A short history of Greek type design before the digital era

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The art of Typography transformed the book into a mass cultural tool, and it has been recognized as the midwife of modernity. The field of Typography includes punchcutting, matrix making, typecasting, typesetting of a given text and layout-pagination for printing in multiple copies. Gutenberg conceived and realized his idea of reusable metal type sorts by the middle of the 15th c., when the textura Gothic hand was the principal choice of the scribes and readers alike (pl. 1). The simplicity of the prevailing dense, vertical strokes produced by the pen informed the conceptualization of his solution and the success of its implementation. In effect, the printed book was born when the rising social demand for multiple copies of any text merged with the uncomplicated, almost mechanical motion of the prevailing writing hand of the era. This is the crux of the issue in terms of design and technological innovation, and it should be well understood, before we begin our probing into the peculiarities of the Greek types.

During the long Byzantine era, the ancient Greek alphabet had evolved gradually from majuscule to minuscule form (pl. 2–7), just like the Latin script. The Byzantine hand had accumulated an influx of ligatures, abbreviations, flourishes and other decorative nuances, which defined its flamboyant cursive character. After a quick look at any Byzantine script, anyone would surmise that it bears little resemblance to the simple, rhythmic vertical strokes found in texts written in Gothic hand.

As soon as the new art was brought south of the Alps by two German monks, Conrad Sweynheim and Arnold Pannartz, to serve the increasing pace of the new Italian humanism, the need to incorporate Greek passages in printed books immediately became apparent. The ancient Greek texts on Philosophy, Theater, History, Science and Theology were the core pillars of the awakening intellect in Europe and many scholars had come to realize that the few existing Latin translations were a poor substitute for the wealth of ideas and the linguistic beauty of expression that the originals contained. Having access to the Greek writings and learning to speak and write in the ancient language were deemed to be the only secure way to achieve textual accuracy and deeper knowledge. Therefore, it is not coincidental that the second written language to make it to the cuttingedge printing technology was Latin's older sister, Greek, and that its letterforms therefore needed to be cut and reproduced in metal types.

In order to avoid the baffling complexity of the Greek writing, the early type cutters threw out the visual history of the Byzantine scripts and isolated, as best as they could, the 24 minuscule letters for short Greek passages in Latin treatises (pl. 8, 9). This route, which Robert Proctor named as Greco-Latin, can be seen in many early editions and it lingered on as late as the first decades of the 16th c., when it was the choice of a new type cut and used in the first Polyglot Bible, which was published at the University of Alcalá de Henares in Spain (pl. 10).

However, new experiments and innovations concerning the shape of the Greek types were attempted since the mid-1470s in books entirely in Greek texts, including Byzantine capitals and diacritics for grammars, dictionaries, short classical texts, etc. (pl. 11). In 1486, two Cretan men of the cloth, Laonikos and Alexandros, were the first to attempt and, more significantly, to realize the unthinkable: A full-scale Byzantine hand composed of no less than 1,300 different sorts, of either single Greek characters or ligatured combinations (pl. 12). Their two small editions were not a publishing success and they slipped back to oblivion, but their idea was the catalyst for the future, pointing to alternative solutions as opposed to the current practices. They blazed a new path for Greek printing and their precedent opened the way for the aspiring Aldus Manutius to gamble with their paradigm in achieving his publishing ambitions with a team of dedicated Cretan scholars.

Aldus' herculean goal of publishing the first definitive edition (editio princeps) of all the known Greek classical texts proved to be very successful and his books were in great demand. Thus, the decision to imitate the contemporary ligatured style of writing became the new standard in Greek publishing and soon it spread from Venice to the rest of Italy and to Western Europe (pl. 13).

In the late 1490s, the first publishing effort made by Greeks also appeared in Venice. Nikolaos Vlastos, a stationer, and Zacharias Kalliergis, a scribe, joined forces to edit, print and publish a large Byzantine Lexicon and three classical texts. The type used was skillfully cut by Kalliergis himself, again in full Byzantine ligatured fashion, but the success of the Aldine editions did not allow it to exert any lasting influence (pl. 14).

By the third decade of the 16th century the geopolitical dominance of France had established Paris as a rival cultural centre of Europe, and King Francois I, under the guidance of a circle of erudite scholars, embarked on a major publishing programme of Greek editions for the Royal Library and Printing House. The indefatigable scholar and royal printer Robert Estienne invited from Rome Angelos Vergikios, a renown Cretan scholar-calligrapher, to collaborate with Claude Garamont, the best type cutter of his generation, for the production of a new Greek typeface in three sizes, which came to be known as Grecs du roi (pl. 15). The universal admiration for the new type marked indelibly the development of Greek types for the next two centuries; consecutive generations of distinguished type cutters, such as Robert Granjon (pl. 16), Pierre Haultin, Christopher van Dyck (pl. 17), Nicholas Kis (pl. 18), William Caslon (pl. 19), Joan Fleischman, François Rosart, Jean-Louis de Boubers, Pierre-Simon Fournier (pl. 20, 21), etc., largely followed its fashion.

Since the 18th century an increasingly scientific utilitarianism was introduced during the Age of Reason when Dutch and German printers first attempted abandoning the numerous ligatures in Greek classical texts; an iconic typeface of this expanding trend was the Homer Greek type (1756), by the Scottish type cutter Alexander Wilson for the Foulis brothers, publishers for Glasgow University (pl. 22).

By the turn of the 19th century the simplification of the Greek type case was, more or less, completed in European publishing and with it the last precarious ties with the Byzantine past were irrevocably severed. The renewed and comprehensive interest in classical studies and archaeological expeditions in Greece led to a significant and sustained increase of Greek texts for the expanding education systems in Europe. At the same period, the "one nation—one state" geopolitics which resulted after the Napoleonic wars also had an effect in the emergence of new, "nation-specific" Greek typefaces in Italy, France, England and Germany: Giambattista Bodoni produced several neo-classical Greek fonts in Parma (pl. 23), Firmin Didot designed a new upright Greek text type in Paris (pl. 24), Richard Austin cut the inclined Porsonic Greek (pl. 25) used in most English publications, and Karl Tauchnitz entered Greek publishing in Leipzig with his own inclined type (pl. 26). Since their introduction in the early 1800s, these "ethnic paths" in typestyle dominated the Greek editions of each respective country, until well into the middle of the 20th century.

An important advantage of the drastically reduced Greek type case was increased literacy—as it made reading and writing much simpler—, which allowed the quick dissemination of the emerging dem-

ocratic ideals in Western Europe among the enslaved Greeks and paved the way for the national emancipation in the 1820s against the Ottoman Empire. During the Greek revolution and after the formation of the new Greek Kingdom, the Didot Greek typeface was used almost exclusively in every book, newspaper or periodical for more than a century hence.

Until the end of the 19th century there were some attempts at new Greek designs in England and Germany, mostly following a romantic notion to "revive" an ideal model of the ancient Greek alphabet (pl. 27–35). Of these new propositions, only an upright version of the Tauchnitz model was destined to become a serious rival to the Didot's supremacy in Greek publications (pl. 36).

