934] (...die Rundungen haben nichts mit dem deutſchen Spannungsbedürfnis gemeinſam. Das Schwelgen in abgerundeten Formen kann man andern Nationen überlaſſen...) show that nazists tried to use Fraktur as a symbol of the german nation. But —an historical paradox— it was the nazis themselves who abolished Fraktur in 1941[1]. In a not too old edition of the Brockhaus, one can find the sentence *"Die nationalsozialist. Regierung ließ die Fraktur 1941 aus Zweckmäßigkeitsgründen von Amts wegen abschaffen. Ob sie damit eine Entscheidung traf, die ohnehin im Zuge der Entwicklung lag, ist schwer zu beurteilen..."* (it is hard to say if the nazi decision of abolishing Fraktur was really in the sense of development...); there is a certain nostalgy in these words.

Today Fraktur is used mainly for decorative purposes (a nice counterexample is the dtv pocket edition of Mozart's correspondence: his letters are in Fraktur and the comments in Antiqua). Also there are methods for the old german handwriting (Süterlin) which also include Fraktur (for example Wir leſen deutſche Schrift, bei A. Kiewel et al [1989]).

Let's return now to TEX: the font `yfrak` which I propose is in the old Breitkopf style. Here are the basic upper and lowercase characters

A B C D E F G H I K L M N
O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n
o p q r s ſ t u v w x y z.

It contains the same ligatures and Umlauts as `yswab`. The symbols ℑ (which means "etc") and (an attempt to differentiate I and J) are in font positions *'044* and *'100* respectively. You can a find a sample of the font in Appendix B; it is the begining of the second part of Carl Philipp Emanuel Bach's treatise on the true art of playing the keyboard (meant is the harpsichord and/or clavichord) "Verſuch über die wahre Art das Clavier zu ſpielen" [1762].

2.5 Initials

The chancery initials which you can see on Appendix B and C are a revival of baroque designs. This makes them suitable for old and new texts as well. They form the font `yinit`. You have the choice of creating characters with depth zero, or characters with height equal to `cap_height` of `cmr10` (with the corresponding magnification) and the biggest part of the character under the baseline. For this there is a boolean parameter `zero_depth` in the `yinit.mf` parameter file. To typeset the initial D of Appendix B, I used the macro `\yinitial{D}` as follows (with `zero_depth:=false`)

```
\def\yinitial#1
{\hangindent=2.54cm
\hangafter=-4
\hskip-3.24cm
\lower-2.7mm
\hbox{\yinit #1}
\hskip1.5mm}
```

Of course all these parameters will need some adjustment, according to the interline skip and the textfont you are using. Note also that `\par` stops the execution of `\hangafter`; you should better use `\hfill\break\indent` instead.

2.6 Typesetting Rules

In the following text, taken from the Duden (Mülsing and Schmidt [1919]) many fine points of typesetting in Fraktur are explained. The essential points are the following: 1) don't use ligatures in latin antiqua words, use them in french antiqua and in french Fraktur;

[1] There seems to have been some secrecy around this decision of the nazis. The only data I could find is a short and cryptical reference in the 1941 DIN-booklet on typographic standards: "Bekanntgebung II EM 8408/41 vom 26 Juli 1941 des Reichswirtschaftsministers an den Deutschen Normenauschluß". I would be very obliged if some reader could provide me with more informations.

2) in a composite word, do not use ligatures between adjacent letters of two components 3) the antiqua ß is to be used in german words and names regardless of the language; 4) the latin "etc" is to be translated as usw. and its older form ꝛc should not be used anymore; 5) concerning foreign words in german, use Fraktur when the word has been "germanized", and else antiqua; 6) the hyphen should always be in Fraktur, except when it appears between two antiqua words; 7) in 1879, Daniel Sanders proposed as an alternative to J for the letter J, it would be nice if the authorities recognize it.

Einzelvorschriften für den Schriftsatz

In diesem Abschnitte stellen wir einige Einzelvorschriften zusammen, deren allgemeine Befolgung für die Einheitlichkeit bei der Herstellung von Drucksachen sehr wünschenswert wäre.

Ligaturen Æ, æ, Œ, œ statt Ae, ae, Oe, oe. In lateinischen Wörtern sind die Ligaturen nicht anzuwenden, z. B. Caelius mons, Asa foetida. In französischen Wörtern, die im deutschen Satz verstreut vorkommen, muß, wie im französischen Satz überhaupt, stets Œ und œ gesetzt werden, z. B. Œuvres, sœur. Selbst bei Fraktursatz darf auf das kleine œ nicht verzichtet werden, z. B. Hors d'œuvre.

