The Baskervaldx package

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The fonts included in this package are extensions and modifications of regular and bold weights of the baskervald fonts, which serve as a replacement for Baskerville. The changes provide small caps in all four styles, and a total of four ordinary figure types {tabular, proportional}×{lining, oldstyle} in each of those styles. The xheights of the two upright shapes has been increased from 415em to 432em to better match the Italic and other subsidiary fonts, and the ascender sizes have been shortened to avoid height problems. Many new accented glyphs have been added so that all characters in T1 encoding are available except for the Sami characters Eng and eng. This left three unused slots in T1, and those have been filled with three ligatures f_j, f_f_j and c_t, only the first two of which are activated by default, along with the usual f-ligatures f_i, f_l, f_f_i, f_f_l, f_f. (In LY1, an additional two ligatures are available: s_p and s_t, also not activated by default.)

The package has the following options:

- scaled=1.02 would magnify all Baskervaldx fonts by the factor 1.02.
- lining (or lf) chooses lining figure style. This is the default.
- osf (or oldstyle) sets the figure style to oldstyle rather than lining for text. (Math mode will in any case use tabular lining figures.)
- tabular sets the figure alignment to fixed width rather than proportional. This is the default.
- proportional sets the figure alignment to depend on the figure rather than be fixed width.
- sups mandates the use of superior figures from Baskervaldx as footnote and endnote markers, replacing LaTeX's default method. For greater control, use the superiors package.
- swash determines which additional ligatures will be used throughout text in the document. As mentioned above, in both T1 and LY1 encodings (the only ones supported), the following are always used:
  - f_f (ff) replaces ff.
  - f_i (fi) replaces fi.
  - f_l (fl) replaces fl.
  - f_f_i (ffi) replaces ffi.
  - f_f_l (ffl) replaces ffl.
  - f_j (fj) replaces fj.
  - f_f_j (ffj) replaces ffj.

The option swash adds the following, depending on the encoding:
T1 encoding:

- c_t (c̒t) replaces ct.

LY1 encoding:

- c_t (c̒t) replaces ct.
- s_p (s̒p) replaces sp.
- s_t (s̒t) replaces st.

Macros defined by the package:

- Figure styles may be set locally by the macros \textlf, \texttlf, \textosf, \texttosf and \textsu, whose meaning are:
  - \textlf (lining, proportional)
  - \texttlf (lining, tabular)
  - \textosf (osf, proportional)
  - \texttosf (osf, tabular)
  - \textsu (superior)

  For example, though this document uses the options osf, tabular, \textlf{123} uses proportional lining figures for its argument—123, and \textsu{123} sets its argument in superior figures—^{123}.
- \textcircled draws a circle around a small cap rendition of its argument, which should be exactly one unaccented character. For example, \textcircled{A} yields Ⓐ and \textcircled{8} yields ⑧.
- \swshape switches on italic shape with all possible ligatures activated. (This depends of course on the encoding chosen.) For example, in both T1 and LY1,

  ```
  {\swshape Act effectively\/}
  ```

  produces *Act effectively*.

Textcomp coverage

This is rather sparse at the moment.

	´0	´1	´2	´3	´4	´5	´6	´7	
´00x	0	1	2	3	4	5	6	7	˝0x
´01x	8	9	10	¸ 11	˛ 12	, 13	14	15	
´02x	16	17	„ 18	19	20	— 21	— 22	23	˝1x
´03x	24	25	26	27	28	29	30	31	
´04x	␣ 32	33	34	35	$ 36	37	38	' 39	˝2x
´05x	40	41	* 42	43	, 44	45	· 46	/ 47	
´06x	48	49	50	51	52	53	54	55	˝3x
´07x	56	57	58	59	60	− 61	62	63	
´10x	64	65	66	67	68	69	70	71	˝4x
´11x	72	73	74	75	76	77	78	◯ 79	
´12x	80	81	82	83	84	85	86	Ω 87	˝5x
´13x	88	89	90	91	92	93	94	95	
´14x	` 96	97	98	99	100	101	102	103	˝6x
´15x	104	105	106	107	108	109	110	111	
´20x	128	129	130	131	† 132	‡ 133	‖ 134	‰ 135	˝8x
´21x	• 136	℃ 137	138	139	*f* 140	141	142	143	
´22x	144	145	146	147	⁇ 148	¡ 149	150	™ 151	˝9x
´23x	152	¶ 153	154	155	156	℮ 157	158	159	
´24x	160	161	¢ 162	£ 163	¤ 164	¥ 165	¦ 166	§ 167	˝Ax
´25x	¨ 168	© 169	ª 170	171	¬ 172	173	® 174	175	
´26x	° 176	± 177	² 178	³ 179	´ 180	µ 181	¶ 182	· 183	˝Bx
´27x	184	¹ 185	º 186	√ 187	¼ 188	½ 189	¾ 190	€ 191	
´32x	208	209	210	211	212	213	× 214	215	˝Dx
´33x	216	217	218	219	220	221	222	223	
´36x	240	241	242	243	244	245	÷ 246	247	˝Fx
´37x	248	249	250	251	252	253	254	255	
	˝8	˝9	˝A	˝B	˝C	˝D	˝E	˝F	

Accompanying math packages

Baskervaldx works well with Times, so one may use math packages based on Times, or on one using Baskervaldx italics in place of Times italics.

