

LATEX SUPPORT FOR EREWHON

MICHAEL SHARPE

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 T_EX 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 L^AT_EX support files in encodings T1, TS1, LY1, OT2, 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 è and é as é), 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 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 use¹:

Date: February 5, 2016.

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

```
\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 `scofsf` changes the figure style to `osf` only within small caps.
- The option `sup` 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{zlm} % serified 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.
- `\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 $\hat{\phi} = \sum_{Y \subset X} (-1)^{b(Y)} b(Y)$.

GLYPH COVERAGE EXAMPLES

Erewhon-Regular-tlf-ot2

	´0	´1	´2	´3	´4	´5	´6	´7	
´00x	Ѓ 0	Ѕ 1	Ц 2	Э 3	І 4	Є 5	Ђ 6	Ѓ 7	"0x
´01x	Ѓ 8	Ѕ 9	Ц 10	Э 11	і 12	є 13	ђ 14	ѓ 15	"1x
´02x	Ю 16	Ж 17	Й 18	Ё 19	Ѹ 20	Ө 21	Š 22	Я 23	"2x
´03x	ю 24	ж 25	й 26	ё 27	Ѹ 28	ө 29	š 30	я 31	"3x
´04x	¨ 32	! 33	" 34	Ђ 35	” 36	% 37	’ 38	’ 39	"4x
´05x	(40	) 41	* 42	Ђ 43	, 44	- 45	. 46	/ 47	"5x
´06x	0 48	1 49	2 50	3 51	4 52	5 53	6 54	7 55	"6x
´07x	8 56	9 57	: 58	; 59	« 60	1 61	» 62	? 63	"7x
´10x	˘ 64	А 65	Б 66	Ц 67	Д 68	Е 69	Ф 70	Г 71	"8x
´11x	Х 72	И 73	Ј 74	К 75	Л 76	М 77	Н 78	О 79	"9x
´12x	П 80	Ч 81	Р 82	С 83	Т 84	У 85	В 86	Щ 87	"Ax
´13x	Ш 88	Ы 89	Э 90	[91	“ 92	] 93	Ь 94	Ъ 95	"Bx
´14x	‘ 96	а 97	б 98	ц 99	д 100	е 101	ф 102	г 103	"Cx
´15x	Х 104	И 105	Ј 106	К 107	Л 108	М 109	Н 110	О 111	"Dx
´16x	П 112	Ч 113	Р 114	С 115	Т 116	У 117	В 118	Щ 119	"Ex
´17x	Ш 120	Ы 121	Э 122	— 123	— 124	№ 125	Ђ 126	Ђ 127	"Fx
	"8	"9	"A	"B	"C	"D	"E	"F	

(This 7-bit encoding is intended for users lacking a Cyrillic keyboard. For further information, consult the documentation for the package `nimbus15`.)

