LATEX SUPPORT FOR EREWHON

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Erewhon is a font package based largely on Andrey V. Panov's *Heuristica*, but with so many changes that it is no longer strictly compatible with that package, and is offered instead as an enhanced alternative. (*Heuristica* extended the *Utopia* font family made available by the TEX Users' Group, adding many accented glyphs, Cyrillic glyphs, ligatures, superior and oldstyle fixed-width figures in all styles, and Small Caps in Regular style only. It is widely distributed as a free font collection in OpenType, TrueType and Type1 formats.) *Erewhon* is provided in OpenType and Type1 formats with complete LaTeX support files in encodings T1, TS1, LY1, T2A, T2B and T2C. Changes made in the transition from *Heuristica* to *Erewhon* include:

- *slanted* as well as *Italic* shapes;

- SMALL CAPS in **BOLD** as well as REGULAR upright shapes, with *ITALIC* and *SLANTED SMALL CAPS* shapes from the slanted variants;

- expanded lookup tables in the `.otf` files for users of XeLaTeX and LuaLaTeX;

- a number of f-ligatures have been modified, and a `T_h` ligature added;

- proportionally spaced figures (lining and oldstyle), adding to the existing tabold-style figures;

- full collections of superior lowercase letters (including è as ᵉ and é as ᵉ), mainly for the benefit of languages in which those are in common use—e.g., French, Spanish;

- size reduced by 6% from Heuristica, which matched the old version of Utopia— the new size matches that of Adobe's commercial UtopiaStd;

- shapes of some oldstyle figures modified to have more of an oldstyle appearance;

- fraction macros based on the new numerator and denominator figures;

- the bold upright face has been made less cramped.

The `newtx` package has been modified, as of version 1.26, to offer a new option `utopia` (or, equivalently, `heuristica` or `erewhon`) that uses math italic glyphs taken from Utopia and oldstyle figures from *Erewhon*. Its slanted Greek alphabets are constructed from

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the `txfonts` slanted Greek letters by reducing their italic angle from 15.5° to 13°, matching Utopia's italic angle. So, for Erewhon text and matching math, you can use[1]:

```
\usepackage[p,osf,scaled=.98]{erewhon}
\usepackage[varqu,varl]{inconsolata} % typewriter
\usepackage[type1,scaled=.95]{cabin} % sans serif like Gill Sans
\usepackage[utopia,vvarbb,bigdelims]{newtxmath}
```

The effect of the options `p,osf` is to force the default figure style in `erewhon` text to be proportional oldstyle 0123456789 while using lining figures 0123456789 in math mode. If no options are specified, tabular lining figures will be used throughout.

OPTIONS AVAILABLE:

- The option `scaled` allows you to change the scale. E.g., if you want *Erewhon* to render at the same size as the original *Utopia* or *Heuristica*, use `scaled=1.064`.

- The option `proportional`, or, equivalently, `p`, specifies the use of proportional rather than the default tabular figures.

- The `space` option allows you to specify a factor by which to increase the interword spacing, which is, IMO, a bit tight.

- The option `oldstyle`, or, equivalently, `osf`, specifies oldstyle figures in text mode—math mode always uses tabular lining figures. By itself, `osf` results in tabular oldstyle figures unless you also specify the option `p`, or `proportional`.

- The option `scosf` changes the figure style to `osf` only within small caps.

- The option `sups` changes the footnote marker style to use the superior figures from *Erewhon* rather than the default superscripts based on reduced lining figures, which usually appear too light. (The `superiors` package offers further options.)

Erewhon is so austere for a text font and *Inconsolata* is so fancy for a typewriter font that you may find they blend together all too well. For more of a distinction replace the `inconsolata` line above with

```
\usepackage{zlmtt} % serifed typewriter font extending cmtt
```

As Utopia text is a bit cramped, you might try applying a small amount of letterspacing (tracking) and increasing the interword spacing by means of the `microtype` package, or use the `space` option.

MACROS:

- `\textlf` and `\texttlf` render their arguments in proportional and tabular lining figures respectively, no matter what the default figure style. E.g., `\textlf{345}` produces 345.

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[1]There is most likely also a way to use `MathDesign` or `fourier` with at least partial compatibility.

- \textosf and \texttosf render their arguments in proportional and tabular oldstyle figures respectively, no matter what the default figure style. For example, \textosf{345} produces 345.

- \textsu renders its argument in superior figures, no matter what the default figure style. E.g., \textsu{345} produces ³⁴⁵.

- \textin renders its argument in inferior figures, no matter what the default figure style. E.g., \textin{345} produces ₃₄₅.

- \textnu renders its argument in numerator figures, no matter what the default figure style. E.g., \textnu{345} produces ³⁴⁵.

- \textde renders its argument in denominator figures, no matter what the default figure style. E.g., \textde{345} produces ₃₄₅.

- \textfrac renders its two arguments as a vulgar fraction, using \textnu for the numerator and \textde for the denominator. E.g., \textfrac{31}{64} produces ³¹⁄₆₄.

VERY BRIEF, NONSENSICAL MATH EXAMPLE:

Let $B(X)$ be the set of blocks of Λ_X and let $b(X) := |B(X)|$ so that $\hat{\phi} = \sum_{Y \subset X} (-1)^{b(Y)} b(Y)$.