For example, ordinary newtxmath works quite well, as in:

```
% If you use babel, load it here, before Baskervaldx
\usepackage[osf]{Baskervaldx} % tosf in text, tlf in math
\usepackage[vvarbb]{newtxmath} % math italic letters from Times
\usepackage[cal=boondoxo]{mathalfa} % mathcal from STIX, unslanted a bit
```

Here's an example to show both source and typeset text with this combination.

```
\textbf{Simplest form of the \textit{Central Limit Theorem}:} \textit{Let
$X_1$, $X_2,\cdots$ be a sequence of iid random variables with mean $0$
and variance $1$ on a probability space $(\Omega,\mathcal{F},\mathbb{P})$. Then}
\[\mathbb{P}\left(\frac{X_1+\cdots+X_n}{\sqrt{n}}\le y\right) \to\mathfrak{N}(y)
\coloneq\int_{-\infty}^y \frac{\mathrm{e}^{-t^2/2}}{\sqrt{2\uppi}}\,
\mathrm{d}t\quad\mbox{as $n\to\infty$,}\]
\textit{or, equivalently, letting} $S_n\coloneq\sum_1^n X_k$,
\[\mathbb{E} f\left(S_n/\sqrt{n}\right)\to \int_{-\infty}^\infty f(t)
\frac{\mathrm{e}^{-t^2/2}}{\sqrt{2\uppi}}\, \mathrm{d}t
\quad\mbox{as $n\to\infty$, for every $f\in\mathrm{b}
\mathcal{C}(\mathbb{R})$.}\]
```

Simplest form of the *Central Limit Theorem*: *Let $X_1, X_2, \cdots$ be a sequence of iid random variables with mean 0 and variance 1 on a probability space $(\Omega, \mathcal{F}, \mathbb{P})$. Then*

$$\mathbb{P}\left(\frac{X_1+\cdots+X_n}{\sqrt{n}}\le y\right) \to\mathfrak{N}(y)\coloneq\int_{-\infty}^y \frac{\mathrm{e}^{-t^2/2}}{\sqrt{2\uppi}}\,\mathrm{d}t\quad\mbox{as } n\to\infty,$$

or, equivalently, letting $S_n \coloneq \sum_1^n X_k$,

$$\mathbb{E} f\left(S_n/\sqrt{n}\right)\to \int_{-\infty}^\infty f(t)\frac{\mathrm{e}^{-t^2/2}}{\sqrt{2\uppi}}\,\mathrm{d}t\quad\mbox{as } n\to\infty, \text{ for every } f\in\mathrm{b}\mathcal{C}(\mathbb{R}).$$

To use the version of `newtxmath` with Baskervaldx math italics, use the following:

```
% If you use babel, load it here, before Baskervaldx
\usepackage[osf]{Baskervaldx} % tosf in text, tlf in math
\usepackage[baskervaldx,vvarbb]{newtxmath} % math italic letters from Baskervaldx
\usepackage[cal=boondoxo]{mathalfa} % mathcal from STIX, unslanted a bit
```

Here's the same source rendered with this preamble.

Simplest form of the *Central Limit Theorem*: *Let $X_1, X_2, \cdots$ be a sequence of iid random variables with mean 0 and variance 1 on a probability space $(\Omega, \mathcal{F}, \mathbb{P})$. Then*

$$\mathbb{P}\left(\frac{X_1+\cdots+X_n}{\sqrt{n}}\le y\right) \to\mathfrak{N}(y)\coloneq\int_{-\infty}^y \frac{\mathrm{e}^{-t^2/2}}{\sqrt{2\uppi}}\,\mathrm{d}t\quad\mbox{as } n\to\infty,$$

or, equivalently, letting $S_n \coloneq \sum_1^n X_k$,

$$\mathbb{E} f\left(S_n/\sqrt{n}\right)\to \int_{-\infty}^\infty f(t)\frac{\mathrm{e}^{-t^2/2}}{\sqrt{2\uppi}}\,\mathrm{d}t\quad\mbox{as } n\to\infty, \text{ for every } f\in\mathrm{b}\mathcal{C}(\mathbb{R}).$$