Sonstige Ligaturen. In Wortverschmelzungen wie Schiffahrt, Schnelläufer, alliebend, d. h. also in Wörtern, die von drei gleichen Mitlauten einen ausgestoßen haben, ist die Ligatur anzuwenden, wenn sie in der betreffenden Schriftgattung vorhanden ist. Die Ligatur ist ferner überall da anzuwenden, wo sie die sprachliche Richtigkeit nicht stört, z. B. benutzen, abflauen, Billard, nicht aber in einfachen Zusammensetzungen wie entzwei, Kaufleute, vielleicht.

Der Buchstabe ß in fremdsprachichem Satz. Wenn aus einem Deutschen Namen, in dem ß vorkommt, durch Anfügung einer Lateinischen Endung ein Lateinisches Wort gebildet wird, so bleibt das ß erhalten, es erscheint also als ß (in Antiqua). So wird z. B. aus Weißenburg: Weißenburgensis (der Codex Weißenburgensis). Ebenso wird ß gesetzt, wenn deutsche Eigennamen mit ß in fremdsprachlichem Satz erscheinen, z. B.: Monsieur Aßmann a été à Paris. Ho trovato il Signor Große a Venezia.

usw. – ꝛc – etc. Im deutschen Satze ist „und so weiter" der amtlichen Vorschrift gemäß durch usw. abzukürzen, und zwar sowohl in Fraktur wie in Antiqua. Die Form ꝛc, die sich innerhalb der Lautschrift wie eine Hieroglyphe, wie ein Vertreter der Zeichenschrift, ausnimmt, ist veraltet und nicht mehr anzuwenden.

Die Form etc darf nur im Antiquasatz angewandt werden, wird aber besser durch usw. ersetzt. Für lateinischen Satz, also innerhalb lateinischen Textes, ist etc. selbstverständlich. Ferner sei erwähnt, daß die Franzosen und Engländer &c., die Italiener ecc. und die Spanier etc. verwenden, und zwar setzen alle stets einen Beistrich vor diese Abkürzungen, was im Deutschen nicht üblich ist.

Anwendung der Antiqua im Fraktursatz. Um dem bisherigen Schwanken in der Wahl zwischen Antiqua und Fraktur ein Ende zu machen, empfiehlt es sich folgende Grundsätze zu beobachten:

1. Alle Fremdwörter romanischen Ursprungs, die nicht durch Annahme deutscher Biegung oder deutscher Lautbezeichnung als eingedeutscht erscheinen, setze man aus Antiqua, z. B. en avant, en arrière, en vogue, in praxi, in petto; a conto, dolce far niente; ferner Verbindungen wie Agent provocateur, Tempi passati, Lapsus linguae, Agnus Dei. Auch alle italienischen technischen Ausdrücke aus der Tonkunst, wie andante, adagio, moderato, vivace, setze man aus Antiqua. Die der lateinischen Sprache entstammenden Bezeichnungen Dur und Moll sind als eingedeutschte Hauptwörter aufzufallen und daher groß zu setzen, z. B. C-Dur.

2. Wenn ein Fremdwort deutsche Lautbezeichnung oder deutsche Biegung annimmt oder mit einem deutschen Worte zusammengesetzt wird, so setze man es ais Fraktur, z. B. adagio, aber: das Adagio, die Adagios; a conto, aber: die Akontozahlung; dolce far niente, aber: das Dolcefarniente.

Anwendung des Bindestrichs in Fraktursatz, der mit Antiqua vermischt ist. Wenn in Fraktursatz bei Wortzusammensetzungen der eine Teil der Zusammensetzung aus Antiqua gesetzt werden muß, so sind etwa vorkommende Bindestriche aus der Textschrift, also aus Fraktur, zu setzen, z. B. CGS-Maßsystem. Eine Ausnahme wird nur dann gemacht, wenn der mit dem Bindestrich schließende erste (Antiqua-) Bestandteil an das Ende einer Zeile oder in Klammern zu stehen kommt; in diesem Falle ist der Bindestrich aus Antiqua zu setzen. In besonderen Fällen kann auch eine Vermischung von Fraktur- und Antiquabindestrichen stattfinden, z. B. Hoftheater-Corps-de-ballet; denn innerhalb des aus Antiqua gesetzten Wortes müssen auch die Bindestriche aus Antiqua gesetzt werden.

