

This font is an expanded version of earlier versions, hence named Rgreekl2, which stands for Renaissance Greek with Ligatures version 2.0. It is a large font with approximately 960 glyphs and uses Unicode WGL4 numbering to accommodate the number of characters. However, semantically **It is not a Unicode font.** It is beta encoded similar to other Greek fonts which use beta encoding. **This font is freeware and may be used and distributed freely.** I retain the copyright however, in order to make improvements, expand it, or otherwise come out with an improved version. It is not an imitation of any particular font such as those of Robert Estienne, Holbein or Aldus Manutius. It is rather a composite font which incorporates many glyphs (sorts) from each of the many early printers. It is hoped that this font gains a modest distribution and not be a mere curiosity. The font is meant to imitate early printed Greek from the age of incunabula to the end of the 18th century. It is not the intention of this font to make Greek any more difficult or obscure than it already is for beginning students. The font is essentially a font for scholars.

This font is organized in such a way that it can be used either as a standard Greek font or a font with Ligatures. The basic Latin section contains control codes and keyboard characters for standard Greek with ligatures for *kai*, *ou* and *ov*. The Latin supplement section contains Unicode control codes, prepositional prefixes, alternate letter forms and essential diacriticals. These two sections are all that is necessary to write Greek in a Renaissance style. The Latin extended A section is used for two or three letter combinations which more adequately imitate the style of Renaissance typesetters. The Latin extended B section contains characters which are variants of those given in the previous section as well as some characters from earlier minuscule forms (used in some Renaissance fonts), entire words found in most Renaissance printed books and a number of combining characters used to make up other ligatures not previously included.

This font has a number of blank spaces in the character charts. The reason for this is twofold, 1- for further developments and 2- because the software I used to create the .ttf file would overwrite some Unicode control characters, if I wrote to those character positions. These are marked in the charts by ■.

Depending on which version of Windows and which version of MSWORD the user has, some characters may not display by the usual method of Alt+xxxx where xxxx is the decimal value of the character code. This is a windows problem and can be worked around by using the Insert Symbol method. It is suggested that the user create for himself a template called Rgreekl.dot where the preferences and shortcut keys to the various characters can be defined.

The main source I used for this font was initially the Portus edition of Proclus Diadochus' *Platonic Theology* published in Frankfurt in 1618. In addition I have used and consulted various internet sources and the articles by Coleman, Ingram and Wallace as well as a number of books printed by Stephanus, Holbein, Manutius and Sheldon Theater.

For those who would use the font mainly as a standard Greek font of "Old Face" design I have provided a number of symbols for use in the critical apparatus of a text. Because of the size of ascenders and descenders there is more leading in this font than normal. If one wishes one could partially solve this effect with paragraph line spacing.

I cannot say that this font is complete in the sense that every Renaissance Ligature is represented; many early printers had at least 500 sorts in their boxes and some had more than a thousand. The Renaissance printers imitated the minuscule current at their time, and the glyphs they used were determined by the minuscule. Thus this font can also be used as a late minuscule font. If there is any sort (Glyph) conspicuously missing which the user finds essential, I would appreciate hearing from him/her in that regard, since I think a font of this type is never fully finished and is of necessity a work in progress.

KEYBOARD LAYOUT Rgreekl2.ttf

~	†	-	α	γ	ω	υ	χ	*	΄	΅	-	΅	Backspace
Tab	Θ	Ω	E	P	T	Ψ	Υ	I	O	Π	{	}	,
Caps Lock	α	Σ	Δ	Φ	Γ	H	Ј	K	Λ	·	, γ	←	Enter
Shift	ζ	Z	X	Ξ	β	B	ν	M	,	«	»	,	Shift
Ctrl	Fn	▤	Alt	Spacebar					AltGr	▤	Ctrl		

Keyboards vary from manufacturer to manufacturer and the above is only an example. The reader will have to interpret the above to meet his/her layout.

For characters above #161 hold down the Alt key while typing 0+ the decimal value of the character on the numeric keyboard. (some keyboards and some characters may require an enter). For characters above 256 your word processor must be set up for foreign language support. If the Alt+ method does not work for all characters (Windows 2000 and lower) the user may insert the character through the insert symbol command on the pull down.

Note: that if your word processor uses "smart quotes" these must be turned off in order to display character #034 and #039 correctly. Character 039 is the mark of elision and not a smooth breathing. It is higher above the base than the smooth breathing. Characters 033 and 045 are used for footnotes. Arabic numerals are provided for the convenience of pagination.

Characters 0198-0205 are forms of the article. Characters 0206-0213 are diacriticals for initial upper case characters. They are so designed as separate (non-combining) characters and may be typed before the character to which they apply, or may be used as combining characters for narrow characters and #0161 and typed after the appropriate character. Characters 0192-0197 are combinations of accents and breathings and like all other diacriticals are typed after the character to which they apply. Those diacriticals which are not obvious in the diacritical section (0768-0869) are marked with their meaning. The listing of characters is unfortunately not completely alphabetical. This is done because some characters are required to hold their position to make the text as you type codes work (· ¶) properly.

Characters 0768, 0769, 0787, 0788, and 0855-0858 are diacriticals designed for use with two character ligatures. Characters 0859-0863 are in this revision no longer blank.