Erewhon-Regular-tlf-t2a

	ˆ 0	ˆ 1	ˆ 2	ˆ 3	ˆ 4	ˆ 5	ˆ 6	ˆ 7	
ˆ00x	ˆ 0	ˆ 1	ˆ 2	ˆ 3	ˆ 4	ˆ 5	ˆ 6	ˆ 7	"0x
ˆ01x	ˆ 8	ˆ 9	ˆ 10	ˆ 11	ˆ 12	I 13	fb 14	fh 15	"1x
ˆ02x	" 16	" 17	fj 18	fk 19	ˆ 20	- 21	— 22	Th 23	"2x
ˆ03x	24	1 25	J 26	ff 27	fi 28	fl 29	ffi 30	ffl 31	"3x
ˆ04x	_ 32	! 33	" 34	# 35	\$ 36	% 37	& 38	' 39	"4x
ˆ05x	(40	) 41	* 42	+ 43	, 44	- 45	. 46	/ 47	"5x
ˆ06x	0 48	1 49	2 50	3 51	4 52	5 53	6 54	7 55	"6x
ˆ07x	8 56	9 57	: 58	; 59	< 60	= 61	> 62	? 63	"7x
ˆ10x	@ 64	A 65	B 66	C 67	D 68	E 69	F 70	G 71	"8x
ˆ11x	H 72	I 73	J 74	K 75	L 76	M 77	N 78	O 79	"9x
ˆ12x	P 80	Q 81	R 82	S 83	T 84	U 85	V 86	W 87	"Ax
ˆ13x	X 88	Y 89	Z 90	[91	\ 92	] 93	^ 94	_ 95	"Bx
ˆ14x	' 96	a 97	b 98	c 99	d 100	e 101	f 102	g 103	"Cx
ˆ15x	h 104	i 105	j 106	k 107	l 108	m 109	n 110	o 111	"Dx
ˆ16x	p 112	q 113	r 114	s 115	t 116	u 117	v 118	w 119	"Ex
ˆ17x	X 120	y 121	Z 122	{ 123	| 124	} 125	~ 126	- 127	"Fx
ˆ20x	Г 128	F 129	Ђ 130	Ђ 131	Н 132	Ж 133	134	Љ 135	"Gx
ˆ21x	Ї 136	К 137	138	139	Æ 140	Н 141	Н 142	Ѕ 143	"Hx
ˆ22x	Ө 144	Ç 145	Ÿ 146	Y 147	Y 148	X 149	Ц 150	151	"Ix
ˆ23x	Ч 152	Є 153	Ə 154	Ђ 155	Ë 156	№ 157	α 158	§ 159	"Jx
ˆ24x	Г 160	F 161	ђ 162	ћ 163	h 164	Ж 165	166	Љ 167	"Kx
ˆ25x	İ 168	К 169	170	171	æ 172	Н 173	Н 174	Ѕ 175	"Lx
ˆ26x	ө 176	ç 177	ÿ 178	Y 179	Y 180	X 181	Ц 182	183	"Mx
ˆ27x	ч 184	є 185	ə 186	ђ 187	ë 188	„ 189	« 190	» 191	"Nx
