Notes on Abbreviations in Greek Manuscripts

BY

T. W. ALLEN
QUEEN'S COLLEGE, OXFORD
CRAVEN FELLOW

WITH

ELEVEN PAGES OF FACSIMILES
BY PHOTOLITHOGRAPHY

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ALFRED GOODWIN
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NOTES
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ABBREVIATIONS IN GREEK MANUSCRIPTS.

A sentence that occurs in the late Charles Graux' review of Lehmann's Die tachygraphischen Abkürzungen will explain the purpose of this pamphlet. He says, 'il est absolument indispensable que beaucoup d'observations exactes soient d'abord publiées avant que, à l'exemple du naturaliste qui dresse comparativement un tableau de la faune ou de la flore des divers régions du globe, les paléographes puissent un jour établir l'état des abréviations usitées dans le monde byzantin de siècle en siècle.' The science of Greek Palaeography, or at least that portion of it which deals with contractions, has reached a point at which what is necessary for its progress is not the production of all-inclusive handbooks with an immediate practical aim, where conclusions are laid down with all possible definiteness and width, but rather a series of observations of the actual usage of manuscripts, noted with all available accuracy by investigators whose occupations have given them familiarity with the ways of scribes and the possibilities of Greek writing. Such observations indeed must be classified and brought into relations with one another, and hypotheses may be suggested to explain the facts observed; but, as with any other yet undeveloped science, the first and main object must be the collection of fresh evidence. How little has been done towards such collection is known to anyone who has tried to find definite information upon the

1 Revue Critique, 1880, Notices bibliographiques, etc., p. 168.
origin and history of any single Greek abbreviation. Comparatively little stress is laid on the subject of compendia in Montfaucon's great book, and Bast's well-known Commentatio Palaeographica, though stimulating in the highest degree, and the work of one whose palaeographical knowledge can seldom have been surpassed, has a directly practical intention, and moreover hardly recognises the principle of chronological development in the history of a compendium. The recognition and application of such principles to compendia forms the cardinal merit of Lehmann's handbook, a work that with all its industry and system is in point of actual palaeographical expertness far behind the Commentatio Palaeographica; both Graux and Vitelli have pointed out, with indisputable truth, the impossibility of deriving general conclusions in palaeography from the compilation of facsimiles. Professor Vitelli however has at length given us the first instalments of a treatise, that, independent of the actual value of its results, is a model in all respects of what such a work should be. The Museo Italiano, part I. pp. 9-15, 32; II. 168-173 contains a great number of his observations upon codices in the Laurentian and elsewhere. I shall be more than gratified if this pamphlet, which owes so much to the Spicilegio Fiorentino, be thought a not unworthy companion to it.

The bulk of the material presented here is taken from manuscripts in the Bodleian and the British Museum; but a tour in France and Italy in the early part of last year (1888), undertaken under the Craven Trust, has enabled a number of additional examples to be added to those already collected. In arranging the compendia in alphabetical order I have thought to consult the convenience of those looking for examples of any one in particular; at the end are collected some instances of tachygraphy which are grouped under the several manuscripts. I have endeavoured in discussing the various forms to avoid the faults urged against others; where hypotheses are ventured, it is as hypotheses that they are given, and with the
knowledge that a little increase in our information may overset them; I shall feel no particular shame if such a fate befalls one or two of my 'combinations': caedimus inque vicem praebemus crura sagittis is a line that every palaeographer should accept.

The plates have been produced by a photographic process at the University Press, and will, it is hoped, be thought more successful than previous reproductions of drawings.

I have finally the pleasant duty of thanking many librarians, at home and abroad, to whose kindness the possibility of making this collection has been due: to some of them my thanks have been already elsewhere given: here I gladly record my obligation to the Rev. Gio. Bollig at the Vatican, the Rev. Antonio Ceriani at the Ambrosiana, the Abate Anziani at the Laurenziana, Conte Soranzo at Venice, M. Henri Omont at Paris, Bodley's Librarian and Mr. Madan in Oxford, and lastly to the Principal Librarian of the British Museum, for constant encouragement and advice.

A. Alpha, it is well known, is properly represented by a horizontal stroke, improperly by a horizontal stroke dotted; the latter sign properly denotes τα, and in this sense is often found, though probably not so often as the dotted τ; this abuse of the two dots, most frequent in combination with τ, still occurs freely with other letters; lastly, there are many mss. which make use of the notation both in the original and in the illegitimate sense. I give examples of these four cases: (1) the simple horizontal stroke appears to be exclusively used in the scholia of the Arethas-mss. ¹;