Characters 0180, 0181, and 0214 are for numbers, as well as 0377-0383. Bullets are provided in the Unicode Geometric Shapes section 9632-9679 as well as common arrows 8592-8597. The remaining letter forms are combining characters which appear above the letter to which they are attributed. If the user would want them in a superscript position, he/she should type a space between the letter and the combining character.

Characters 9657 and 9658 are combining characters for numbered bullets. The user should type the letter/number first and then type the character and an additional space. 880 and 881 are spacing characters designed to allow proper connections of Minuscule characters 880 is a narrow space (approximately 1/3 normal spacebar space) and 881 is a micro-space (approximately 1/6 normal spacebar space). These are useful often for combining characters of the other sections also allowing a more proper connection between the elements of a ligature. See Characters 0161, 567-591, 7680, 7682, 7709, 7711, 7722, 7723, 7727, 7728, 7730, 7733, 7734 and 7735

RGREEKL BASIC LATIN (0-32 controls)

32 SPACE	64 -	96 `
33 †	65 A	97 α
34 ρ	66 B	98 β
35 α	67 Ε	99 ξ
36 γ	68 Δ	100 δ
37 ω	69 E	101 ε
38 ς	70 Φ	102 φ
39 ,	71 Γ	103 γ
40 .	72 H	104 η
41 ''	73 I	105 ι
42 *	74 Ι	106 ζ
43 ..	75 K	107 κ
44 ,	76 Λ	108 λ
45 -	77 M	109 μ
46 .	78 N	110 ν
47 '	79 O	111 ο
48 0	80 Π	112 π
49 1	81 Θ	113 θ
50 2	82 P	114 ρ
51 3	83 Σ	115 σ
52 4	84 T	116 τ
53 5	85 Υ	117 υ
54 6	86 -	118 ζ
55 7	87 Ω	119 ω
56 8	88 X	120 χ
57 9	89 Ψ	121 ψ
58 ·	90 Z	122 ζ
59 ;	91 [123 {
60 «	92 `	124 „
61 ^	93]	125 }
62 »	94 ρ	126 ~
63 .	95 _	127 .

RGREEKL LATIN SUPPLEMENT (128-160 Unicode controls)

160	192 " "	224 ω̄ περι
161 λ α	193 " "	225 ω̄ προ
162 λπο ἀπο	194 " "	226 ρ ρ
163 θ β	195 " "	227 εχ ρα
164	196 " "	228 εγ ρι
165 γδ γἀρ	197 " "	229 εθ ρο
166 γΓ γγ	198 τ̄ τὴν	230 εω ρω
167 §	199 τ̄ τὸν	231 σ σ
168 γψ γεν	200 τ̄ το	232 Σ σ
169 δ δ	201 τ̄ τῆς	233 Σα σα
170 δ̄ δὲ	202 τ̄ τῶν	234 σαγ σαι
171 Δψ δια	203 τ̄ τοῦ	235 σκ σκ
172 ε ε	204 τ̄σ τοὺς	236 σῇ σθ
173 ει ει	205 τ̄τ ταῖς	237 σῇσ σθαι
174 η ει	206 ' '	238 Σο σο
175 εκ εκ	207 ' '	239 σι σσ
176 εν εν	208 " "	240 Σ στ
177 εξ εξ	209 " "	241 σᾳ σται
178 επι επι	210 " "	242 σιν σιν
179 ευ ευ	211 " "	243 Χ σχ
180 ο ο	212 " "	244 Ω σω
181 η	213 " "	245 Τ τ
182 ¶	214 Φ	246 Τα τα
183 ·	215 Σ	247 Ο ται
184 η η	216 Ζ ον	248 τᾳ ται
185 ιω ιη	217 Θ ος	249 Ζ ται
186 καγ και	218 Σκ οὐκ	250 Ται ται
187 κτ̄ κατὰ	219 Σν οῦν	251 τω του
188 λλ λλ	220 Σσ ...ονς	252 Λ θ
189 μαγ μαι	221 ω π	253 υ ν
190 μψ μεν	222 ωρα παρα	254 θε θπ
191 μτ̄ μετὰ	223 ωφ περ...	255 δ ω