ˆ30x	A 192	B 193	B 194	Г 195	Д 196	E 197	Ж 198	З 199	"Ox
ˆ31x	И 200	Й 201	К 202	Л 203	М 204	Н 205	О 206	П 207	"Px
ˆ32x	P 208	C 209	T 210	У 211	Ф 212	X 213	Ц 214	Ч 215	"Qx
ˆ33x	Ш 216	Щ 217	Ъ 218	Ы 219	Ь 220	Э 221	Ю 222	Я 223	"Rx
ˆ34x	a 224	б 225	B 226	Г 227	Д 228	e 229	Ж 230	З 231	"Sx
ˆ35x	и 232	й 233	К 234	Л 235	М 236	Н 237	О 238	П 239	"Tx
ˆ36x	p 240	c 241	T 242	У 243	Ф 244	X 245	Ц 246	Ч 247	"Ux
ˆ37x	ш 248	щ 249	ъ 250	ы 251	ь 252	э 253	ю 254	я 255	"Vx
	"8	"9	"A	"B	"C	"D	"E	"F	

Erewhon-Regular-tlf-t2b

	´0	´1	´2	´3	´4	´5	´6	´7	
´00x	` ₀	´ ₁	ˆ ₂	˜ ₃	¨ ₄	˝ ₅	˚ ₆	ˇ ₇	"0x
´01x	˘ ₈	˙ ₉	˚ ₁₀	˛ ₁₁	˜ ₁₂	I ₁₃	fb ₁₄	fh ₁₅	"1x
´02x	“ ₁₆	” ₁₇	ƒj ₁₈	fk ₁₉	˘ ₂₀	– ₂₁	— ₂₂	Th ₂₃	"2x
´03x	₂₄	l ₂₅	J ₂₆	ff ₂₇	fi ₂₈	fl ₂₉	ffi ₃₀	ffl ₃₁	"3x
´04x	_ ₃₂	! ₃₃	" ₃₄	# ₃₅	\$ ₃₆	% ₃₇	& ₃₈	' ₃₉	"4x
´05x	(₄₀)	)₄₁	* ₄₂	+ ₄₃	, ₄₄	- ₄₅	. ₄₆	/ ₄₇	"5x
´06x	0 ₄₈	l ₄₉	2 ₅₀	3 ₅₁	4 ₅₂	5 ₅₃	6 ₅₄	7 ₅₅	"6x
´07x	8 ₅₆	9 ₅₇	: ₅₈	; ₅₉	< ₆₀	= ₆₁	> ₆₂	? ₆₃	"7x
´10x	@ ₆₄	A ₆₅	B ₆₆	C ₆₇	D ₆₈	E ₆₉	F ₇₀	G ₇₁	"8x
´11x	H ₇₂	I ₇₃	J ₇₄	K ₇₅	L ₇₆	M ₇₇	N ₇₈	O ₇₉	"9x
´12x	P ₈₀	Q ₈₁	R ₈₂	S ₈₃	T ₈₄	U ₈₅	V ₈₆	W ₈₇	"Ax
´13x	X ₈₈	Y ₈₉	Z ₉₀	[₉₁	\ ₉₂	]₉₃	^ ₉₄	_ ₉₅	"Bx
´14x	' ₉₆	a ₉₇	b ₉₈	c ₉₉	d ₁₀₀	e ₁₀₁	f ₁₀₂	g ₁₀₃	"Cx
´15x	h ₁₀₄	i ₁₀₅	j ₁₀₆	k ₁₀₇	l ₁₀₈	m ₁₀₉	n ₁₁₀	o ₁₁₁	"Dx
´16x	p ₁₁₂	q ₁₁₃	r ₁₁₄	s ₁₁₅	t ₁₁₆	u ₁₁₇	v ₁₁₈	w ₁₁₉	"Ex
´17x	x ₁₂₀	y ₁₂₁	z ₁₂₂	{ ₁₂₃	|₁₂₄	} ₁₂₅	~ ₁₂₆	- ₁₂₇	"Fx