¹ By the 'Arethas-mss.' I mean the manuscripts which are known to have belonged to Arethas, deacon of Patrae, and afterwards archbishop of Caesarea, and which contain large quantities of scholia, apparently in the same hand: I here refer to five—the D'Orville Euclid (888), Clarke Plato (896), Lucian Harleian 5694 (undated), Aristotel Urbinas 35 (undated), Clement Paris grec 451 (914); cf. generally the Observationes Palaeographicae of E. Maass in the 'Mélanges Graux,' Paris, 1880, p. 749 sq., and Vitelli Collezione Fiorentina fasc. iv. pt. 1, where it is shown that Laur. 60, 3 (Aristides) is in the hand of the Clarke Plato. A certain resemblance also, so far as the scholia are concerned, is to be seen in the mss. Mutin. 126 (Clement Alex.) and Vallicell. F. 10 (Canones eccl.).
of so large an extent of scholia it is impossible to speak certainly, but at least the tachygraphic dots, whether as τα or α, are very rare in these mss.: cf. σχήμα ευμάθεια from Lucian. The dots may be more certainly said not to appear in the Gospels Bodl. Auct. E. 5. 11 (s. X–XI), though the total amount of abbreviation here is comparatively small: cf. βασίλειαν παρα¹. (2) mss. in which the dotted stroke occurs and is always τα, are Grotta Ferrata B. a. iii. (s. XII) παντα τα κατα, ύποστάσεως, μεταώντα; Epistles, Bodl. Auct. E. 5. 9. (s. X) κατα, ἀπαγορεύοντα, with βάσκανος, ἀντικαθισταμένων: Philo, Selden supr. 12 (s. X) ἕχοντα, ταῦτα. (3) The most frequent case is that in which a manuscript uses at one and the same time the dotted stroke and the dotted τ to express τα: such are the Paris Demosthenes² (Σ, grec 2934, s. X) συμπεράματα, κατα, but προς τα; Clement Mutin. 126 (s. X) ἑνστάσεις, τα; Nonnus Add. mss. 18231 (a. 972) τα ἔταξεν τα; Βατ. 1982³ (s. X) τα ὀπτα; Iliad Venetus A ἑπείτα (schol.) θυμολέοντα (text); Psalter, Bodl. Auct. T. 4. 19 (s. X) ἕχοντα, τα; Aristides Vat. 1298 (s. X–XI) ⁴ ταῦτα τάξις; Hermogenes Paris grec 1983 (s. XI–XII) ⁵ γραμματα, τα; S. Maximus Angelic. T. 1. 8 (s. XI) πάντα, ὄντα; S. Maximus Mutin. 12 (s. XII) νομιμα δοξάροντα, τα πραγματα; Palladius Aed. Christ. 70 (a. 1104)⁶ πειράζεται, μετά. Clarke 12 (Greg. Naz. s. X) combines the simple stroke for αλφα with the dotted τ for τα, cf. κατα τάξιν, παραθαλασσιον. It is in anyone’s power to extend this list. (4) The use of the double dots in combination with other consonants than τ is fairly common; it is most thoroughly carried out perhaps in the school of S. Nilo; cf. λαοθ from B. a. xix (a. 965, hand

¹ A rather late instance of the simple stroke is πολλάκις from the ms. Turin B. 1. 22 (a. 1149). Cf. also φιλαγγήδων from Galen H. 45 Arch. S. Petr. (s. XII–XIII).
² See the facsimile, Pal. Soc. 1886, 2nd series, pt. 3; the examples come from the scholia.
³ I am inclined to put this ms. earlier than M. de Nolhac (Faltrio Orsini, p. 171).
⁴ See the description of this ms. infra p. 34.
⁵ Not X, as Bast.
⁶ Not 1107 as the Catalogue.
of S. Nilo), βάρει σαββάτω, ἀλλά, παρά, ἀμαρτημάτων, ϕθαρτήν from B. a. i (a. 986, hand of Paul), ἄποσάνει σπέρμα from Angel. B. 3. 11: the use of the dots for the syllable οπ (already fully rendered by the compendium) in such words as μάρτυς, ἐπιθαρρύσεις from the London Nonnus, is a characteristic of the school; the ring in the compendium is turned indifferently up or down. Other mss. where the dots are thus freely combined with consonants are Nonnus Paris suppl. grec 469 A (a. 986) τὰ δέσμα; Vat. 1982 ἔνταυβα, παλαιότατος βαδός; Vat. 1298 παραδείγματικός; and similarly the Hermogenes Par. grec 1983.

Al. The ordinary sign for the diphthong αι hardly needs fresh exemplification; it is constant in the Arethas-scholia, and, among other tenth-century mss., in Clarke 12 and Mutin. 126. The tachygraphic form has not met me outside the Grotta Ferrata school (q. v.) 3. A curious form occurs repeatedly in Barocc. 26 (Canons, &c., s. XI ineunt.); cf. ἐξακοράζονται f. 209 r., πορεύονται f. 346 r., κατέχονται f. 347 r.: it is not unlike the sign which Vitelli (p. 12 n. 8) explains as a prolongation of the tachygraphic symbol; but I think it as likely that it may be merely the sign for ε used by itacism; cf. δύποτε from the same ms.