From 1900 onwards, the new technological developments in mechanical typesetting quickly established Linotype's and Monotype's hegemony in publishing, and both companies quickly adapted versions of the most popular Greek designs in their type library (pl. 37, 38), while leading type foundries in Leipzig (Schelter & Giesecke), Turin (Società Nebiolo) and Paris (Deberny & Peignot) continued to export most of the types used in Greece. When industrialization finally started to take hold in Greece after the Great War, two competing type foundries by A. Karotsis–V. Karidis (pl. 39) and by Em. Karpathakis (pl. 40) were formed during the inter-war period.

In Western Europe, some new ideas were introduced: a monoline font appeared in Paris for the classical publications of the Société Les Belles Lettres (1920s, pl. 41); Willi Wiegand cut an upright calligraphic Greek font for Bremer Presse (Bremen, 1923, pl. 42), while at the British Library, Victor Scholderer revived the Renaissance model of Johannes Rubeus (1487). It was cut by Monotype Ltd and became commercially available as New Hellenic (1927), providing some competition to the long-prevailing Porsonic model (pl. 43).

Monotype also produced Perpetua Greek (1928), an experimental hybrid design by Eric Gill, in an attempt, with Stanley Morison, to shoe-horn in the Greek letters as mere subordinates of Latin fonts (pl. 44).

Jan van Krimpen first designed the calligraphic Antigone Greek for Joh. Enschedé (1927, pl. 45) and then he introduced Romulus Greek (1928) at Monotype, following Gill's and Morison's aesthetic obsessions (pl. 46).

In the 1930s, some scholars in Greece started advocating for the simplification of the polytonic system (diacritics above the vowels) that was used in Greek writing since the Hellenistic period, but had no real use in reading. The opposition by the

educational establishment and the Orthodox church, however, reacted strongly and the issue was quickly suppressed.

At the same period, the Modernist movement ushered in the sans-serif vogue in texts and soon similar attempts were applied to the Greek alphabet from Deberny & Peignot (pl. 47), Nebiolo (pl. 48), Linotype (pl. 49), and Em. Karpathakis in Greece (pl. 50).

After World War II, Monotype wanted to increase its sales of typesetting machines internationally and to this end the Type Drawing Office (TDO) introduced two significant additions to their Greek type collection: Greek Gill Sans (pl. 51) and Greek Times (pl. 52). Later, Greek Univers was also added to the collection (pl. 53).

Hermann Zapf designed a number of Greek typefaces in the 1950s for the D. Stempel foundry: two sans serifs (Artemis and Attika), the upright Heraklit, the calligraphic Frederika and later the humanistic sans, Optima (pl. 54).

The two old Greek type foundries were replaced by younger rivals; since the mid 1950s Th. Paraskevopoulos established his company ("PAP", pl. 55), and I. Sarasitis his ("Victoria") in the 1960s (pl. 56). For the next twenty years both companies produced all the staple typefaces for everyday use nationwide, while their numerous new designs focused primarily into display fonts for use in headlines of newspapers, periodicals or ads.

Since the 1960s, Linotype was involved in the fast-developing world of phototypesetting machines. Trying to support its prospective sales, the company also tried to extend renowned Latin typefaces into Greek. The first attempt was to introduce Caledonia Greek with little success (pl. 57), and later Matthew Carter was commissioned to "convert" several other best-sellers into Greek, during the early 1970s: Helvetica Greek, Century Schoolbook Greek, Baskerville Greek, etc. (pl. 58). These were much more successful as phototypesetting quickly replaced all text production in Greek publishing and advertising.

Another field of new Greek type design activity was the emergence of the letter-transfer sector, which

Letraset Ltd invented and introduced during the 1960s. The great demand for easy-to-use display lettering soon became a necessity for designers and architects, so the Greek type catalogues of Letraset and Mecanorma, its French rival, quickly expanded to include many exotic designs (pl. 59).

Starting in the 1960s, the newspaper industry raised again the issue of the polytonic writing practice, which was considered very costly in typesetting and proofing, and pressed in favour of a much simpler monotonic system; It took another 20 years for the long-awaited reformation to be ratified in 1981.

In the late 1970s and in the 1980s, as Linotype and Monotype, the two behemoths, were quickly losing their market share, new electronic companies proliferated in the industry. The result was that various Latin type designs were hastily "hellenized", with varying market acceptance, and used as a means to entice prospective equipment buyers: typesetting services, publishers, advertising agencies etc. (pl. 60). The brief phototypesetting period ended with a last attempt to introduce original type designs in 1989; Takis Katsoulidis, a Greek artist-engraver, designed two type families, Apollonia and Katsoulidis, for Agfa Corp., but by then it was too late (pl. 61). Desktop publishing and the new digital revolution swept away the old practices and ushered in new type applications and ideas.

A note on the plates. Many of the fonts illustrated are displayed with both a sample of the type in use and a separate showing of the upper- and lowercase letters at an enlarged size, on a shaded background indicating the x-height and baseline of each character in relation to the capitals of each font.

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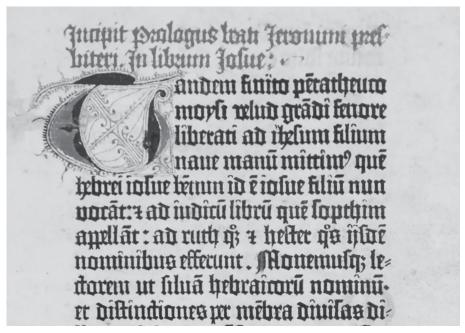


Plate 1: Johannes Gutenberg's Bible, Mainz, 1455.



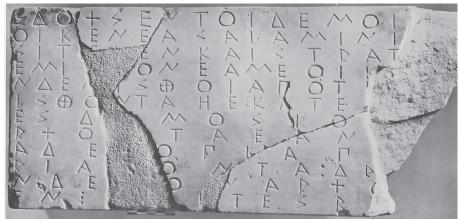


Plate 2: Greek majuscule writing on stone, 5th–4th c. BCE.

TANKERY TE EOK LONDINAEZ-NMOYENNHEOTEYX JEMOJENOE E TINOTO ALEMAND PY-NANDE EN INTENSIVATION OF ANATOM ET TENSIVATION OF THE MANATOM OF THE

CHLAMOLOMOMENMEUNICE

(ELE XOOMOELERGE.

CHOLMHMICOMIDONLENCE

CHO

TIPOCE ENDERLONG

TO TO SET AL SAME AND THE SAME ENDERLONG

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ENTRACHEN AT MILLO PROPREHIMATION

ENTRACEN AT MILLO PROPREHI

Plate 3: Greek majuscule writing on papyrus, 4th c. BCE–3rd c. CE.



Plate 4: Greek majuscule writing on parchment, 7th-9th c.

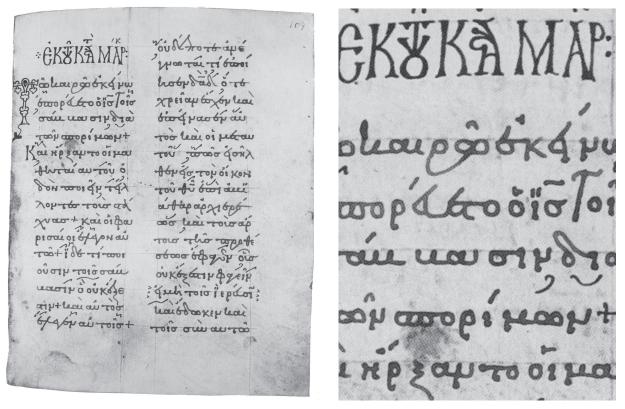
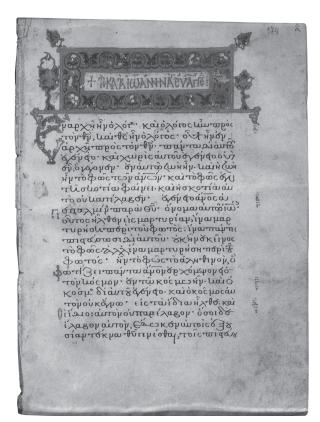


Plate 5: Greek minuscule writing on parchment, 12th c.