RGREEKL LATIN EXTENDED A

256 αι αι	288 ιε θε	320 ση ση	352 ■
257 αγ αι	289 ηθ θει	321 σι σι	353 ■
258 ἀλ ἀλ	290 ηθη θη	322 συ συ	354 τη τη
259 ἀλλ ἀλλ	291 ιι θι	323 σα σπα	355 τιω την
260 αν αν	292 ιν θν	324 ανα σπαι	356 τι τι
261 απ απ	293 ιο θο	325 ανη σπαι	357 ιι τι
262 αρ αρ	294 ιρ θρ	326 αναν σπαν	358 το το
263 αρρ αρ	295 ιν θν	327 ανο σπο	359 τρ τρ
264 δρ αρ	296 νν νν	328 ανω σπω	360 ττ ττ
265 ας ας	297 κα κα	329 ανα σσα	361 τυ τυ
266 αυ αυ	298 κο κο	330 αναν σσαν	362 υ υι
267 γα γα	299 μα μα	331 ανω σσω	363 υω υν
268 γε γε	300 μιω μην	332 σα στα	364 υς υς
269 γι γει	301 μι μι	333 σε στε	365 χα χα
270 γδι γεν	302 μυ μν	334 σι στει	366 χαν χαν
271 γι γι	303 μυ μν	335 ση στη	367 χη χη
272 γν γν	304 μγ μνι	336 σι στι	368 χω χην
273 γο γο	305 πα πα	337 σο στο	369 χι χι
274 γρ γρ	306 πε πε	338 ■	370 χρ χρ
275 γν γν	307 πι πει	339 ■	371 χω χω
276 δα δα	308 πιω πην	340 σι στυ	372 ψαν ψαν
277 δε δε	309 πι πι	341 σω στω	373 ψι ψει
278 δι δει	310 πλ πλ	342 σα σχα	374 ψι ψι
279 δδι δεν	311 πν πν	343 σι σχει	375 ψυ ψυ
280 δι δι	312 πο πο	344 σδω σχην	376 ■
281 Δρ διο	313 πω ππ	345 σρ σχο	377 :
282 δυ δυ	314 πρ πρ	346 σρ σχρ	378 (
283 δω δων	315 πτ πτ	347 σω σχων	379)
284 ἐπιν ἐπεν	316 πυ πυ	348 σω σχω	380 '
285 δ ερ	317 πω πω	349 τα τα	381 ■
286 δι εστι	318 σα σα	350 τε τε	382 ■
287 ια θα	319 σε σε	351 τι τει	383 ,

RGREEK L LATIN EXTENDED B

384 ά α	416 δέξ̄ δεξ̄	448 ή η	480 μ́ ν	512 σθαί σθαι	544 τόν̄ τοῦ	576 μ
385 φ́ α	417 δη̄ δη̄	449 λ́ η	481 ρ́ ν	513 σ́ σι	545 τόρ̄ τρ	577 π
386 Δήί αθί	418 δάχ̄ διᾱ	450 θ́ θ	482 ζ̄ νικ...	514 σκά σκα	546 τώρ̄ τω	578 ω̄
387 Δήλ̄ αλ̄	419 δύρ̄ διο̄	451 θλ̄ θλ̄	483 ζ̄ ξ	515 σκή σκη	547 τώρ̄ τω	579 ω̄
388 Δήλ̄ αλλ̄	420 δδ̄ δο̄	452 θρο̄ θρο̄	484 Θ̄ οι	516 σκρ̄ σκο	548 τψ̄ τῶν	580 Κ
389 δη̄ αν̄	421 δρ̄ δρ̄	453 θρω̄ θρω̄	485 δη̄ οίον	517 σμ̄ σμ̄	549 ύ ύ	581 σ
390 ω̄ αυτί	422 δγ̄ δυαδί	454 ξ̄ ν	486 Θ̄ ον	518 σσ̄ σσ̄	550 υν̄ υν̄	582 ᾱ
391 αέξ̄ αξ̄	423 έ ε	455 κ́ κ	487 Σ̄ ον	519 σσ̄ σσ̄	551 υν̄ υν̄	583 ω̄
392 αοριστ̄	424 ζ́ ε	456 λ́ κ	488 ζ̄ οτι	520 ονή σση	552 Σ̄ ***	584 ᾱ
393 αρα	425 δ́ ε	457 ζ̄ καῑ	489 ζ̄ ούδε	521 ή στ	553 υν̄ υσι	585 ζ̄
394 αύτο̄ αύτο̄	426 ζ̄ ω̄ ζ̄ γω̄	458 κφρ̄ καν̄	490 ζ̄ ούκα	522 ή στ	554 φ̄ φ̄	586 τ̄
395 αύτε̄ αύτο̄	427 εῑ εῑ	459 κεφάλαιον	491 ζ̄ ους	523 Σ̄ στη	555 φῡ φῑ	587 τ̄
396 αύτιδ̄ αύτω̄	428 ζ̄ εῑ	460 κῑ κι	492 ζ̄ ούτος	524 σφ̄ σφ̄	556 φφ̄ φφ̄	588 ς̄
397 ύ β̄	429 ζ̄ εῑ	461 κλ̄ κων̄	493 πᾱ παῑ	525 ζε̄ σχε	557 φ̄ φρ̄	589 χ̄
398 β̄ β̄	430 ζ̄ ζ̄ είναι	462 κν̄ κν̄	494 πρ̄ παρ̄	526 ζη̄ σχη̄	558 χᾱ χαῑ	590 ς̄
399 Γ̄ γ̄	431 ζ̄ ζ̄ είναι	463 κρ̄ κρ̄	495 πρ̄ παρ̄	527 ζη̄ σχη̄	559 χαρ̄ χαρ̄	591 ψ̄
400 Γ̄ γ̄	432 ζ̄ ζ̄ είναι	464 λ̄ λ	496 ω̄ παρ̄	528 ζη̄ σχῑ	560 χη̄ χη̄	
401 ■	433 ζ̄ εισί	465 λᾱ λᾱ	497 πζ̄ *	529 ζη̄ σχῡ	561 ς̄ χθ̄	
402 ■	434 ζ̄ ελ̄	466 λσ̄ λσ̄	498 ω̄ περ̄	530 ζη̄ σχῡ	562 ψε̄ ψε̄	
403 γᾱ γαῑ	435 ζ̄ ελλ̄	467 λ̄ λσ̄	499 π̄ περ̄	531 σω̄ σω̄	563 ψη̄ ψη̄	
404 γάρ̄ γαρ̄	436 γν̄ εν̄	468 μ̄ μ	500 ω̄ περ̄	532 σ̄ σων̄	564 ψω̄ ψω̄	
405 γ̄ γαρ̄	437 ζ̄ ζ̄ επειδή̄	469 μζ̄ μάτων	501 πλ̄ **	533 ζε̄ τας̄	565 ω̄ ω̄	
406 γ̄ γαρ̄	438 ζ̄ ζ̄ επῑ	470 μθ̄ μεθ̄	502 π̄ πο	534 ζε̄ τανθᾱ	566 ζ̄ ως̄	
407 Γ̄ γγ̄	439 ζ̄ ζ̄ ζ̄ επῑ	471 Μ̄ μεν̄	503 πρ̄ προ	535 ζε̄ ταντᾱ	567 ᾱ	
408 Γ̄ γγ̄	440 ζ̄ ζ̄ επῑ	472 μν̄ μεν̄	504 ζ̄ προς̄	536 Τ̄ την̄	568 γ̄	
409 γ̄ γινεταῑ	441 ζ̄ ερ̄	473 μγ̄ μεν...	505 Θ̄ ορ̄	537 Ζ̄ της̄	569 δ̄	
410 γκ̄ γκ̄	442 ζ̄ ζ̄ εστῑ	474 μη̄ μη̄	506 ζ̄ σαν̄	538 τρ̄ τερ̄	570 δ̄	
411 γλ̄ γλ̄	443 ζ̄ εστῑ	475 με̄ μεσ...	507 Ζ̄ σαντᾱ	539 Ζ̄ ...τικ...	571 ζ̄	
412 γο̄ γο̄	444 ζ̄ ετ̄	476 με̄ μετά̄	508 σβ̄ σρ̄	540 Ζ̄ το̄	572 Ζ̄	
413 γ̄ γράφεταῑ	445 ζ̄ ετο̄	477 μο̄ μο̄	509 σε̄ σεῑ	541 δ̄ το̄	573 Ζ̄	
414 γω̄ γω̄	446 ζ̄ εν̄	478 μω̄ μω̄	510 σε̄ σεῑ	542 θ̄ τον̄	574 κ̄	
415 δέξ̄ δεξ̄	447 Ζ̄ ζ̄	479 μλ̄ μων̄	511 σλ̄ ση̄	543 Ξ̄ τρο̄	575 κ̄	