AίΣ. Lehmann's remarks upon the comparatively late origin of the double apostrophe for αιε are just; the Arethas-mss. use no single sign for the syllable, but render it by the sign for αi with sigma attached: so ὁρεῖ, ταῖς from the D'Orv. Euclid. At the same time the sign must have been in existence by the beginning of the

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1 Lehmann well illustrates the use from Nonnus, Add. ms. 18231.
2 The separation of the sign from its preceding consonant, which Prof. Vitelli (p. 172 n. 3) seems to think rare, is common in the Arethas-mss.: cf. γεωμέτραις, πλευραὶ D'Orv. Euclid, φαινεῖνε Plato, σφαιρα Lucian; also νύμφαι Mutin. 126 (Clement), κακοδαμώνες Vallicell. F. 10. The matter seems to be one of indirection.
3 Since this was written I have seen it in Par. grec 990 and 3032 (q. v.).
tenth century, for the scholia to the Paris Plato, grec 1807 offer, as Bust was aware, both modes of rendering the syllable: cf. εὐωξίας f. 7 r., ταῖς f. 99 r. The double apostrophe occurs in the ms. of Gregory Nazianzen's poems, Clarke 12, which I take to be of the earlier half of the tenth century; cf. αἰσχροῖ, αὔσται: the earliest dated ms. in which the sign occurs appears to be the interesting Nomnus, Paris suppl. grec 469 A of l. n. 986, cf. ψυχαῖες 1. Vat. 1298 (X–XI) again, uses both modes, e.g. ταῖς, ψυχαῖες 2. The sign is uniformly absent from the Grotta Ferrata mss., which, where they give the syllable abbreviated, use the tachygraphic symbol. The single apostrophe, of which Vitelli gives some examples, p. 12, occurs in Clarke 12, f. 96 v. βαρεῖας καὶ δειναῖς ύπρεσιν, f. 201 v. ταῖς παρθένοις, Laud. gr. 39 (s. XI ineunt.), f. 83 v. ταῖς ἀμαρτίαις, Selden supr. 12 1, f. 10 r. ὀρμαῖς, 146 v. ταῖς αὐταῖς, 135 v. τοῖς οὐκέτας, f. 129 v. ἐν ταῖς τελειοτάταις; and Prof. Vitelli will forgive me if I add an instance from the beautiful Euclid Laur. 28, 3 (s. XI) δύο δὴ αἶ ἀπόδο ὁδοὶ ταῖς ἐκ δοῦ ἵκαί 2.

AN. The examples that I give of this commonest of compendiums are meant to illustrate the freedom with which it can be written on the line or attached to a preceding letter; ἐδώκαν ἵκαν from the Paris Plato, gr. 1807, ἔαν, οὐκ ἀντέχεται from Vat. 1982, οὐκαν from Selden supr. 12, παντὶ ὅταν from Roe 16 (Epistles, s. X exeunt.), πᾶν οὐκ ἀν, κἀν from Bodl. Misc. 251 (Epictetus, s. XII) 3. Vitelli has noticed (p. 171) that this sign sometimes stands for the syllable αἰ. I subjoin one or two instances of its use in this sense and also as representing τῇ, viz. λαμβανόμεναί, D’Orv. Euclid, ἀναλαμβάνει, Harl. Lucian, ὑπολαμβάνω Vat.

1 Philo, saec. xi Coxe, but the ms. may as probably belong to the century before, it is in bold minuscule above the line. F. 96 r., a late hand has expanded the symbol in question into -αις.

2 Another example is ἐν ταῖς αὑτὰς ἐπαρχίας from Vallicell. F. 47 (s. X).

3 The same ms., a collation of part of which by Mr. Bywater will be found in Hermes, 1871, p. 362 sqq.
AN—AP.

1298 (Aristid.), ἀναγκαῖον D’Orv. Euclid, ἀνάγκης Clarke Plato.

ἈΠΟ. A correct account is given in Lehmann of this preposition, though his examples may be greatly multiplied. The Arethas-mss., as is their general wont with prepositions¹, reject the symbol altogether, and abbreviate by superimposing π; the same is the rule with the Paris Plato. The Grotta Ferrata mss., including the London Nonnus, vary between this mode of abbreviation and a very decided type of the compendium, that may be taken as the purest form of it existing in minuscule: cf. ἀπο, from Nonnus, ἀπὸ τῶν, ἀπολογισμενος, from Isidore (B. a. i), ἀποδάνει, ἀπὸ θελάσας from Angel. B. 3. 11. Precisely the same form is offered by Vat. 1982, ἀπὸ τῶν, ἀπολείψεσθαι. Forms more or less departing from this type are of very common occurrence: I give from the Paris Demosthenes 2934 (Σ) f. 235 r., ἀποδέσται, 229 r. ἀπὸ τῶν, 217 r. ἀπολογισμενος; from the Bologna Euclid, Archi- ginnasio A. 1. 18, 19 (s. XI), ἀπό, ἀποταιμή; from Bodl. Misc. 251 ἀποδείξαιε.² Forms a step further removed are αποδείξεια from Clarke 12, απὸ τοῦ ἀπὸ τῆς from Laur. 28, 3, ἀπὸ from Barocc. 235 (Caten. in Psalm. s. X–XI), ἀποταιμή from Laud. gr. 1 (Psalter, s. XI) ³; in the last example the scribe was unaware of the proper force of the symbol, cf. the similar case quoted ap. Lehmann, p. 84. For the same sign in the sense of ἐπὶ, v. s. v.