´20x	₁₂₈	F ₁₂₉	₁₃₀	ƒ ₁₃₁	h ₁₃₂	Ж ₁₃₃	₁₃₄	З ₁₃₅	"Gx
´21x	Љ ₁₃₆	ќ ₁₃₇	₁₃₈	Ѓ ₁₃₉	₁₄₀	Н ₁₄₁	Н ₁₄₂	Н ₁₄₃	"Hx
´22x	Ө ₁₄₄	₁₄₅	Ÿ ₁₄₆	Y ₁₄₇	₁₄₈	X ₁₄₉	₁₅₀	₁₅₁	"Ix
´23x	Ч ₁₅₂	Ѓ ₁₅₃	Ө ₁₅₄	₁₅₅	Ё ₁₅₆	№ ₁₅₇	¤ ₁₅₈	§ ₁₅₉	"Jx
´24x	₁₆₀	F ₁₆₁	₁₆₂	ƒ ₁₆₃	h ₁₆₄	Ж ₁₆₅	₁₆₆	З ₁₆₇	"Kx
´25x	Љ ₁₆₈	ќ ₁₆₉	₁₇₀	Ѓ ₁₇₁	₁₇₂	Н ₁₇₃	Н ₁₇₄	Н ₁₇₅	"Lx
´26x	Ө ₁₇₆	₁₇₇	Ÿ ₁₇₈	Y ₁₇₉	₁₈₀	X ₁₈₁	₁₈₂	₁₈₃	"Mx
´27x	Ч ₁₈₄	Ѓ ₁₈₅	Ө ₁₈₆	₁₈₇	Ё ₁₈₈	„ ₁₈₉	« ₁₉₀	» ₁₉₁	"Nx
´30x	A ₁₉₂	B ₁₉₃	B ₁₉₄	Г ₁₉₅	Д ₁₉₆	E ₁₉₇	Ж ₁₉₈	З ₁₉₉	"Ox
´31x	И ₂₀₀	Й ₂₀₁	К ₂₀₂	Л ₂₀₃	М ₂₀₄	Н ₂₀₅	О ₂₀₆	П ₂₀₇	"Px
´32x	P ₂₀₈	C ₂₀₉	T ₂₁₀	У ₂₁₁	Ф ₂₁₂	X ₂₁₃	Ц ₂₁₄	Ч ₂₁₅	"Qx
´33x	Ш ₂₁₆	Щ ₂₁₇	Ъ ₂₁₈	Ы ₂₁₉	Ь ₂₂₀	Э ₂₂₁	Ю ₂₂₂	Я ₂₂₃	"Rx
´34x	a ₂₂₄	б ₂₂₅	B ₂₂₆	Г ₂₂₇	Д ₂₂₈	e ₂₂₉	Ж ₂₃₀	З ₂₃₁	"Sx
´35x	и ₂₃₂	й ₂₃₃	К ₂₃₄	Л ₂₃₅	М ₂₃₆	Н ₂₃₇	О ₂₃₈	П ₂₃₉	"Tx
´36x	p ₂₄₀	C ₂₄₁	T ₂₄₂	У ₂₄₃	Ф ₂₄₄	X ₂₄₅	Ц ₂₄₆	Ч ₂₄₇	"Ux
´37x	ш ₂₄₈	щ ₂₄₉	ъ ₂₅₀	ы ₂₅₁	ь ₂₅₂	э ₂₅₃	ю ₂₅₄	я ₂₅₅	"Vx
	"8	"9	"A	"B	"C	"D	"E	"F	

Erewhon-Regular-tlf-t2c

	0	1	2	3	4	5	6	7	
00x	˘ ₀	˘ ₁	ˆ ₂	˘ ₃	¨ ₄	˘ ₅	˚ ₆	˘ ₇	"0x
01x	˘ ₈	˘ ₉	˙ ₁₀	˙ ₁₁	˘ ₁₂	I ₁₃	fb ₁₄	fh ₁₅	"1x
02x	" ₁₆	" ₁₇	fj ₁₈	fk ₁₉	˘ ₂₀	— ₂₁	— ₂₂	Ih ₂₃	"1x
03x	₂₄	l ₂₅	J ₂₆	ff ₂₇	fi ₂₈	fl ₂₉	ffi ₃₀	ffl ₃₁	"2x
04x	_ ₃₂	! ₃₃	" ₃₄	# ₃₅	\$ ₃₆	% ₃₇	& ₃₈	' ₃₉	"2x
05x	(₄₀)	)₄₁	* ₄₂	+ ₄₃	, ₄₄	- ₄₅	. ₄₆	/ ₄₇	"3x
06x	0 ₄₈	l ₄₉	2 ₅₀	3 ₅₁	4 ₅₂	5 ₅₃	6 ₅₄	7 ₅₅	"3x