*παρακείμενος **πληγθυντι... *** ὑπερσυντελικ...

RGREEKL DIACRITICAL MARKS

768 `	793 ^ iς	818 ~	843 ~ ...των	868 ι
769 '	794 ^ ης	819 ~	844 ~ ...των	869 δι
770 ^ ην	795 ^ ηρ	820 ,	845 χ ...τών	870 ε
771 ~	796 ~ αρ	821 □	846 ην	871 η
772 -	797 ~ ωρ	822 □	847 ης	872 ι
773 --	798 ~ ωρ	823 □	848 ι	873 ο
774 ~	799 ~ αν	824 □	849 ν	874 ον
775 .	800 ~ αν	825 ,	850 οι	875 ος
776 ..	801 ~ ας	826 ,	851 κ	876 ι
777 ✓ ας	802 ~ οις	827 ~	852 ας	877 τ
778 ✓ αν	803 ~ ες	828 -	853 ες	878 τ
779 " ειν	804 ~ς iς	829 -	854 άλ	879 π
780 ~ως	805 /ην	830 -	855 "	
781 ~ες	806 ~ειν	831 -	856 "	
782 ~ς αις	807 ~ς ιν	832 ,	857 "	
783 " ḥν	808 ~ς iς	833 ,	858 "	
784 ~ερι	809 ~ αρα	834 ~ ων	859 '	
785 ~εν [οις]	810 ^ ην	835 ~	860 '	
786 ~οις	811 ~ειν	836 ~	861 '	
787 ,	812 ~ ιν	837 ,	862 '	
788 ~	813 ~ αις	838 ~	863 ~	
789 ~ς ης	814 ~ ου	839 αις	864 ~ ων	
790 ~ς ειν	815 ~ ος	840 οις	865 ~ ων	
791 ~εν	816 ..	841 ους	866 ~ ως	
792 ~ς	817 :	842 ειν	867 α	

Signa for critical apparatus

57344 ^r	57350 ^t	57356 [‘]	57362 [*]	57368 [:]	57374 [※]	57380 [↑]
57345 ^f	57351 ^f	57357 [◦]	57363 [‘]	57369 [!]	57375 [–]	57381 ^L
57346 ^r	57352 ^s	57358 [•]	57364 ⁺	57370 ^{//}	57376 [÷]	57382 ^J
57347 ^γ	57353 ^s	57359 [‘]	57365 [–]	57371 [/]	57377 [¬]	57383 []]
57348 ^f	57354 ^z	57360 [†]	57366 [♦]	57372 [\]	57378	57384 [[]
57349 ^η	57355 [□]	57361 [‡]	57367 [•]	57373 [✓]	57379 ^Γ	57385 [∞]