ἈΡ. Since Prof. Vitelli has thought it worth while to collect evidence for the use of this compendium, some further instances may not be out of place. The form however cannot be called rare: the article in Lehmann is quite inadequate. The Arethas-mss. use the symbol very seldom; of those in England I have found it only in the Clarke Plato, f. 370 v. ἔπιχάρμου; of the Paris Clement and Urbinas

¹ So with ἐπι, πρὸς and ἐπὶ.
² So also ἀποθέτημαι Par. 3032.
³ Cf. also ἀπὸ στίρησις [sic] Par. 950, ἀπὸ Vat. 1316 (s. XIII).
I would not be so positive\(^1\). The Grotta Ferrata school on the other hand have the sign *passim*, with and without the superfluous dots, (v. under A), with the ring above or below, the stroke horizontal or slanting, in the middle or at the end of words: cf. βάρβαρον, παρέλαμψιν from Nonnus, φάρμακον φθαρτίν from Isidore, ἢμαρτικός φρέαρ from Angel. B. 3. 11, ἀφθαρτόν from G. F. B. a. iii (s. XII); the simple form occurs also in Vat. 1982, ἢμαρτιαν, αὐταρκώς, that with the dots in Mutin. 12 (s. XII) σαρκός, καθαρθέντες.

Other examples are ὀνάρ, ἐξ ἀργους from Mutin. 126 (s. X), ἀνάξιος, ἢπαρ from Clarke 12, παρθένοι from Bodl. Auct. E. 5. 11 (s. X), ἢμαρτολούς καρπόν from Laud. gr. 1 (s. XI–XII), ὁ μάρκος from Vallicell. E. 40 (Caten. s. XI), ἀναμαρτήσως from Epictetus Bodl. Misc. 251 (s. XII), δέλεαρ, ὑπάρχειν from Neap. II. A a. 22 (s. XI–XII).

**APA.** Vitelli's remark that this compendium, though possibly rare on the whole, is frequent in mss. of a particular class, is illustrated by the examples that I have here to give. In the D'Orville Euclid it is naturally frequent, without accent as a rule in the text, whose scribe Stephanus very largely omits both accents and breathings; with accent and breathing in the scholia: cf. nos. 1, 2; it is found also in the scholia of the other Arethas-mss., e.g. no. 3 from the Clarke Plato, no. 4 from Urbinas 35: among mathematical mss. it occurs in the mathematical scholia to the Anthology (Paris suppl. gree 384, f. 639, &c., cf. no. 5), in Euclid Laur. 28, 3 (no. 6), both round and angular forms in Euclid Bologn. Archigin. A. 1. 18 (nos. 7, 8). The form is frequent in Bodl. Misc. 251, and in the sense of ὀπα, cf. no. 9. As a part of παρά, both shapes are found in the Paris Plato, gree 1807, e.g. ff. 7 r., 20 r. (nos. 10, 11). Vat. 191 (varia math., s. XV) has the sign occasionally, nos. 12, 13. I have not seen it in mss. of the Grotta Ferrata school\(^2\).

\(^1\) ἢμαρτιαν Vallicell. F. 10.

\(^2\) I may notice here that the Alpha with crossed downstroke which Belger, Hermes XVI. p. 278 (Frag. math. Bobiense f. 114. 1. 30) imagines to be ὀπα is
ΑΣ. I give a few examples of this compendium used otherwise than at the end of words: ἀπαρασπαστὸς Clarke Plato, χρήσασθα Clarke 12, χαράσσοντες Nonnus Add. 18231, ἀσβενούτες ἀσθενεῖας εφασκεν Vat. 1982, διδάσκει ἡναγκασμένος Bodl. Auct. T. 4. 19, ῥαστρωμαργουε Roe 16 (s. X).

ΑΥ. Of this diphthong I can only produce instances from a few mss. more or less tachygraphical in character: viz. Vat. 1982 ἐνταῦθα (bis) ταῦτα and passim, Grott. Ferr. B. a. iii. (s. XII) ταὐτης, τοιαύτη ἑαυτῶν, and very often. The sign occurs most abundantly in the London Nonnus, but apparently only in the strictly tachygraphical portion1.

ΑΥΤΟΣ. A ligature for this pronoun worth recording occurs in some of the Grotta Ferrata mss.; it consists of the α and υ run together with the case-ending added: cf. αὐτὸς αὐτὸν ἑαυτῶν ὁσαυτῶς from Gr. Ferr. B. a. i. and Angel. B. 3. 11. A similar combination of α and υ occurs in αὐτοῦ from Aed. Christ. 70 (a. 1104), and the ligature is probably common.