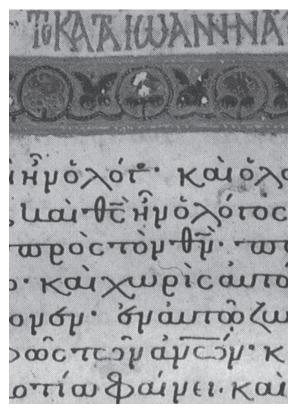


Plate 6: Greek minuscule writing on parchment, 13th c.

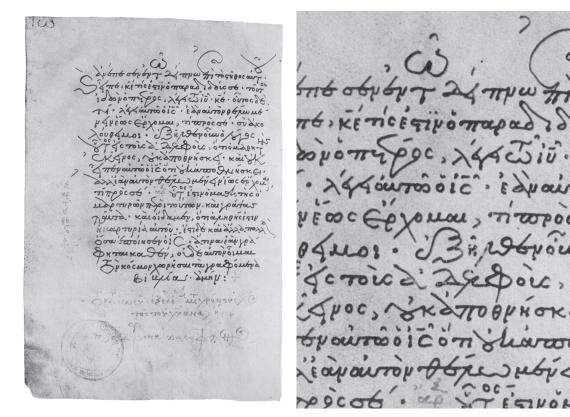


Plate 7: Greek minuscule writing on parchment, 14th c.

the xpinon ide illiture fut: q x. denotte uetur! Elet q di er aulti Ppresso igit orbe terre: cu ad destruenda imensaru miriu tiramide buane opes defeceric: sigde capto mudo: cu magnis latronu exercitibus icubabit. dinio auxilio tata illa calamitas idigebit Comotus igi deus et acipin piculo & miserada coploratoe iustoy: mitter prinus liberatore. Tuc apier celu mediu i repelta nocte & tenebrola.ut i orbe toto lume delcederis dei tag fulgor appareatod fibilla bis uerfibus locuta e. οττοταμ ελθη Τυρεσται σκοτοσ εμ μεση μυκτί μελαιμη. Ideci μεnerit igmiserut tenebre i media nocte obscum (Hece nox que a nob ppter aduenti regis ac dei nei puigil celebrat. cuins noctis duplex e ro. q i ea & mită tă rcipit cu pallus e. et poltea orbis terre ronu rcepturus el Hic elt eni liberator et index et cultor et rex et deus. que nos xpm uocamus qui puig descedar hoc signu dabit Cader rpere gladius e celo ut sciat iusti duce lacte milicie delcefuru.et descedet comitatibus agelis in mediu terre et peedet eu flama fextinguibilis.et nirms agelog tradet i manus inflog multinidinë illă: que mote circulederit let cocidet ab hora tertia ulepad uesperu. et fluet laguis mor torreus. deletilq omibus copiis: ipius folus effugiet et pibit ab co mirms sua (Hic e aut q appellat Antixps. sed se ipe xpm menet, et cotra uerudimicabit.et mictus effugiet et bellu sepe rnouabit et sepe uicer.donec quarco plio cofectis omibus ipiis debellams et captus: tande sceleru suoze luetpenas ledet ceteri pripes ettraní gcotriner utorbe fil cu eo: vieti ad. ducet adige, et icrepabit eos et coarguet. Et exprobrabit bis faciora ipoz, et danabit eos ac meritis cruciatibus tradet (Sic exticta malina et ipietate coprella:rgelet orbis.q ptot fecla ibiectuserrori ac feeleri:nefada ptulic seruimte No colet ulterius dii manu facti. sed a teplis et pulninaribus suis detbata filacra ígní dabunt ercudonís fuis mirabilibus ardebut (qdetia fibilla cu pphens cogrues: fumru ee pdixit. Tpi + o voi & E EI & A & Bp οτοι και πλοντομ απαμτα. Id ecoterer aut simlacia boies et diuinasoes(Eritreaquoqidespopodit.εριαδεχειροποικταθεωμουμε



Plate 8: Lactantius, Divinae Institutiones, Subiaco, Conrad Sweynheim-Arnold Pannartz, 1465.

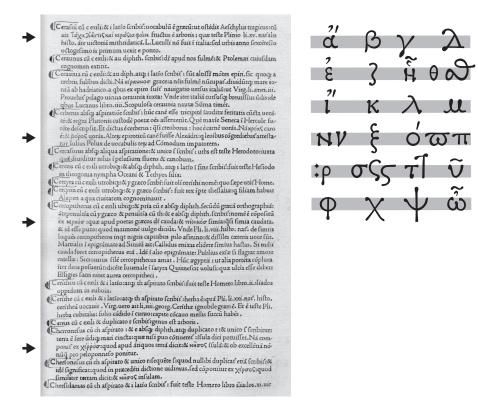


Plate 9: Tortellius, De orthographia dictionum e Graecis tractarum, Venice, Nicolas Jenson, 1471.





Plate 10: Tortellius, Complutensis Biblia Sacra (New Testament), Alcalá de Henares, A. Guillen de Brocar, 1512–1517.



Plate 11: K. Lascaris, *Greek Grammar*, Milan, Demetrio Damilas-Dionigi Paravicino, 1476.

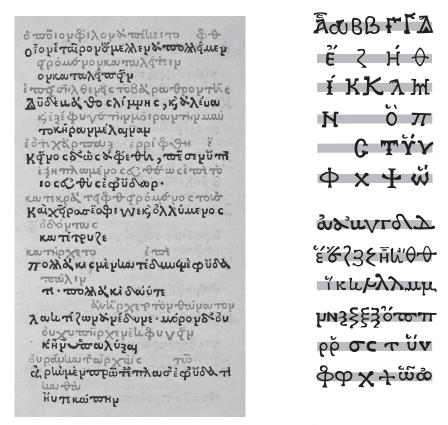


Plate 12: Batrachomyomachia, Venice, Laonikos–Alexandros, 1486.

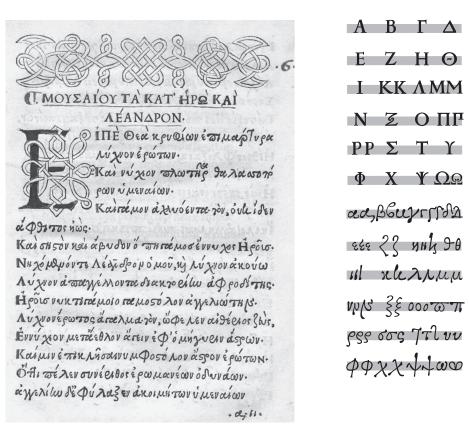


Plate 13: Musaeus, De Hero & Leandro, Venice, Francesco Griffo, Aldus Manutius, 1494.