Other Signa For Critical Apparatus (EDITIONS AND MSS):

57400 X	57402 ꝝ	57404 Ꝛ	57406 ꝣ	57408 ꝧ	57410 ꝩ
57401 ꝫ	57403 Ꝯ	57405 ꝫ	57407 ꝯ	57409 ꝭ	57411 †

Arrows:

8592 ←	8594 →	8596 ↔	8598 →	8600 →	8602 ←
8593 ↑	8595 ↓	8597 ↑↓	8599 ←	8601 ←	8603 →

Geometric Shapes (Bullets):

9632 ■	9639 ▨	9646 ⊜	9653 ~	9660 —	9682 —
9633 □	9640 ☒	9647 ■	9654 ►	9661 ◇	9683 ⊜
9634 ●	9641 —	9648 △	9655 ~	9664 ◀	9684 ⊕
9635 ◊	9642 —	9649 ▽	9656 ~	9668 -	9685 ⊛
9636 ○	9643 ♂	9650 ℗	9657 ⊜	9679 ●	9686 ∞
9637 ♦	9644 ⊕	9651 ℗	9658 -	9680 ※	9687 Ω
9638 •	9645 ⊥	9652 —	9659 ➤	9681 *	9688 A

General Punctuation:

8242 ‘	8245 `	8255 _	8275 ~	8281 ”
8243 ”	8246 “	8256 —	8278 :`	8282 ”
8244 ”	8247 ”	8272 __	8280 ::	8283 „

Printers Ornaments:

9984 ≈	9986 §	9988 ····	9990 ☐	9992 ☐
9985 ≈	9987 ՞	9989 ☂	9991 ☃	9993 ☄

Characters 567-591 are combining characters used to combine with other glyphs to form additional ligatures not included in, or instead of, ligatures above. Some examples are given below. By manipulating the character spacing in MSWord other ligatures can be formed, and connections can be more neatly formed as has been done in some of those below.

567 α => αο αμ ασ αθ αω

568 γ => γι γας γιω γε γη γω

569 δ => δας δή δης δηω δηψ

570 δ => δρ δρα δρε δρερω

571 λ => λρ λεα λει λερ λεω λη ληψ

572 Τ => Ταν Τας Ταυ Τη Τη

573 Τ => Ταν Τας Ταυ Τη Τη Τη

574 κ => καν κας καυ κι

575 κ => κι κιω κρ κρα κρε κρω κρω

576 μ => μαν μας μαυ μβι μι μο

577 π => παν πας παω πω

578 ω => ωαν ωας ωαω ωε

579 ϑ => ϑρ ϑρα ϑρε ϑρε ϑρω

580 Σ => Σαν Σαρ Σας Σαυ Ση Σι Σιω

581 σ => σαν σας σαω σκ σκω σμ

582 ό => ολαν ολας ολαω ολη ολε

583 ώ => ώαν ώας ώαω ώη ώη ώε

584 ω => ωαν ωας ωαω ωη ωη ω

585 ξ => ξαν ξας ξαω ξη ξη ξε

586 τ => ταν τας ταω τη τη τε

587 τ => τρ τρα τρε τρε τρω

588 ς => ςρ ςεα ςει ςεω ςεω

589 χ => χαν χας χαω χη χη

590 ςτ => ςταν ςτας ςταω ςτη ςτη

591 ψ => ψαν ψας ψαω ψη ψη ψω

Examples showing various font sizes:

1.- Ὁτι μανδάνον οἱ ὄπισθίμοι· τὰ γὰρ ἀποσματιζόμενα μανδάνον οἱ Γραμματικοί· τὸ γὰρ μανδάνειν ὁ μώνυμον, τό τε ξυνιέναι χρώματον τῆς ὄπισθίμης, γὰρ λαμβάνειν τὴν ὄπισθίμην. 9pts Arist. SE 165b32

2. μὴ ἐσωτῆς ὀκδικῆνες, ἀγαπητοί, ἀλλὰ δότε τόπον τῇ ὥρῃ, γέραπτῷ γάρ, Ἐμοὶ ὀκδικησις, ἐγὼ ἀνταποδώσω, λέγει Κύρος. ἀλλὰ εἰς πεινᾶ ὁ ἔχερθς σὺ, ψώμυζε ἀτόν· εἴσαι διψᾶ, πότιζε ἀτόν· τύτο γὰρ τοιῶν ἀθρακας τυρός σωρθύσεις ὄπις τὴν κεφαλὴν ἀπτό. μὴ νικῶ τὸ τέκνον, ἀλλὰ νίκα σὺ τῷ ἀγαθῷ τὸ κακόν. 12 pts Romans 12:19-21

3. καὶ γὰρ συμφέρει πάντα ταῦτα τὰ αὐτά
ἀλλήλοις καὶ ὡσερός ή τεργάς ή τρώτη τῶν πα-
τέρων σώει τῇ ἀχράντῳ τριάδι, καὶ τῇ διαι-
ρεψικῇ μονάδι, καὶ τὰ αὐτὰ δὴ γὰρ δύστεραι τριά-
δες, ἐπὶ τὰ συστίχους ἔλαχον τριάδας ἀχράν-
τους, γὰρ μονάδας Διακοπικάς. τόθεν δὴ οὖν
ἡμῖν ὁ τοσοῦτος ἀριθμὸς αὐτοῖς τῶν νοερῶν
τεῶν; 14 pts Proclus Theol. Platon. V, 2 (Portus p. 250)

