

development of the style has been as follows: the classical period strives after simplicity and harmony; the inscriptions are samples of good taste and artistic feeling; a tendency to archaism is often to be noticed (K. 18, Athens, Vth cent. B.C.). Towards the end of the IIIrd century there begins a clear preference for adorning the characters with small strokes, curves or hooks (K. 35a, Tenos). In the period of Augustus the angular forms of *E*, *Σ*, later also of *M* and *Ω* begin to give way to the round forms (K. 41, Anisa). After a short strongly archaizing reaction under Hadrian (K. 44b, Athens), the style of the inscriptions begins more and more to show the characteristics of the usual uncial-writing (K. 48a, Athens IIIrd cent. A.D.).

§ 14. Literary Papyri

Only in very exceptional cases it is possible to date literary papyri with certainty on the ground of external data alone. Our knowledge of the development of the book-hands used on papyrus, as far as it goes, is due to the experience of a few papyrologists. The calligraphical element which in these papyri so often comes to the fore, is an additional difficulty. Before giving a short sketch of the development we must point out that more than one style of book-hand may be in use at the same time. Different lines of development often run parallel to one another. Secondly it must be understood that the periods may only be indicated approximately: the transition from one style to another always takes at least one generation.

The oldest literary papyrus now extant is the text of Timotheus' *Persae*, it dates from the IVth century B.C. (Pl. I); each letter is separately written exactly after the manner of an inscription; deviations are the result of the difference in material. The forms of the letters are simple, angular, clear; there is no trace of cursive influence. During the IIIrd century the style remains practically the same, but the letters are often small and fine, though of different size; the horizontal line predominates, and the letters are often broad (Sch. 40: Euripides, *Phaethon*; Th. 2: Plato, *Phaedo*).

In the IIrd century a rounder, more cursive form begins to appear, a process which continues in the Ist; moreover we observe a tendency to equalize the size of letters (Sch. 60: Euripides, *Hippolytus*; Th. 4: Hyperides, *against Athenogenes*; N. 6: Philodemus, *on Death*).

During the reign of Augustus a new type begins to develop; it strives after elegance and adds small oblique lines at the end of vertical and some horizontal strokes (Sch. 11b: Anonymus, *Anapests*; 19a: Hesiod, *Catalogue*; 19c: *Iliad*; Th. 8 and St. 3: *Odyssey*). Still at the end of the IIrd cent. A.D. this style appears in the *Hawara-Iliad* (Th. 18).

gradually develops into the severe style characteristic of the IIrd century A.D. Here the letters stand upright, with predominantly horizontal lines and a great variation in thickness of the strokes: now it is a lighter (Th. 6, N. 10a: Bacchylides, *Odes*) then a heavier type (Th. 17, W. 4: the famous *Ilias Bankesiana*). Towards the end of this century under the influence of the cursive, a secondary form comes into existence with sharp angles and sloping lines (Th. 15: *Iliad*).

In the IIIrd cent. the influence of the cursive is still greater; different forms of the same letter occur next to each other on the same page. But the reaction arises in the IVth century: the influence of the cursive is intentionally avoided; form and *ductus* of the letters are regular, harmonious and clear: the fundamental forms are the circle and the square. From this century, however, date the oldest complete vellum-codices, which offer a better foundation for study; see next paragraph.

He who has carefully studied the examples mentioned above, will have noticed that the differences do not come out so much in the real forms of the letters, which very often remain remarkably alike, but in the character of the handwriting as a whole. The table given in fig. 3 has therefore not the intention to mark a historical development of letter-types, but to illustrate the great uniformity of the essential forms, and to show, on the other hand, the influence of the cursive on the more rounded and simplified forms. In addition, he will have observed the *scriptio continua* which he already knew from the inscriptions: the letters are normally detached from each other, but the words are not separated; the last letters of a line, however, are more than once written smaller in order to finish a word on the same line; in poetry the verses stand apart, but prose, as a rule, goes on without interruption; so-called capitals do not occur; prosodic signs (see § 26) only incidentally. The columns are rather narrow (see e.g. Sch. 18 cited above; Th. 9, W. 2: Hyperides, *for Euxenippus*, Ist cent.

1	2
Α	Α Α α α
Β	Β Β β β
Γ	Γ Γ γ γ
Δ	Δ Δ δ δ
Ε	Ε Ε ε ε
Ζ	Ζ Ζ ζ ζ
Η	Η Η η η
Θ	Θ Θ θ θ
Ι	Ι Ι ι ι
Κ	Κ Κ κ κ
Λ	Λ Λ λ λ
Μ	Μ Μ μ μ
Ν	Ν Ν ν ν
Ξ	Ξ Ξ ξ ξ
Ο	Ο Ο ο ο
Π	Π Π π π
Ρ	Ρ Ρ ρ ρ
Σ	Σ Σ σ σ
Τ	Τ Τ τ τ
Υ	Υ Υ υ υ
Φ	Φ Φ φ φ
Χ	Χ Χ χ χ
Ψ	Ψ Ψ ψ ψ
Ω	Ω Ω ω ω

Fig. 3.
Letters found in literary papyri; col. 1 the characters used in Timotheus' *Persians* (Pl. I); col. 2 characters in other papyri.