Plate 14: Etymologicum Magnum, Venice, Nikolaos Vlastos–Zacharias Kalliergis, 1499.



Plate 15: Ioannis Xiphilinus, Dionis Cassii Nicaei Romanae historiae, Paris, Robert Estienne, 1551.

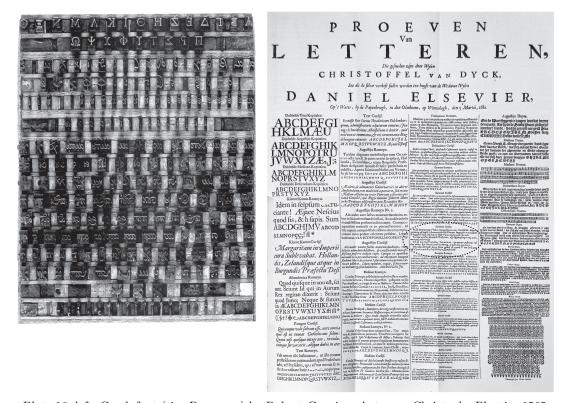


Plate 16, left: Greek font (size Parangon) by Robert Granjon, Antwerp, Christophe Plantin, 1565. Plate 17, right: Greek font (size Garmont Grieks) by Christoffell van Dyck, Daniel Elsevier, 1681.

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τιμή καὶ ή δόξα καὶ τὸ κράτος εἰς τθς αὶῶνας αἰώνων

ΑΒΓΔ [94] λθ'. Διαφοράς δ' έχεσιν ωρός άλχεώματι, η συκνότητι, η Bages. μί. Χεώματι μέν ότε μέλαινα, έκ τε ρύακος, τε έν Σικελία. συκνός τε η βαρεία, αυτή τε η μυλώδης. γίνεται γάς τις η τοιαύτη κίσσηςις, η βάςος έχει, η συκνότητα, η έν τη χρήσει σολυτιμότερον της έτερας. σμηκτική δε κ ή έκ τε ρύακος μάλλον της κεφης κ λευκής. σμηκτικωτάτη δ' έκ της θαλάσσης αυτής. different Species of the Pumice, are what may be observed in a greater or lesser degree in the various Kinds we now have brought from Germany, the East Indies, and the burning Mountains; and the Author appears to have been very well acquainted with them: His affigning a greater Degree of the abstergent Quality to

Plate 18, left: Greek font (size Mediaen Griex) by Nicholas Kis, Amsterdam, 1686. Plate 19, right: John Hill, Theophrastus, London, William Caslon, 1774.

that from the Shores than that from the burning Mountains; and a greater than even in that, to those of the Sea, is probably very just, though not now regarded, as the Sea Salt in-

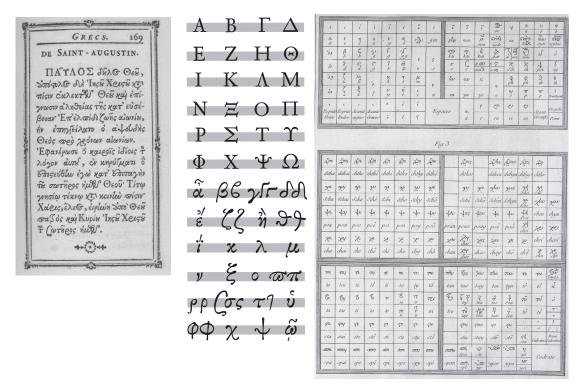


Plate 20, left: Greek font (size Saint Augustin) by Pierre Simon Fournier, Manuel typographique, Paris, 1764. Plate 21, right: Greek typecases, Diderot-d'Alembert, Encyclopédie..., Paris, 1751.



Plate 22, left: Greek font by Alexander Wilson, *Homer's Iliad*, Glasgow, Foulis Bros., 1755. Plate 23, right: Greek font by Giambattista Bodoni, Parma, Greco 24–Testo/15–16p.

Νέας ἐκδόσεως Ελληνικῶν Ποιητῶν καὶ ΣυγΓραφέων, ἤτις γίνεται διὰ δαπάνης τῶν ἀΔΕΛΦΩΝ ΖΩΣΙΜΑΔΩΝ, διὰ τοὺς σπουδάζοντας τὴν Ελληνικὴν γλῶσσαν Ελληνας.

Ο΄ Ι Ελληνικοὶ ποιηταὶ καὶ συγΓραφεῖς, ὅσοι μάλιςα, διὰ τὸν καιρὸν εἰς τὸν ὁποῖον ἔγραψαν, ὀνομάζωνται ἀπὸ τοὺς ἀλλογενεῖς Ελληνιςὰς Κλασσικοὶ, ἐτυπώθησαν, ἀφ' οῦ εὑρέθη ἡ τυπογραφία, τοσάκις, ὥςε εἶναι δυσκολώτατον νὰ ἀπαριθμήση τις τὰς διαφόρους ἐκδόσεις αὐτῶν. Καὶ ὅμως ἀπὸ τὰς πολυαρίθμους ταύτας ἐκδόσεις πολλὰ ὀλίγαι εἶναι εἰς ὅγκον καὶ τιμὴν ἀνάλογον μὲ τὴν χρηματικὴν δύναμιν τῶν περισσοτέρων ἀπὸ τοὺς ἐπιθυμοῦντας νὰ σπουδάσωσι τὴν Ελληνικὴν γλῶσσαν. Γέμουσιν ὅλαι σχεδὸν ἀπὸ διαφόρους



Plate 24: Greek font by Firmin Didot, Ad. Korai, Πρόδρομος της Ελληνικής Βιβλιοθήκης, Paris, 1805.

	ΑΒΓΔ
ΠΡΟΜ. ΔΕΣΜΩΤΗΣ. 67	ЕΖНӨ
κίρκοι πελειών ού μακράν λελειμμένοι,	ΙΚΛΜ
ήξουσι θηρεύσοντες οὐ θηρασίμους	ΝΞΟΠ
γάμους, φθόνον δὲ σωμάτων έξει θεός.	ΡΣΤΥ
Πελασγία δὲ δέξεται θηλυκτόνω 883	ΦΧΨΩ
"Αρει δαμέντας νυκτιφρουρήτω θράσει"	άβγδ
γυνή γὰρ ἄνδρ' έκαστον αίωνος στερεί,	$\dot{\epsilon}$ $\ddot{\gamma}$ θ
δίθηκτον ἐν σφαγαῖσι βάψασα ξίφος.	ίκλμ
τοιάδ' ἐπ' ἐχθροὺς τοὺς ἐμοὺς ἔλθοι Κύπρις.	νξόπ
μίαν δὲ παίδων ἵμερος θέλξει, τὸ μὴ 890	
κτείναι ξύνευνον, άλλ' άπαμβλυνθήσεται	ρ σς τ ν
γνωμήν· δυοίν δὲ θάτερον βουλήσεται,	$\phi \chi \psi \tilde{\psi}$
κλύειν άναλκις μαλλον ή μιαιφόνος·	
αύτη κατ' 'Αργος βασιλικον τέξει γένος.	
μακροῦ λόγου δεῖ ταῦτ' ἐπεξελθεῖν τορῶς. 89	5

Plate 25: Greek font after Richard Porson's hand, Charles James Blomfield, Aeschyli Prometheus vinctus..., Cambridge U.P., 1810.