4. Οὐκ ἔρχεται ή βασιλεία τοῦ θεοῦ μετὰ παρατηρήσεως, οὐδὲ ἔρουσιν, ἴδού ὅδε η, ἐκεῖ. ἴδού
γὰρ ή βασιλεία τοῦ θεοῦ ἐντὸς ὑμῶν ἐστιν. 10 pts. Luke 17:20-21 w/o ligatures

5. σὸκ ἔρχεται ή βασιλεία τοῦ θεοῦ μετὰ παρατηρήσεως, οὐδὲ ἔργον, ἴδης ὁδε η, ἐκεῖ. ἴδης
γὰρ ή βασιλεία τοῦ θεοῦ ἐντὸς ὑμῶν ἐστιν. 11 pts (leading adjusted). Luke 17:20-21 w/ ligatures

6. Τιθέσθη δὲ θησαυροῖς αὐτοῖς:
Φοινίθητος τὸν κῆρυν πάσαν λέγεται:
Ἄνθετον δύσαθη ποσταμένος πάμπτος
οἵ λαποικούπτος τηρεῖ οἰκουμένην: Psalm 32:8 as in the Theodore Psalter of 1066

Note: It is not necessary to use a ligature simply because it is available. One should use the ligatures sparingly and with caution as too many could make Greek more cryptic than it already is for many. Historically ligatures lost their usefulness as the 18th century progressed, so that by the 19th century they have all but disappeared. Many of the ligatures in the Latin Extended B section are semantically equivalent to ligatures in the Latin Extended A section they are offered for the user's preference.

Other Examples:

ἐν ἀρχῇ ἐποίησεν ὁ θεός τὸν οὐρανὸν καὶ τὴν γῆν. ἡ δὲ γῆ ἦν ἀόρατος καὶ ἀκατασκέυαζος· καὶ σκότος ἐπάνω τῆς ἀβύσσου, καὶ τονεῦμα θεοῦ ἐτεφέρετο ἐπάνω τὸ ὑδάτος. καὶ εἶπεν ὁ θεός γενιθήτω φῶς καὶ ἐγένετο φῶς. καὶ εἶδεν ὁ θεός τὸ φῶς, ὅτι καλόν. καὶ διεχώρισεν ὁ θεός ἀναμέσον τὸ φωτός, καὶ ἀναμέσον τοῦ σκότους. καὶ ἐκάλεσεν ὁ θεός τὸ φῶς ἡμέραν, καὶ τὸ σκότος ἐκάλεσε νύκτα, καὶ ἐγένετο ἡμέρα, καὶ ἐγένετο πρωΐ, ἡμέρα μία.

Genesis 1: 1-5 as in the Complutensian Polyglot.

B

Ν ΤΑΪΣ Προεκδοθείσαις ἡμῖν χολαῖς, ἡ τε
εἰ τὰς φωμὰς πράδοσις καλῶς ἀπήτει ὁ πε
ρὶ αὐτῷ λόγος, κατείλεκτα. ἡ δὲ νῦν ἥρημος
μήνη ἔκδοσις, τερεψέξτι τὰς ἐκ τούτων πνομέ
νια σωταξιν, εἰσ καταλληλότητα τοῦ αὐ—
τελεῖστος λόγου, λιγὸν πάνυ προήρημα διάμετρο
τάτια ὕσταν πρὸς ὅρμησιν τῆς ποιημάτων με

τὰ πάσις ἀκριβείας ἐκάλεσθαι. Apollonius On Syntax I 1-7 as in the Aldine p. 216

See: <http://schmidhauser.us/apollonius/works>.

Πάντες διδάσκωποι τὸ εἰδέναι ὄρέγοντα φύσι. σημεῖον δὲ ἡ τῷ ἀνθρώποις ἀγάπητος·
καὶ γὰρ χωρὶς τῆς χρείας ἀγαπῶντα δι' αὐτάς, καὶ μάλιστα τῷ ἄλλῳ ἡ Δῆλος τῷ
ὄμματῷ. οὐ γάρ μόνον ἵνα φράτημι ἄλλὰ καὶ μηδὲν μελλοντες φράτειν τὸ ὄραν
αἰρόμεθα ἀντὶ παντὸς ὡς ἐτεῖν τῷ ἄλλῳ. αἴτιον δὲ ὅτι μάλιστα ποιεῖ γνωρίζειν
ἡμᾶς αὕτη τῷ ἀνθρώποις ἀγάπητος· πολλὰς δηλοῖ διαφοράς. φύσι μὲν τὸν ἀνθρώπον
ἔχοντα γίνεται ζῶα, ὃς δὲ τούτης τῆς μὲν αὐτῷ σκοτείην τοιούτην μνήμην, τὸ δὲ ἐπτήνη.

Aristotle Metaphysics A 980a

Extensive use of the spacing characters 880 and 881 are used in the above for justification and placement of diacriticals. Fonts differ from printer to printer in the Renaissance and this font does not exactly match any given font, but is a composite font to represent the various ligatures. Therefore one should not expect an exact representation of a given text but only a close approximation.