1	2
α	α α α α α
β	β β β β β
γ	γ γ γ γ γ
δ	δ δ δ δ δ
ε	ε ε ε ε ε
ζ	ζ ζ ζ ζ ζ
η	η η η η η
θ	θ θ θ θ θ
ι	ι ι ι ι ι
κ	κ κ κ κ κ
λ	λ λ λ λ λ
μ	μ μ μ μ μ
ν	ν ν ν ν ν
ξ	ξ ξ ξ ξ ξ
ο	ο ο ο ο ο
π	π π π π π
ρ	ρ ρ ρ ρ ρ
σ	σ σ σ σ σ
τ	τ τ τ τ τ
υ	υ υ υ υ υ
φ	φ φ φ φ φ
χ	χ χ χ χ χ
ψ	ψ ψ ψ ψ ψ
ω	ω ω ω ω ω

Fig. 5.
Characters in minuscule
codices.
Col. 1 gives the pure
forms, used in the vetus-
tissimi;
col. 2 altered minuscules,
cursive and uncial forms.

a rule, written in minuscule. Parisinus gr. 2179 of Dioscurides, and Parisinus gr. 2389 of Ptolemy's *Almagest*, both date from the IXth cent. and hardly form an exception to this rule. The different styles of the uncial, however, are still used there, either for initials, titles and subscriptions or for scholia, which, in this way, are easily distinguished from the text itself¹⁾.

§ 16. Minuscule Writing

As we have seen (§ 12), the cursive existed already for many centuries next to the uncial. In the eighth century this cursive writing assumed definite forms²⁾ which have been set upright, normalized and equalized³⁾ so as to form a new type: since the ninth century it came into general use for the books. The oldest dated minuscule codex in Greek is the so-called Tetraevangelium Uspenskij written in Jerusalem in 835, now at Leningrad (L.C. 4). Some scholars have been inclined to trace the origin of the minuscule to Syria or Constantinople⁴⁾; for the time being, it seems safer to attribute it to a general tendency and modification of the taste. There may be a connection with the great cultural revival after the extinction of the Iconoclasts dynasty. The usual forms of the minuscule are given in fig. 5, column 1. It resembles the uncial writing in so far that consecutive words are not separated, but the great difference is that the letters are often combined according to certain rules⁵⁾. Most letters may be connected on both sides; only with the preceding letter, however, the ζ, ι, ν, ξ, ο, ρ, φ and ω; only with the following the ε, η, κ and σ⁶⁾. These differences only refer to the pure forms and in so far as there are no chance connections; the scribe of Plato's Vaticanus (CL. 9), for instance,

connects ν with a following τ. It goes without saying that a letter which may be connected of its own, is never linked to a character which admits of no connecting. That is the reason why the ν stands loose in the word οὐκ, though by nature it may be linked on both sides. The spaces in this writing are the result of the nature of the letters, not a means to separate words in order to make reading easier. Combinations of certain letters are a normal feature of the minuscule (see § 21). Accentuation already occurs in the vetustissimi; in later manuscripts it is usual (§ 26). The accents are small.

The history of the minuscule is determined by the growing influence which the uncial and, on the other hand, the not normalized cursive exercised. But a regular process is here out of the question. Severe minuscules are contemporary with a style strongly affected by other types. Much depends here on the intention of the author and the destination of the codex. The dating of undated manuscripts is always a hazardous undertaking. Fortunately we dispose of a certain number of dated codices, which give a firm basis to our study: from the IXth century only there are almost thirty dated manuscripts.

For practical reasons we distinguish four periods:

1. From the origin of the minuscule till the middle of the Xth cent.: *codices vetustissimi*.
2. From the middle of the Xth cent. till the middle of the XIIIth cent.: *codices vetusti*.
3. From the middle of the XIIIth cent. till the middle of the XVth cent. when printing begins: *codices recentiores*.
4. From the spreading of the art of printing onward: *codices novelli*.

§ 17. Codices Vetustissimi

Well-nigh all the manuscripts of this group excel in the extraordinary regularity and care with which they have been written. This regularity appears not only in the shape of the characters, which always display in perfect harmony the same form, size and position, but also in the whole aspect of the pages. The characters stand upright, sometimes slanting a little to the left, and are practically of the same height. Uncials, the use of which is a sign of weariness or carelessness, are rare.

The oldest dated specimen of a classical text, written in 888 for Arethas, later bishop of Caesarea in Cappadocia, is the Oxoniensis D'Orville X 1 [A]¹⁾, a vellum manuscript of Euclides. It gives a splendid example of a pure, elegant minuscule written with perfect care and sloping a little to the left (Th. 53, LC. 6).

Other vetustissimi important to the student of classics are the following:

¹⁾ CL. 10 shows a title, a subscription and notes.

²⁾ See CL. 5.

³⁾ In papyri a similar change is apparent. One may compare the change of sloping writing into round writing which took place in the last two generations.

⁴⁾ According to T. W. Allen, *The origin of the Greek minuscule hand*, Journal of Hell. Stud. XL 1920, pp. 1 ff., the famous monastery of Stoudion had a decisive influence.

⁵⁾ See § 21 and fig. 7.

⁶⁾ This last letter has a second form only used in combinations, which is con-