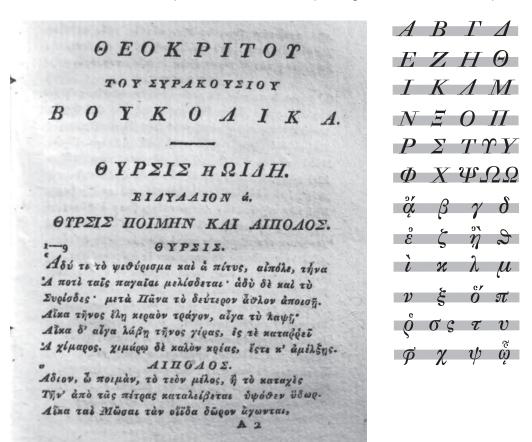


Plate 26: Greek font by Karl Tauchnitz, G. Schäfer, Theocritus, Bion et Moschus: ad optimorum librorum fidem..., Leipzig, 1809.

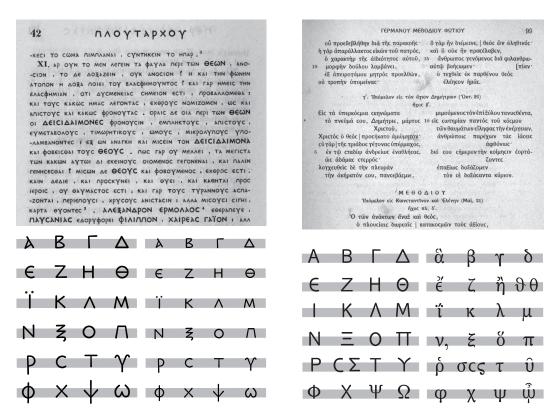


Plate 27, left: Greek font by Julian Hibbert, *Plutarchus and Theophrastus on Superstition*, London, 1828. Plate 28, right: Greek font by Maurice Eduard Pinder, W. Christ–M.K Paranikas, *Anthologia Graeca...*, Leipzig, B.G. Teubner, 1866.



Plate 29, left: Bold Greek font by the foundries Figgins and Miller & Richard, mid-19th c. Plate 30, right: Greek font by R. Decker, H.T. Wharton (ed.), Sappho..., London, David Stott, 1887.



Plate 31, left: Greek font Klassiker Griechich by R. Decker, B.P. Grenfell, An Alexandrian Erotic Fragment..., Oxford, 1896.

Plate 32, right: Greek font for the Prussian Royal Library, Sitzungberichte-Jahrgang 1903, Berlin, 1903.

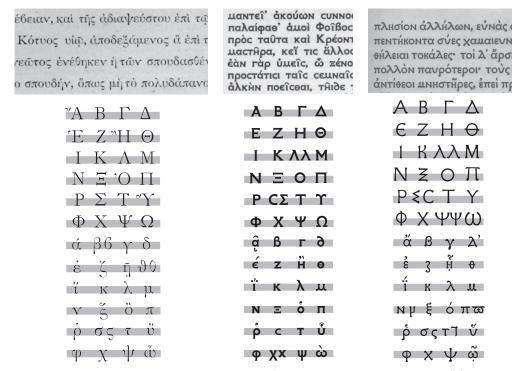


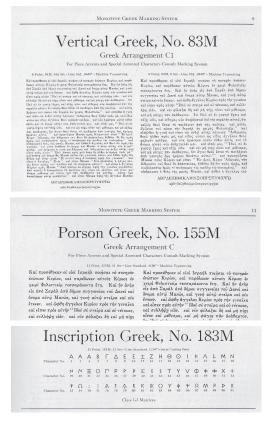
Plate 33, left: Greek font Mediäval, Genzsch & Heyse foundry, Hamburg, 1884(?). Plate 34, center: Greek font by Selwyn Image for Macmillan Publishers, London, 1897. Plate 35, right: Greek font Otter Greek by Robert Proctor, London, 1903.

τῶν τεσσάρων πινάκων Η΄-ΙΑ΄ ἀνήκει τῷ Ἐθνικῷ ἡμ τικῷ Μουσείῳ καὶ ἀποτελεῖ μέρος τῆς μεγάλης δωρεᾶι Δημητρίου, ἔξαιρέσει τοῦ ἐπὶ τοῦ πίνακος Η΄ 1 κομματί ἐκ τῆς μεγάλης πρὸς τὸ Ἑλληνικὸν ἔθνος νομισματικῆς ἀειμνήστων Ζωσιμαδῶν, τὸ μόνον χρυσοῦν νόμισμα τ ὅπερ ἐκέκτητο τὸ Μουσεῖον ἡμῶν πρὶν ἢ θαυμασίως π τῆς ἀπαραμίλλου συλλογῆς τοῦ Δημητρίου.

Τῆς ἐκ 39 νομισμάτων σειρᾶς ταύτης μέρος ἤτοι περιεγράφησαν ἤδη καὶ ἐδημοσιεύθησαν μετά τινων ὅλα χαλκογραφικῶν εἰκόνων ὑπὸ τοῦ κ. Feuardent ἐν τῷ δημοσιευθέντι καταλόγῳ τῆς συλλογῆς τοῦ Δημητρία ὅμως ἡ συλλογὴ αὕτη ὑπερεδιπλασιάσθη ὑπὸ τοῦ γεννα Ἱνα δ' ἐννοήση τις τὸν νῦν πλοῦτον αὐτῆς, σημειοῦμα Μίοnnet δὲν ἐγνώριζε δι' ἄπαντα τὰ Μουσεῖα τῆς Εὐρα 1813-1837 πλέον τῶν 17 κομματίων, ὁ δὲ ἐν ἔτει 18 κατάλογος τοῦ πλουσιωτάτου Βρεττανικοῦ Μουσείου περι λις 18 τοιαῦτα.

A B Γ Λ
E Z H Θ
I K Λ M
N Ξ Ο Π
P Σ Γ Τ Υ
Φ Χ Ψ Ω
ἀ β β γ δ
ἔ ζ ἢ θ θ
ῖ ϰ λ μ
ν, ξ ὸ π
ὂ σς τ ΰ

Plate 36: Greek font, Schelter & Giesecke AG, Leipzig, >1895.



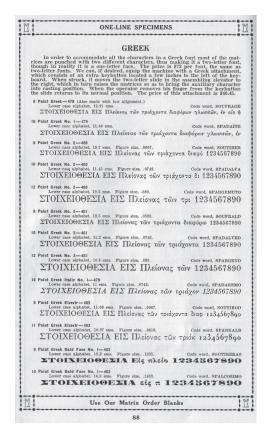


Plate 37, left: Lanston Monotype, US, 1910–1930.

Plate 38, right: Linotype, US, 1910-1930.





στ. 14

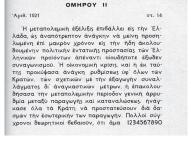
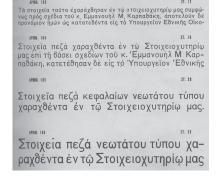








Plate 39: Greek type foundry A. Karotsis-V. Karidis, Athens, 1920s-1950s.