Minuscule- 10th-13th centuries (Unicode Greek Section)

880 1/2 sp	904 ϵ	928 Π	952 θ	976 ϕ	1000 μ
881 1/4 sp	905 γ	929 ρ	953 ι	977 ϑ	1001 ψ
882 α	906 λ	930 σ	954 κ	978 ι	1002 σ
883 ω	907 δ	931 Σ	955 λ	979 κ	1003 σ
884 \prime	908 π	932 τ	956 μ	980 θ	1004 η
885 ,	909 η	933 Υ	957 ν	981 ω	1005 π
886 β	910 ς	934 Φ	958 ζ	982 α	1006 χ
887 Γ	911 ϵ	935 X	959 \circ	983 $\bar{\eta}$	1007 $\bar{\eta}$
888 δ	912 α	936 Ψ	960 π	984 σ	1008 ω
889 ϵ	913 A	937 ω	961 ρ	985 $\bar{\omega}$	1009 $\bar{\eta}$
890 ι	914 B	938 Ω	962 c	986 \bar{S}	1010 $\dot{\alpha}$
891 Ξ	915 Γ	939 α	963 σ	987 ς	1011 α
892 κ	916 Δ	940 α	964 τ	988 ψ	1012 κ
893 K	917 ϵ	941 ϖ	965 υ	989 \wp	1013 ϵ
894 λ	918 Z	942 ρ	966 $\dot{\rho}$	990 ω	1014 μ
895 μ	919 H	943 ϕ	967 χ	991 χ	1015 K
896 ν	920 Θ	944 $\kappa\lambda$	968 $\dot{\tau}$	992 $\bar{\omega}$	1016 η
897 \exists	921 I	945 λ	969 ∞	993 ν	1017 C
898 ϖ	922 K	946 κ	970 τ	994 γ	1018 κ
899 ρ	923 Λ	947 γ	971 δ	995 ω	1019 Γ
900 \Tau	924 M	948 λ	972 $\bar{\delta}$	996 $\bar{\pi}$	1020 ω
901 ν	925 N	949 ς	973 $\bar{\kappa}$	997 $\bar{\omega}$	1021 $\bar{\rho}$
902 ϕ	926 Z	950 ζ	974 $\bar{\omega}$	998 $\bar{\sigma}$	1022 μ
903 ω	927 O	951 κ	975 \circ	999 $\bar{\sigma}$	1023 $\bar{\varpi}$

Some Renaissance fonts use earlier formal book-hand characters, so they are included here. Some of these characters are used in the examples above. Some early fonts of the Renaissance reverted to the earlier book-hands, see examples in Proctor [1900].

Ligatures Not Included in Version Rgreekl 1.0

7680 ἀθ	7696 ἔσται	7712 μνα	7728 υ
7681 ἄν	7699 ευ	7717 Π Π	7735 η
7682 ...αρ	7700 εύθεια	7718 πούπι περι	7736 λόγος
7683 γη γη	7701 ζ ζ	7719 τι πτ	7737 σχόλιον
7684 γράμμα	7702 Σ' ἥμισυ	7720 σε σε	7738 τλ
685 ρχ ρχ	7703 κ] κατὰ	7721 σου σου	7739 χορος
7686 ρφ γω	7704 κεράτιον	7722 στ...	7740 τέλος
7687 δφ διφθογγ...	7705 κη κη	7723 Ζ	7741 εχο
7688 < δραχμή	7706 κλ κλ	7724 τα τα	7742 Δ δ
7689 ἐξαϊ̄ ἐξάγιον	7707 κοτύλη	7725 τοῦ τοῦ	7743 φφ
7690 ἐίναι	7708 κύαθος	7726 τι τι	7744 ιη [κ]
7691 εἰσιν	7709 λ	7727 υ	7745 ἔλαττον
7692 εν	7710 λιτρα	7729 ςι ςι	7746 ε
7693 επὶ	7711 μ	7730 ς	7747 ἀπο ἀπο
7694 ερ	7713 ξε στη	7731 χόα	7748 τω τω
7695 εσ	7714 ολκή	7732 χοῖνιξ	7749 τι τι
7697 εστιν	7715 οὐγγία	7733 δι	7750 ρ γ
7698 ε...εται	7716 οῦ οῦ	7734 ω	

7680 ἀθ => ἀθα ἀθε ἀθη ἀθο ἀθω

7682 β => βι βη βη βη

7733 δι => δια διι διο διυ διω

7709 λ => λα λω λυ λω λω

7711 μ => μα μη μηρ μο μυ μυη μω μω

7734 ω => ωα ωη ωηρ ωηη ωηω ωηω

7722 σ => σα ση σηη σηηη σηηηη σηηηη

7723 Ζ => Ζα Ζη Ζηη Ζηηη Ζηηηη

7727 υ => υα υη υηη υηηη υηηηη υηηηηη

7728 υ => υα υη υηη υηηη υηηηη υηηηηη

7730 ς => ςα ςη ςηη ςηηη ςηηηη ςηηηηη

7735 η => ηη ηηη ηηηη ηηηηη ηηηηηη

7746 ε => ει εη εηη εηηη εηηηη εηηηηη
7750 ρ => ρα ρη ρηη ρηηη ρηηηη ρηηηηη

Bibliography-

Allen, Thomas William. *Abbreviations in Greek Manuscripts* Chicago: Ares Publishers, 1974