ΓΑΡ. I give a selection of more noticeable forms assumed by ῥάρ. Nos. 1 and 2 are from the D'Orville Euclid and Harleian Lucian respectively, and this uncial form is usual in the Arethas-scholia: no. 3 is from the text of the D'Orv. Euclid. Forms with the uncial Gamma are 4 from Genuens. 72 (a. 1057), 5 from Barocc. 196 (a. 1042), 6 from Mutin. 230 (a. 1051), 7 from Aed. Christ. 70 (a. 1104), 8 from Bodl. Auct. T. 4. 19 (s. X): of minuscule forms, 9 is from Laur. 32, 15 (Iliad Δ s. X), 10 from Vat. 1982 (s. XI), 11 from Grott. Ferr. B. a. i (a. 986), 12 from Angel. B. 3. 11, 13 from the Paris Demosthenes Σ (from the text), 14, 15 from Vat. 1298 (Aristides, s. X-XI), 16 from Vallicell. E. 40 (s. XI), 17 from Bodl. Roe 16, 18 from Bodl. Auct. E. 5. 9 in reality έτωτα. I hope to call attention elsewhere to the mis-deciphering of this ms.

1 Examples from Par. grec 990 will be found in the account of that ms., P. 37.
2 Biblioteca della Congregazione di san Carlo.
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(s. X), 19, 20 from Laud. 89 (s. XI), 21 from Roe 1 (s. XI–XII), 22 from Turin B. 1. 22 (a. 1149). The abbreviation for ρα, which seems one of the peculiarities of the Grotta Ferrata school, may be illustrated by ραφειν from Isidore (a. 986), θεία ραφι from Angel. B. 3. 11. It may be doubted whether sufficiently precise evidence as yet exists to prove Lehmann’s conclusions (p. 92), as to the origin and relation of the two modes of representing the syllables αφ and εφ.

FINETAI. The simple contraction for ρινεται acquires some interest from the varying forms under which it appears. It is most common perhaps in mathematical mss. Cf. 1, 2 from the D’Orville Euclid (text), 3 from mathematical scholia to the Paris Anthology, 4 from the Paris Demosthenes Σ, 5, 6, 7 from Laur. 5, 3 (Clem. Alex. s. X).

ΔΕ. The ordinary usage for the particle δε probably needs no illustration; I may however add one or two examples to that given by Prof. Vitelli (p. 169) of the syllable δε at the beginning or in the middle of a word; viz. εδεας from the British Museum Nonnus, δεχεται δεδωκός δέκα from Vat. 1982. Rather unusual ligatures are nos. 1, 2 from Roe 16.

Ε. Lehmann’s article on ε is thorough and practically sufficient. The waved line which in minuscule represents both αι and ε is universal in the verbal endings -μενος and -μεθα, and in other combinations of the syllable με (e.g. μένει from the London Nonnus). But the abbreviation of ε attached to other consonants is comparatively rare, and I can only cite examples from Laud. 37 (s. XII): τελείν τελετ’ν κεφαλη εμελιν. The spelling of the ms. is itacistic (cf. ομαινωντες s. εε), and this particular usage may possibly be so explained.

1 This form perhaps is analogous to those examples of εφ given from Laur. 72, 5 by Vitelli, p. 15.
2 The same sign in Laud. 37 represents η; v. κεφαλη above, σιωπη δημητρας. Cf. also ἐνεργησαν τιμωρηθησαν from a ms. of New College, Oxford (No. 59, s. xii), τίν from Vat. 587 (Cyril, s. XII) δ’ ἡμεθετο Laur. 32, 15 (man. 2, s. XII-XIII). It may be doubted whether this mode of abbreviation is found
EIN, HN, IN. The proposition that the three syllables ἤν, εἶν, and ἵν had originally a common sign, and that at a later period they were differentiated by the doubling of the sign, for εἶν, the adding of diacritic points, for ἵν, the original sign being appropriated to ἤν, is correctly stated by Lehmann, p. 55. At what time and under what circumstances these steps took place cannot at present be determined; the statistics here presented may advance the question somewhat. Manuscripts in which ἤν, εἶν, ἵν are represented by the single sign are: the five Arethas-mss., Euclid (a. 888), Plato (896), Lucian, Aristotle Urbin. 35, Clement (914); Clarke 12, Bodl. Auct. T. 4. 19, Laur. 28, 3, Angelica B. i. 7 (Caten. in Matth. s. X), Vat. 1298, Vallicell. C. 41 (Caten. in Iob. s. X), Grott. Ferr. B. a. iii. (s. XII). The following two differentiate εἶν, but have a common sign for ἤν and ἵν: Angel. B. i. 5 (Caten. in Evang. s. XI); Angel. C. 4. 14 (Liban. epp., s. X–XI); the following four have a common sign for ἤν and ἵν, while εἶν is apparently always written in full: Iliad Ven. A, Bodl. Canon. 11o (s. X ineunt.), Grott. Ferr. B. a. i (986), ib. B. a. iv (992). A late example of the use of the original sign for εἶν is Bodl. Auct. E. 2. 4 (1106), φέειν. On the other side, the earliest dated ms. that I know of where the duplicated sign is used for εἶν is the Nonnus Paris suppl. grec 469 A (a. 986); cf. ἀποστάζειν πίνειν; another ms., undated but

before the twelfth century. A very remarkable usage occurs on a page of tenth-century minuscule bound up with the ms. Vallicell. F. 10. It is illustrated in the words περὶ αμαρτημάτων καὶ κληρικῶν, and consists in the ordinary tachygraphical sign for η. I do not know an exact parallel.