ΑΡΧΑΊΚΑ ΠΕΖΑ ΛΕΠΤΟΓΡΑΜΜΑ



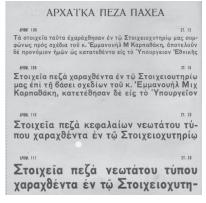
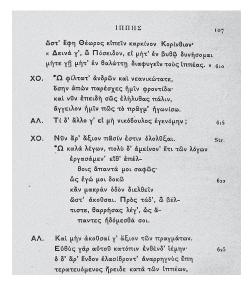




Plate 40: Greek type foundry Em. Karpathakis, Athens, 1920s–1960s. Right: Greek Archaic Light & Bold, 1920s.

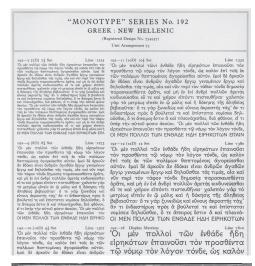


ΑΒΓΔΕΖΗΘΙΚΛΜ ΝΞΟΠΡΣΤΥΦΧΨΩ ἄβ6γδἐζἢθίκλμν ξὅπῥσςτῦφχψῷ

οὐδὲ γὰρ ἡ Προμάχοιο δάμαρ Άλεγηνορίδαο ανδρὶ φίλωι ἐλθόντι γανύςς εται, ὁππότε κεν δή ἐκ Τροίης τὸν νηυτὶ νεώμεθα κοῦροι ἀχαιῶν, "Ως φάτο, τοὺς δ' ἄρα πάντας ὑπὸ τρόμος ἔλαβε γυὶα πάπτηνεν δὲ ἔκαςτος ὅπηι φύγοι αἰπὺν ὅλεθρον έςπετε νύν μοι, Μούςαι 'Ολύμπια δώματ' έχουςαι, ός τις δη πρώτος βροτόεντ' ἀνδράγρι' Άχαιών ήρετ', ἐπεί ρ' ἔκλινε μάχην κλυτὸς ἐννοςίγαιος, Αἴας ρα πρῶτος Τελαμώνιος "Υρτιον οὖτα Γυρτιάδην, Μυςών ήγήτορα καρτεροθύμων, Φάλκην δ' Άντίλοχος καὶ Μέρμερον έξενάριξε, Μηριόνης δὲ Μόρυν τε καὶ Ἱπποτίωνα κατέκτα, Τεύκρος δὲ Προθόωνά τ' ἐνήρατο καὶ Περιφήτην. Άτρείδης δ' ἄρ' ἔπειθ' Ύπερήνορα ποιμένα λαῶν οὕταςε καλ λαπάρην, διὰ δ' ἔντερα χαλκὸς ἄφυςςε δηιώςας, φυχὴ δὲ κατ' οὐταμένην ἀτειλὴν ἔςςυτ' ἐπειγομένη, τὸν δὲ ςκότος ὅςςε κάλυψε πλείςτους δ' Αἴας εἶλεν 'Οιλῆος ταχὺς υἱός οὐ γάρ οἵ τις ὁμοῖος ἐπιςπέςθαι ποςὶν ἦεν ἀνδρῶν τρες άντων, ὅτε τε Ζεὺς ἐν φόβον ὅρςει, ΙΛΙΑΔΟΣ Ο

ΑΒΓΔΕΖΗΘΙΚΛΜ Ν ΞΟΠΡΣΤΥΦΧΨΩ ἄ β γ δ έ 3 ἢ θιὶκ λμν ξ ὁ π ἡ c ς τ ὖ φ χ φ ῶ

Plate 41, left: Greek font for the publisher Les Belles Lettres, Paris, 1920s. Plate 42, right: Greek font by Willi Wiegand for the publisher Bremer Presse, Bremen, 1923.





ΑΒΓΔΕΖΗΘΙΚΛΜΝ ^ω Θλγντ αβγδεζηθικλμνξο τυφχψω

ΑΒΓΔΕΖΗΘΙΚΛΜ ΝΞΟΠΡΣΤΥΦΧΨΩ αβγδεζηθικλμν ξοπρσετυφχψω

Plate 43, left: New Hellenic 192, Monotype Ltd, 1927.

Plate 44, right: Greek Perpetua 283 by Eric Gill, Monotype Ltd, 1928.

ΤΕΙΡΕΣΙΑΣ: ἥδ΄ ἡμέρα φύσει σε καὶ διαφθερεί. ΟΙΔΙΠΟΥΣ· ώς πάντ' ἄγαν αἰνικτὰ κάσαφῆ λέγεις. ΤΕΙΡΕΣΙΑΣ· οὔκουν σὰ ταῦτ' ἄριστος εἑρίσκειν ἔφυς; OΙΔΙΠΟΥΣ΄ τοιαῦτ΄ ὀνείδιζ΄, οἶς ἔμ΄ εὐρήσεις μέγαν.ΤΕΙΡΕΣΙΑΣ· αὕτη γε μέντοι σ' ἡ τύχη διώλεσεν. ΟΙΔΙΠΟΥΣ· άλλ' εἰ πόλιν τήνδ' ἐξέσωσ', οῦ μοι μέλει. ΤΕΙΡΕΣΙΑΣ ἄπειμι τοίνυν καὶ σύ, παῖ, κόμιζέ με. ΟΙΔΙΠΟΥΣ· κομιζέτω δῆθ΄· ώς παρών σύ γ΄ ἐμποδών όχλεῖς, συθείς τ' ἂν οὐκ ἂν ἀλγύνοις πλέον. ΤΕΙΡΕΣΙΑΣ εἰπὼν ἄπειμ' ὧν οὕνεκ' ἤλθον, οὐ τὸ σὸν δείσας πρόσωπον οὐ γὰρ ἔσθ' ὅπου μ' ὀλεῖς. λέγω δέ σοι τὸν ἄνδρα τοῦτον, δν πάλαι ζητεῖς ἀπειλῶν κἀνακηρύσσων φόνον τὸν Λαίειον, οὖτός ἐστιν ἐνθάδε, ξένος λόγω μέτοικος, εἶτα δ' ἐγγενὴς φανήσεται Θηβαΐος, οὐδ' ήσθήσεται τῆ ξυμφορά τυφλὸς γὰρ ἐκ δεδορκότος και πτωχὸς ἀντι πλουσίου ξένην ἔπι σκήπτρω προδεικνύς γαΐαν έμπορεύσεται. φανήσεται δὲ παισὶ τοῖς αύτοῦ ξυνών άδελφὸς αύτὸς καὶ πατήρ, κάξ ῆς ἔφυ



ΓΔΘΛΞΠΣ ΦΨΩΔ**Ζ**Σ ΦΩΈφΦΨ

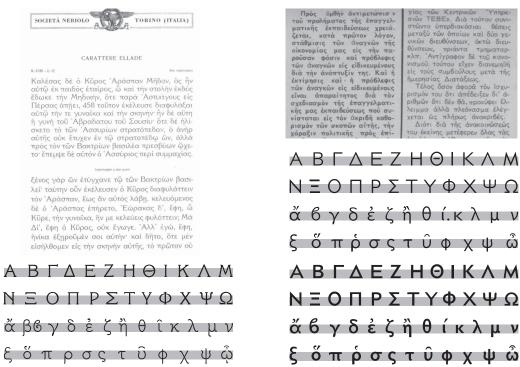
αβγδεζηθικ λμΖπροςτυφ χψω^{,,,,,,,,},,,,,,,,,,</sup>

ΑΒΓΔΕΖΗΘΙΚΛΜΝΞΈΖ ΟΠΡΣΣΤΥΦΦΦΦΨΨΩΩ ໕βγδἐζἢθἵκλμν Ζοπροςτῦφχψῷ

Plate 45, left: Antigone Greek by Jan van Krimpen, Enschedé, 1927. Plate 46, right: Romulus Greek by Jan van Krimpen, Monotype Ltd, 1928.