I (Selbstlaut) und J (Mitlaut) in der lateinischen Druckschrift. In der lateinischen Druckschrift wird zwischen dem Selbstlaut und dem Mitlaut J genau unterschieden, und zwar steht I ausschließlich für den Selbstlaut, J ausschließlich für den Mitlaut. Diese Unterscheidung machen alle neueren Sprachen. Daß die deutsche Druckschrift einen Unterschied zwischen I (Selbstlaut) und J (Mitlaut) nicht kennt, ist ein großer Mangel. Diesen Mangel zu beseitigen versuchte schon 1879 Daniel Sanders, indem er für den Mitlaut das Zeichen empfahl. Dieses Zeichen ist heute nur vereinzelt in Drucken zu finden, hat sich also nicht allgemein eingebürgert und ist auch nicht amtlich anerkannt worden. Es wäre sehr zu wünschen, daß auch in deutscher Schrift ein Unterschied zwischen I (Selbstlaut) und J (Mitlaut) geschaffen und von der zuständigen Behörde anerkannt würde, und zwar um so mehr, als er bei den kleinen Buchstaben sowohl in deutscher (i, j) wie in lateinischer (i, j) Schrift bereits seit langem besteht.

2.7 Availability

Following a tradition of my friend Klaus Thull, these fonts are in the public domain. The should be available at the Aston end Heidelberg archives. Also you can obtain them at my adress. The status of this software is postcard-ware: each satisfied user could send me a nice local postcard for my collection.

2.8 References

Bach, Carl Philipp Emanuel. *Versuch über die wahre Art das Clavier zu spielen. Zweyter Theil, in welchem die Lehre von dem Accompagnement und der freyen Fantasie abgehandelt wird.* Berlin: G. L. Winter, 1762.

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Walther, Karl Klaus. *Lexikon der Buchkunst und Bibliophilie.* Leipzig: Bibliographisches Institut, 1987.

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3 The DOCSTRIP modules

The following modules are used in the implementation to direct DOCSTRIP in generating the external files:

driver	produce a documentation driver file
package	produce a package file
fd	produce a font definition file
Uyfrak	produce Yannis Fraktur
Uyswab	produce Yannis Schwabacher
Uygoth	produce Yannis Gothic
Uyinit	produce Yannis Initials

4 The implementation

4.1 The package

```
⟨*package⟩
```

\gothfamily \swabfamily \frakfamily \textgoth \textswab \textfrak

We switch to the fonts using the `\usefont` macro since all such fonts are only available in one series and one shape.

```
\newcommand\gothfamily{\usefont{U}{ygoth}{m}{n}}
\DeclareTextFontCommand{\textgoth}{\gothfamily}
\newcommand\swabfamily{\usefont{U}{yswab}{m}{n}}
\DeclareTextFontCommand{\textswab}{\swabfamily}
\newcommand\frakfamily{\usefont{U}{yfrak}{m}{n}}
\DeclareTextFontCommand{\textfrak}{\frakfamily}
⟨/package⟩
```

4.2 The font definition files

4.2.1 Yannis Schwabacher

```
⟨*Uyswab⟩
\DeclareFontFamily{U}{yswab}{}
\DeclareFontShape{U}{yswab}{m}{n}{
   <10> <12> <14.4> <17.28>  <20.74> <24.88> yswab   }{}
⟨/Uyswab⟩
```

4.2.2 Yannis Gothic

```
⟨*Uygoth⟩
\DeclareFontFamily{U}{ygoth}{}
\DeclareFontShape{U}{ygoth}{m}{n}{
   <10> <12> <14.4> <17.28>  <20.74> <24.88> ygoth   }{}
⟨/Uygoth⟩
```

4.2.3 Yannis Fraktur

```
⟨*Uyfrak⟩
\DeclareFontFamily{U}{yfrak}{}
\DeclareFontShape{U}{yfrak}{m}{n}{
   <10> <12> <14.4> <17.28>  <20.74> <24.88> yfrak   }{}
⟨/Uyfrak⟩
```

4.2.4 Yannis Initials

```
⟨*Uyinit⟩
\DeclareFontFamily{U}{yinit}{}
\DeclareFontShape{U}{yinit}{m}{n}{
   <10> <12> <14.4> <17.28>  <20.74> <24.88> yinit   }{}
⟨/Uyinit⟩
```

The next line goes into all files and in addition prevents DOCSTRIP from adding any further code from the main source file (such as a character table).

```
\endinput
```