1 Prof. Vitelli thinks (p. 19, n. 3) that Lehmann's observations upon the mode of forming the compendium for εἰν at different periods—whether the strokes were drawn up or drawn down—need modification. I have not paid attention to the point. I may here say once and for all, that Lehmann's statements of, and a fortiori inferences from, the usage of Nonnus, Brit. Mus. Add. mss. 18231, whether in regard of tachygraphy or the ordinary system of abbreviation, are entirely erroneous. A correct account of the ms. is given on p. 33 sq.

2 The two Grotta Ferrata mss., where they abbreviate εἰν, use the proper tachygraphical symbol; for ἵν they use both modes of abbreviation.

3 The abbreviations of this ms. are strictly limited in number, but those that are used recur constantly. I did not find instances of ἵν, εἰς, ἐς.
certainly not late in the tenth century, Bodl. Auct. E. 5. 9, has the later usage throughout for the syllables είν, ιν, είς; cf. διαφέρειν, ἤλωσιν, ὑμείς. Later dated examples are Mutin. 230¹ (a. 1051), ῥοδεῖν; Genuens. 7 (1057), κοσμεῖν ἑστίν; Genuens. 2 (1075), ἀτενίζειν; Aed. Christ. 70 (1104), σπεῦδειν. From these instances it is plain that no more particular conclusion can be drawn than that the old system lasted long, and the new system began early; but perhaps it may be said (1) that the abbreviation of ιν was, relatively to ἢαν and είν, rare (a similar remark is made by Lehmann, p. 67), and (2) that the differentiation of είν from ἢαν began earlier than that of ιν from ἢαν.

ΕΙΣ, ΗΣ, ΙΣ. Vitelli's observation (p. 169, n. 2) that the double sigma in the sense of είς was in use in the first half of the tenth century is more than confirmed by the Clarke Plato, where in the scholia that come from the hand of Arethas the word ἐντάσεις occurs with the final syllable thus represented: in the rest of the ms. however the single sigma seems always to be found. Manuscripts in which τ stands for all three syllables are the Clarke Plato, Clarke 12, and Clement Mutin. 126: it stands for ἢς and ἢς in the D'Orv. Euclid, Harl. Lucian, Vat. 1982, Iliad Ven. A, and doubtless in many other tenth-century mss.; the last four mss. appear to write the syllable είς in full², and I think Lehmann's remark (p. 57) well-founded, that the abbreviation is, in early mss., comparatively rare; neither είς nor είς is abbreviated (as it would seem) in Nonnus Par. suppl. grec 469 A (986). The Grotta Ferrata school use as a rule the proper tachygraphic sign for είς, but the single sigma occurs occasionally, e. g. ἐκθέψεις from Nonnus; the syllable είς in these mss. is usually written in full. Early examples of the ordinary double sigma are φωκείς Demosth. Par. Σ, ἢμείς Euclid Laur. 28, 3 (s. X–XI); two dated instances are δυνάμεις from Mutin. 230 (a. 1051), πανθυρές from Bodl. Auct. T. ii. 2 (a. 1066). Lastly, the

¹ My notes do not give an instance from this ms. of είν abbreviated.
² I now find an example in Vat. 1982 of τ for είς: l. 218 v. ἑξαπειρίζεις σεαντῷ.
syllable is often enough abbreviated in the middle of a word; cf. κεκλεισμέναι κινείσθαι from Clarke 12. Prof. Vitelli (12 n. 1, 172 n. 2) challenges the explanation of a ligature for εϊς, of which he gives examples; I have found the form in Clarke 12, εϊς τά, Laud. gr. 1, εϊς τόν, εϊς τός, εϊς τόν, Mutin. 12 (s. XII) μισος εϊς τόν, Bodl. Misc. 251 (s. XII) εϊς τόν (bis), D'Orv. x. 1. 1, 2 (Etym. Magn. s. XIV) εϊς τά, and it is evidently the sign found by Ludwich in the Hamburg ms. of Odyssey-scholia (Aristarchs Hom. Textkritik, ii. 698)¹. In one instance, Clarke 12 f. 189 r. εϊςίν (no. 1), the ligature occurs not in combination with the article, and with the sigma expressed; and this I think gives some ground for explaining the form itself as the ordinary ligature for εϊ plus a cross-stroke to denote abbreviation; so the scribe who used it for εϊςίν would have been conscious that the sigma was strictly speaking unrepresented in the compendium. To turn to ις, the later sign with the diacritic dots occurs in Mutin. 230 (a. 1051) σωλεωςις, Bodl. Auct. T. ii. 2 (a. 1066) κριςις, Gennens. 2. (a. 1075) ανάγνωςις; but it already appears in a far earlier ms., Bodl. Auct. E. 5. 9, certainly of the tenth century, e.g. τις, μόρφωςις. The syllable, as observed above, is in the Grotta Ferrata mss. mostly written in full, and where contracted represented by the strict tachygraphic symbol. An itacistic usage of the double " for ις, of the sort noticed by Vitelli, p. 11 n. 1, occurs in Laud. gr. 1 λογισμοί, though that this is an exception is shown by βαπτίσματος from the same ms. The sign occurs freely in the middle of words; cf. κράτιστε from Clarke 12, καθώπιστο Iliad Ven. Α (scholia). The ordinary sign for ις hardly needs confirmation. The itacistic " occurs in Laud. gr. 1 already adduced; cf. ἐπὶ ῥίς, ἀπὸ στάς, and a marginal gloss where both usages occur together, καλυπτούσις φραττούσις ². The