Grec Europe maigre corps 16 ΠΗΝ - Κλυθι μευ, αιγιόχοιο Διος τεκος, 'Ατρυτωνη ει ποτε τοι πολνμητις ενι μεγα-Grec Europe demi-gras corps 16 ΠΗΝ. — Κλυθι μευ, αιγιόχοιο Διος τεκος, 'Ατρυτωνη ει ποτε τοι πολνμητις Grec Europe gras corps 16 ΠΗΝ. — Κλυθι μευ, αιγιόχοιο Διος τεκος, 'Ατρυτωνη ει ποτε Grec Europe maigre corps 24 ΠΗΝ. — Κλυθι μευ, αιγιόχοιο Διος τεκος, Άτρυτωνη ει ποτε Grec Europe demi-gras corps 24 ΠΗΝ. — Κλυθι μευ, αιγιόχοιο Διος τεκος, 'Ατρυτωνη ει ποτε Grec Europe gras corps 24 ΠΗΝ. — Κλυθι μευ, αιγιόχοιο Διος τεκος, 'Ατρυτωνη ει ποτε Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ
Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω
ἄ β β γ δ ἐ ζ ἢ θ ΄ κ λ μ ν
ξ ὅ π ῥ σ ς τ ῦ φ χ Φ ὧ
Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ
Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω
ἄ β β γ δ ἐ ζ ἢ, θ ΄ κ λ μ ν
ξ ὃ π ῥ σ ς τ ῦ φ χ Φ ὧ
Α,Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ
Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω
ἄ β β γ δ ἐ ζ ἢ 9 θ ϊ κ λ μ ν
ξ ὀ π ῥ σ ς τ ὖ φ χ Φ ῷ

Plate 47: Grec Europe, Deberny & Peignot, 1930.



ξὄπροςτῦφχψὧ ΑΒΓΔΕΖΗΘΙΚΛΜ ΝΞΟΠΡΣΤΥΦΧΨΩ **ἄβγδέζἢθίκλμν** ξ ὅπ ῥ σς τ ΰ φ χ ψ ὧ

γίας τῶν Κεντρικῶν 'Υπηρεσιῶν ΤΕΒΕ» Διὰ τούτου συνεσιῶν ΤΕΒΕ» Διὰ τούτου συνεσιῶν τοῦν τοῦν οποίων καὶ δύο γενικῶν διευθύνσεων, ὀκτῶ διευθύνσεων, γιάντα τημιαταρικλπ. 'Αντίγραφον δὲ τοῦ κανονισμοῦ τούτου εἶχεν διακμηθῆ εἰς τοὺς συμθούλους μετὰ τῆς ἡμερισίας Διατάξεως.
Τέλος δαον ἀφορὰ τὸν ἰσχυρισμόν του δτι ἀπέδειξεν δὶ τομβιῶν ὅτι δὲν θὰ, προκύψει ἐλλειμμα ἀλλὰ πλέονασμα ἐλέγτατα ὡς πλήρως ἀνακριθές.
Διότι διὰ τῆς ἀνακοινώσεως του ἐκείνης μετέφερεν δλας τὰς

Plate 48, left: Ellade, Societa Augusta/Nebiolo, 1920s. Plate 49, right: Metrolite Greek, Mergenthaler Linotype Corp., 1940s.



Plate 50: Olympia Greek (regular, medium, bold), type foundry Em. Karpathakis, Athens, 1939.



Plate 51: Greek Gill Sans (regular, bold, inclined), Monotype Ltd, 1950.

GREEK: TIMES BOLD UPRIGHT 567 & INCLINED 667

GREEK: TIMES UPRIGHT 565 & INCLINED 566

Combinable with Greek: Times Bold Upright Series 567



George D. Matthiopoulos



Plate 53: Greek Univers, Monotype Ltd, 1967

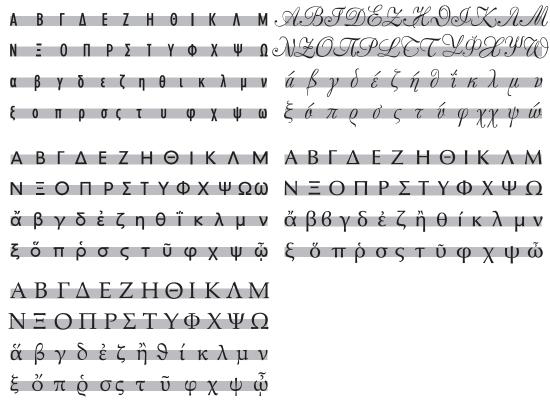


Plate 54: Greek types by Hermann Zapf, for J.D. Stempel foundry, 1950s. Top left: Artemis Griechische Enge Halbfette, 1953. Middle left: Attika Griechische, 1953. Bottom left: Heraklit Griechische, 1954.

Top right: Frederika Griechische, 1953. Bottom right: Optima Greek, Mergenthaler Linotype Co., 1973.

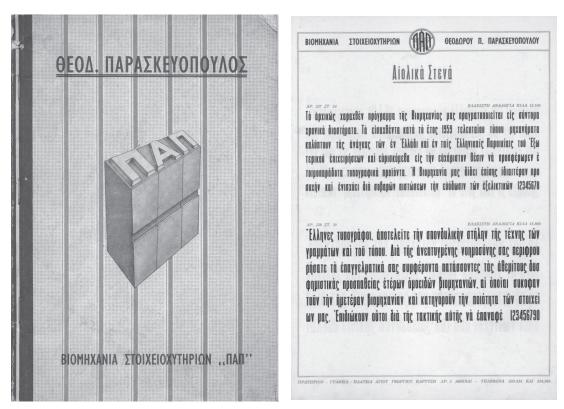


Plate 55: Type specimen from the Th. Paraskevopoulos (PAP) type foundry, 1950s.



Plate 56: Type specimens from the I. Sarasitis (Victoria) type foundry, 1960s. Right: Astir Greek, 1965.

« Ήταν μιὰ θάλασσα πλατειά, ἡ Μαύρη Θάλασσα, μὲ κύματα ποὺ ὅλο τραγουδοῦσαν. Ἡ γῆς μοσχοβολοῦσε ἄνθος σταφυλιοῦ ποὺ τότρεφε ἡ ἁρμύρα. Τὸ καινούργιο μας σπίτι εἶναι μικρὸ καὶ γκρίζο σκεπασμένο μὲ κόκκινα κεραμίδια. Κοντὰ στὸ ποτάμι, κοντὰ στὸ δάσος, μὰ πιὸ κοντὰ στὸν ἥλιο. Ἐδῶ ὁ ἱδρῶτας μας θὰ ποτίσει τὸ χῶμα ποὺ μεγαλώνει μόνο ἀγκάθια».

A B Γ Δ E Z H Θ I K Λ M N Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω ἄ β β γ δ ἐ ζ ἣ θ ἶ κ λ μ ν ξ!; ὅ π ρ δ ς τ ῦ φ x ψ ῷ

Plate 57: Caledonia Greek, Mergenthaler Linotype Co., 1967.