07x	8 ₅₆	9 ₅₇	: ₅₈	; ₅₉	< ₆₀	= ₆₁	> ₆₂	? ₆₃	"4x
10x	@ ₆₄	A ₆₅	B ₆₆	C ₆₇	D ₆₈	E ₆₉	F ₇₀	G ₇₁	"4x
11x	H ₇₂	I ₇₃	J ₇₄	K ₇₅	L ₇₆	M ₇₇	N ₇₈	O ₇₉	"5x
12x	P ₈₀	Q ₈₁	R ₈₂	S ₈₃	T ₈₄	U ₈₅	V ₈₆	W ₈₇	"5x
13x	X ₈₈	Y ₈₉	Z ₉₀	[₉₁	\ ₉₂	]₉₃	^ ₉₄	_ ₉₅	"6x
14x	' ₉₆	a ₉₇	b ₉₈	c ₉₉	d ₁₀₀	e ₁₀₁	f ₁₀₂	g ₁₀₃	"6x
15x	h ₁₀₄	i ₁₀₅	j ₁₀₆	k ₁₀₇	l ₁₀₈	m ₁₀₉	n ₁₁₀	o ₁₁₁	"7x
16x	p ₁₁₂	q ₁₁₃	r ₁₁₄	s ₁₁₅	t ₁₁₆	u ₁₁₇	v ₁₁₈	w ₁₁₉	"7x
17x	x ₁₂₀	y ₁₂₁	Z ₁₂₂	{ ₁₂₃	|₁₂₄	} ₁₂₅	~ ₁₂₆	- ₁₂₇	"8x
20x	₁₂₈	Ц ₁₂₉	Т ₁₃₀	Ђ ₁₃₁	h ₁₃₂	₁₃₃	₁₃₄	З ₁₃₅	"8x
21x	₁₃₆	К ₁₃₇	₁₃₈	К ₁₃₉	₁₄₀	Н ₁₄₁	₁₄₂	Н ₁₄₃	"9x
22x	Ө ₁₄₄	е ₁₄₅	е ₁₄₆	₁₄₇	₁₄₈	Х ₁₄₉	Ц ₁₅₀	Ө ₁₅₁	"9x
23x	Ч ₁₅₂	₁₅₃	Ә ₁₅₄	₁₅₅	Ё ₁₅₆	№ ₁₅₇	α ₁₅₈	§ ₁₅₉	"Ax
24x	₁₆₀	Ц ₁₆₁	Т ₁₆₂	Ђ ₁₆₃	h ₁₆₄	₁₆₅	₁₆₆	З ₁₆₇	"Ax
25x	₁₆₈	К ₁₆₉	₁₇₀	к ₁₇₁	₁₇₂	Н ₁₇₃	₁₇₄	Н ₁₇₅	"Bx
26x	ө ₁₇₆	е ₁₇₇	е ₁₇₈	₁₇₉	₁₈₀	Х ₁₈₁	Ц ₁₈₂	Ө ₁₈₃	"Bx
27x	ч ₁₈₄	₁₈₅	Ә ₁₈₆	₁₈₇	ё ₁₈₈	„ ₁₈₉	« ₁₉₀	» ₁₉₁	"Cx
30x	A ₁₉₂	Б ₁₉₃	В ₁₉₄	Г ₁₉₅	Д ₁₉₆	Е ₁₉₇	Ж ₁₉₈	З ₁₉₉	"Cx
31x	И ₂₀₀	Й ₂₀₁	К ₂₀₂	Л ₂₀₃	М ₂₀₄	Н ₂₀₅	О ₂₀₆	П ₂₀₇	"Dx
32x	Р ₂₀₈	С ₂₀₉	Т ₂₁₀	У ₂₁₁	Ф ₂₁₂	Х ₂₁₃	Ц ₂₁₄	Ч ₂₁₅	"Dx
33x	Ш ₂₁₆	Щ ₂₁₇	Ъ ₂₁₈	Ы ₂₁₉	Ь ₂₂₀	Э ₂₂₁	Ю ₂₂₂	Я ₂₂₃	"Ex
34x	a ₂₂₄	б ₂₂₅	в ₂₂₆	г ₂₂₇	д ₂₂₈	е ₂₂₉	ж ₂₃₀	з ₂₃₁	"Ex
35x	и ₂₃₂	й ₂₃₃	к ₂₃₄	л ₂₃₅	м ₂₃₆	н ₂₃₇	о ₂₃₈	п ₂₃₉	"Fx
36x	p ₂₄₀	c ₂₄₁	t ₂₄₂	y ₂₄₃	ф ₂₄₄	x ₂₄₅	ц ₂₄₆	ч ₂₄₇	"Fx
37x	ш ₂₄₈	щ ₂₄₉	ъ ₂₅₀	ы ₂₅₁	ь ₂₅₂	э ₂₅₃	ю ₂₅₄	я ₂₅₅	"Fx
	"8	"9	"A	"B	"C	"D	"E	"F	