¹ Cf. also εἰς τοὺς αὐτοὺς, Vat. 1982, εἰς ταὺς αὐτοὺς] Vat. 2 (s. XI), εἰς τοῦτο Vat. 1456 (s. XI), εἰς τὴν Grott. Ferr. Z. a. xxv. (schol. min. in Iliad. s. XI). The form is in fact fairly common.

² Cf. Martin, Les seclies du manuscrit d'Aristophane a Ravenne, p. xvii.
use of the compendium in the middle of a word is illustrated by ἄνισκοωςι from Clarke 12.

ΕΙΝΑΙ. To the various forms of the sign for ειναι given by Lehmann and Vitelli I add the following: nos. 1, 2 from Plato Paris 1807, which are apparently a near approach to the original form1; 3 a similar form from Vat. 1298 (Aristides, X–XI); the shape the sign assumes in the Arethas-mss. is shewn by 4 from Euclid, 5 from Plato, 6, 7 from Lucian; Demosthenes Σ and the Anthol. Pal. (Paris portion) offer 8 and 9, without accent or breathing, Vat. 1982 no. 10; here and in 11 from the London Nonnus, occurs the stroke for abbreviation. The horizontal type occurs in Clarke 12, no. 12 passim, Laur. 28, 3 no. 13, Grott. Ferr. B. a. iv. (a. 992) no. 14, Angelica T. 1. 8 (s. XI) no. 15, Vat. 1298 no. 16, Hermog. Paris grec 1983 (s. XI–XII) no. 17, Bodl. Misc. 251 no. 18 passim.

ΕΝ. The form which this syllable takes in the Arethas-mss. is illustrated by μέντι, ἔσινε, εἰσόδομεν from the Harl. Lucian, ἐν from Plato f. 395 v. For other tenth-century mss., cf. βουληδέντα Clarke 12, πενθέρας Auct. E. 5. 11, ἐν ἐνέου Nonnus Add. 18231; cf. also ἐν ἐντολάς from Barocc. 235 (s. XII), and the odd ligature οδὲν Mutin. 230 (a. 1051). It will be observed that these forms are either right angles or slight departures therefrom. The variation in which the downstroke is prolonged occurs in Vat. 1982 ἐν, ἐλεφεν (Vitelli, p. 9 n. 2). The strictly tachygraphical sign is by no means rare, and is found in mss. that are not otherwise particularly tachygraphic: cf. e. g. σώματον Auct. E. 5. 11 (s. X–XI) σοφείμεν [sic], μὲν, ὅθεν Roe 16; further μὲν (bis) ἐν (bis) ὑπομνήσσομεν Nonnus Add. 18231, ὑμιλοῦμεν Grott. Ferr. B. a. iv. (992), μὲν λέγομεν κατεχόμενοι Vat. 1982 2.

1 In explaining the genesis of the original form it is difficult to accept either Lehmann’s view that the two dots come by false analogy from the sign for ἐστι, or that of Graux (Rev. Crit. 1878, Notices Bibliographiques, etc. p. 66) by which they are due to the desire for symmetry. .

2 And ἐξένε, Angel. B. 3. 11, second hand.
EΙΝΑΙ—ΕΣ.

ΕΡ. Of both the methods of representing ἐπ there are abundant examples in older minuscule. The more common perhaps is that consisting of a stroke, inclined to the left, but above or below the line, with a ring attached; this is to be found in the scholia of the D'Orv. Euclid (ἡπερ 1, ἡπερ), the Clarke Plato (ἡπερ 2), Plato Paris 1807 (ἡπερ bis), Laur. 28, 3 (ἡπερ 3), Clarke 12 (ἡπερβολην), Mutin. 126 (ἡπερ 3, ἡπερ 4), Vat. 1298 (ἡπερ 4), Mutin. 193, Lucian s. XI—XII. (ἐπερ), Mutin. 12, s. XII. (ὁπερ, ἡπερ), and throughout in the Grotta Ferrata school, e.g. οὐνεποι Νονμος, ὑπερμα G. F. B. a. i., δεματίνους Angel. B. 3. 11, ἡπερ φύσιν G. F. B. a. iv., ἡπερ ὡσερ ib. B. a. iii. The second mode, the simple cross-stroke, of whatever origin, may be seen in the text of the D'Orv. Euclid (ἡπερ), often in the scholia to the Clarke Plato (ὡσερ ἡπερ ἡπερ), in those to Demosthenes Σ (ὡσερ 2, ἡπερ 2), and it occurred in the now lost 'codex Vallae' of Archimedes. I have suggested under τὰμ a parallel to the form quoted by Vitelli, p. 15.