Colman, Walter. [Selections from the Abbreviationes et literarum nexus](#) from Nicolaus Clenardus, *Institutiones linguae Graeca, N. Clenardo authore, cum scholijs P. Antesignani Rapistagnensis.* (Lyon: apud Matthiam Bonhomme, 1553). [charts can be found at: <http://www.ucs.mun.ca/~wbarker/harvey/greek/greek1.htm>]

Copley, C. "Ligatures or Abbreviations in Ancient Greek MSS. & Editions" in H KAINH ΔΙΑΘΗΚΗ Novum Testamentum ad Exemplar Millianum cum emendationibus et lectionibus Griesbachi Philadelphia: Bliss. no date [First American Edition] {also found at: http://www.constitution.org/img/gr_ligature.jpg}

Estienne, Robert *Alphabetum graecum* [Texte imprimé] : Modus orandi, graece & latine, abbreviations aliquot graecae ; Alphabetum hebraicum : Decalogus, hebraice & latine Parisiis. Ex officina Roberti Stephani. 1528 [available at: <http://visualiseur.bnf.fr/Visualiseur?O=NUMM-106138&M=pagination>]

Groningen, Bernhard Abraham van *Short Manual of Greek Palaeography* Leiden: 1940 [charts available at: <http://www.fordham.edu/halsall/ikon/greekabb.html>]

Ingram, William H. "The Ligatures of Early Printed Greek" *Greek, Roman and Byzantine Studies* 7 (1966): 371-89.

I. W. ??? *Institutio Graecae Grammatices Compendiaria* London: Buckley & Longman 1790

Lancelot, Claude *A New Method of Learning with Greater Facility the Greek Tongue* trans. Thomas Nugent. 2 vols. (London: J. Nourse & G. Hawkins 1746; rpt. Menston: Scolar Press, 1972) [charts at: <http://www.ucs.mun.ca/~wbarker/harvey/greek/greek5.gif> and <http://www.ucs.mun.ca/~wbarker/harvey/greek/greek6.gif>]

Mastoridis, Klimis The first greek typographic school HYΦEN 2, 75-86
http://afroditi.uom.gr/uompress/pdf/greek_typography.pdf

Ostermann, G. F. von and Giegenack, A. E. *Abbreviations in Early Greek Printed Books* Chicago: Ares Publishers 1974

Proctor, Robert The Printing of Greek in the Fifteenth Century Oxford:1900.

Thompson, Edward Maunde *A Handbook of Greek and Latin Palaeography* Chicago: Ares, 1975

Wallace, William "An Index of Greek Ligatures and Contractions" *Journal of Hellenic Studies* 43 (1923): 183-93. [Available through JSTOR at: <http://links.jstor.org/sici?&sici=0075-4269%281923%2943%3C183%3AAIOGLA%3E2.0.CO%3B2-R>]

Wilson, Nigel *Mediaeval Greek Bookhands Examples Selected From Greek Manuscripts in Oxford Libraries* Cambridge MA: Medieval Academy of America, 1972 [1995].

Examples consulted:

Erasmus of Rotterdam *Novum Instrumentu* Basel: Froben 1519

Erigena, Johannes Scotus , *De divisione naturae*. Oxford, e Theatro Sheldoniano, 1681
(contains Maximus' Ambigua)

Manutius A (1495) *Theodori Introductiæ gramatices libri quatuor. Eiusdem de Mensibus opusculum sanequapulchti [sic]. Apollonii grammatici de constructione libri quatuor. Herodianus de numeris, Venetiis* available at <http://andreas.schmidhauser.ch/apollonius/works.html>

Maximi, Sancti *Opera*. Eximique Philosophi Operum Ex Porbatissimis Quaeque. MSS. CODICIBVS, REGISS, CARD. Mazarini, Seguierianis, Vaticanis, Barberinis, Magni DUCIS Florentinis, Ventis, nova Verfione Fubata. MDCLXXV

Procli Successoris Platonici, *In Platonis Theologiam Libri Sex* Hamburg: Portus, 1618

Numerous other examples from Images from Internet sources

Manuscripts consulted:

MS. Gr. 2 Dionysius the Pseudo-Areopagite, *De caelesti hierarchia*, etc., with scholia, Constantinople, 14th century.

MS. Gr. 8 Basil the Great [attrib.], Comm. on Isaiah, 16th century.

Available at <http://image.ox.ac.uk/list?collection=magdalen>

Medeltidshandskrift 54 Apophthegmata Patrum, fragment Place of origin: Constantinople Date of origin: mid 11th century

Available at http://laurentius.lub.lu.se/volumes/Mh_54/

lect 1683, Lectionary, 13th Century, Gospels lectionary manuscript. 241 leaves, two columns per page, 26 lines per column. Measures 29.5 cm x 22 cm. , Muenster,

lect 1684, Lectionary, 13th Century, Gospels lectionary manuscript; a large portion of this manuscript is also a palimpsest of manuscript 0233, an 8th century Gospels manuscript written in majuscule letters., Muenster,

Available at <http://www.csntm.org/Manuscripts.aspx>