Plate 58: Greek fonts by Matthew Carter for phototypesetting, Mergenthaler Linotype Co. Left: Helvetica Greek, 1972; right: Century Schoolbook Greek, 1976.



Plate 59: Letter-transfer Greek fonts by Letraset and Mecanorma.

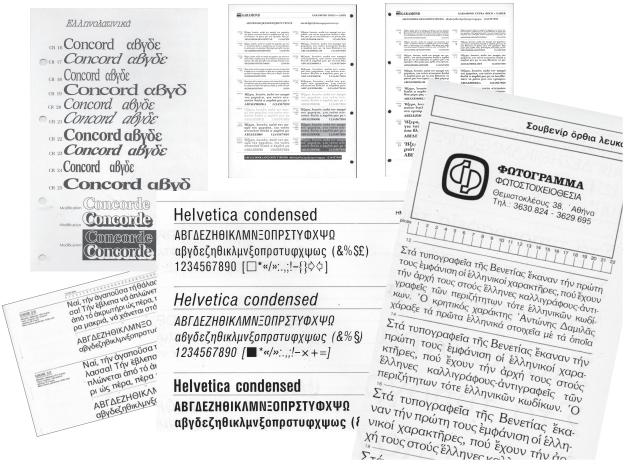


Plate 60: Phototypesetting specimen sheets of Greek fonts, 1970s–1980s.

ΑΒΓΔΕΖΗΘΙ ΚΛΜΝΞΟΠΡ ΣΤΥΦΧΨΩ αβγδεζηθικ λμνξοπρστ υφχψωs 1234567890

ποιείται περισσύτερο για το ββλίο και την εφημερίδα. Εκεινώντας από καθαρή φιλούδας αργάστικα δύο ολύ-κληρα χρόνια και σχεδίσσα δύο αλφάβιτα. Εφάρμοσο Η προσπάθετα πόκι μου έγινε ακριβόεν για τη βελτίσσι της αντίστουχης για αντίστουχης για εφημερίδα. Εκεινώντας από καθαρή φιλοδοξία εργάστικα δύο ολόκληρα χρόνια και σχεδίσια δύο αλφάβιτα. Εφάρμοσο Η προσπάθετα η δική μου έγινε ακριβόεν για τη βελτίσσι της αντίστουχης για φιλοπο της αντίστουχης για το ββλίο και την εφημερίδα. Εκεινώντας από καθαρή φιλοδοξία εργάστικα δύο ολόκληρα χρόνια και σχεδίσια δύο αλθαρή αντίστουχης για το ββλίο και την εφημερίδα. Εκεινώντας από καθαρή φιλοδοξία εργάστικα δύο ολόκληρα χρόνια και σχεδίσια δύο αλθαρή εκτινώντα δύο ολόκληρα χρόνια και σχεδίσια δύο αλθαρή εκτινώντα δύο ολόκληρα χρόνια και σχεδίσια δύο αλθαρή εκτινώντα το το καιτίστουχης για αριβός για τη βελτίσσιο της αντίστουχης για ερισσότερο για το ββλίο και την εφημερίθη του είναι αυτή που χρησιμοποιείται περισσότερο για το ββλίο και την εφημερίθη του είναι αυτή που χρησιμοποιείται περισσότερο για το ββλίο και την εφημερίθη το προσπάθετα η δική μου έγινε ακριβός βια τη βελτίσσιο της αντίστουχης για της επισσότερο για το ββλίο και την εφημερίθη το προσπάθετα η δική μου έγινε ακριβός με της πελετίσσιο της αντίστουχης για της βελτίσσιο της αντίστους της το εποσότερο για το βιβλίο και την εφημερίθης της της πελετίσσιο της αντίστους της το βελτίσσιο της αντίστους της εφημερίθης της της πελετίσσιο της αντίστους της εφημερίθης της της επέλεσση της αντίστους της εφημερίθης της της επέλεσση της αντίστους της εφημερίθης της της της της της της επέλεσση της αντίστους της επέλεσση της αντίστους της εφημερίθης της επέλεσση της αντίστους της επέλεσση της τιστόσεις της επέλεσση της επέλεσση της επέλεσση της της επέλεσση τη

γραφής που είναι αυτή που χρησιμοποιείται περισσότερο για το βιβλίο και ΑΒΓΔΕΖΗΘΙ ΚΛΜΝΞΟΠΡ ΣΤΥΦΧΨΩ αβγδεζηδικ λμνξοπρστ υφχψως 1234567890

Η προσπάθεια η διείη μου έγινε ακριβώς για τη θέλτίωση της αντίστοιχης γραφής που τένα αυτή που χηπομοποιείται περισσότερο για το ιδιδλίο και την εφημερίδα. Ξεκνώντας από κάδαρή φιλοδοξία πρότηται δειο όλολησα χρόνια και σχεδίσια δύο αλφιβίπτα. Εφέρμοσα όλες τις σύγ Η προσπάθεια η ιδική μου έγινε ακριβώς για τη δελτίωση της αντίστοιχης γραφής που είναι αυτή που χηπομοποιείται περισσότερο για το ιδιδλίο και την εφημερίδα. Ξεκνώντας από καθαρία φιλοδοξία εργάστηκα δύο ολόκλησα χρόν ακα τις σχέσισα δύο αλφιδίπτα. Εφέρμοσα όλες τις σύγ Η προσπάδεια η δική μου έγινε ακριβώς για τη θελτίωση της αντίστοιχης γραφής που είναι αυτή που χρισμέριδα. Ξεκνώντας από καθαρή φιλοδοξία εργάστηκα δύο ολόκλησα χρόν και το ιδιδλίο και την εφημερίδα. Εκκνώντας τη που χρισμέριδα. Εκκνώντας τη πολετίωση της αντίστοιχης γραφής του είναι αυτή που χρισμέριδα. Εκκνώντας τη πολετίωση της αντίστοιχης γραφής του είναι αυτή που χρισμέριδα. Εκκνώντας Η προσπάδεια η δική μου έγινε ακριβώς για τη δελτίωση της αντίστοιχης γραφής του είναι αυτή που χρισμέριδα. Εκκνώντας Η προσπάδεια η δική μου έγινε ακριβώς για τη δελτίωση της αντίστοιχης γραφής του είναι αυτή που χρισμέριδα. Εκκνώντας Η προσπάδεια η δική μου έγινε ακριβώς για τη δελτίωση της αντίστοιχης γραφής του είναι αυτή που χρισμέριδα. Εκκνώντας Η προσπάδεια η δική μου έγινε ακριβώς για τη δελτίωση της αντίστοιχης γραφής του είναι αυτή που χρισμέριδα. Εκκνώντας Η προσπάδεια η δική μου έγινε ακριβώς για τη δελτίωση της αντίστοιχης γραφής του είναι αυτή που χρισμέριδα. Εκκιμώντας της είδλο και την εφημερίδα την είναι αντίστου της αντίστους της γραφής του είναι αυτή που χρισμέριδα την εφημερίδα την εφημερίδη την εφημερίδη την εφημερίδη του είναι αυτή που χ

Plate 61: Two Greek typefaces by Takis Katsoulidis for AGFA SA, 1988–1990. Left: Appolonia Greek; right: Katsoulidis Greek.