ΕΣ. The normal use of the sign for ἐκ (e.g. as in νικωντες from the Harl. Lucian) is well established; it is less common to find it either in the middle of a word or upon the line. Of the former case γενεσαι ἀρεσκειν from Clarke 12, ἔξεστιν from Auct. E. 5. 11 are examples; for the latter one may compare μάζαντες Plato Par. 1807, λέοντες Mutin. 126, δεσποται Angel. B. 3. 11, συνειραντες G. F. B. a. i., ἐνινοντες ib. B. a. iv., ἐστιν ib. B. a. iii., φθασαντες ἀπολειψανθαι Vat. 1982. The itacism by which the double apostrophe, ordinary representative of ακ, is employed for ἐκ, of which Vitelli gives some instances, p. 12, is more widely spread than is commonly supposed, and occurs in mss. of a good age and often otherwise carefully written; such are the well-known Laur. D of the Iliad (32, 15) μενοντες, Angel. C. 4. 14 (Liban. epp. s. X—XI) δοκοντες ὁναλοσαντες, Bodl.

1 As we are told by the writer of the Angelica C. 2. 6, who gives a table of the abbreviations used in his archetype: I take thence περ and the explanation. Cf. Heiberg, Philologus 42, p. 421 sq., and my own notes on the Bibliotheca Angelica, forthcoming in the Classical Review.
Abbreviations in Greek Manuscripts.

Auct. T. 4. 19 (s. X exeunt.) δεδωκότες passim, Laud. gr. 1 δαίμονες πάντες, Laud. gr. 37 (s. XII) ομοίωντες καλούντες, Laud. gr. 89 (s. XI) ἀπαντες, Barocc. 235 (s. XI) ἰδόντες, Bibl. Corsini 41 G. 16 (Evang. s. XII) βλέποντες δαίμονωντες, Vallicell. E. 29 (s. X) ἐκτετηκότες.

ΕΣΤΑΙ. One of the most interesting of Greek compendia, and that may almost be said to have been discovered since the appearance of Lehmann's handbook, is the sign that represents ἐσται—almost technical in geometrical mss., but occurring with a certain frequency in mss. of other subjects. The sign was originally found by Bast in the ms. S. Germ. 249 (Comm. Pal., p. 810), and this is the only instance that Lehmann has before him; Prof. Vitelli (p. 168) has found it in the Laur. Aeschylus, the Aristotle Paris grec 1853, and the Euclid Laur. 28. 3. The oldest instance that I am able to give of it is the Fragmentum mathematicum Bobiense, f. 114 v. 30 in Belger's copy, Hermes XVI, where Belger misreads it ᾱρα. Next it is used in most of the Arethas-mss.; the Bologna Euclid Archiginnasio A. r. 18 has it, and doubtless most other mathematical mss. before the twelfth century; lastly, it is one of the many compendia used by the scribe of the Bodleian Epictetus Misc. 251 (s. XII). Hence we get the following chain: 1 Frag. Bobiense, 2-4 D'Orv. Euclid (text), 5 lb. (scholia), 6 Plato, 7 Lucian, 8 Urbin. Aristotle, 9-12 forms from Laur. 28, 3 rather different to the one given by Vitelli, 13-16 from the Bologna Euclid, 17-20 from the Bodl. Epictetus. I enclose in brackets Prof. Vitelli's no. 53 for greater completeness. On comparing these forms with those given by Bast and Vitelli, it appears (1) that the dots signifying  are absent and present indifferently in mss. of the same age; (2) that, with this qualification, the original form is best represented by the type given by the Bobbio fragment and the text

1 I have to defer the proof of this statement, but its truth will be evident to anyone who tries to read the passage grammatically.

2 Heiberg's b, saec. xi.
of the D'Orville Euclid, and that the letters contained in the sign are therefore (ι) + α + the tachygraphic Ѐ either attached to or crossing the downstroke of α. (3) The late forms 17–20 are direct descendants of no. 1; the transition from one type to the other will be plain if we imagine such a form as Vitelli's no. 53 written with the curve open instead of closed. His no. 39 I should be inclined to explain as due to carelessness on the part of the scribe, but in any case it does not disturb the general result.

1. The curious expedient of representing, in late manuscripts, iota by two dots on a level with each other, is well known, but not so universal that it may not be worth while illustrating from four dated mss.; viz. ὄμηματικόν from Coll. Nov. 258 (a. 1298 written by Demetrius Triclinius) where the usage is frequent, ἀποκατάστασις from a note in Roe i that bears the date 1417, ἔρωφρικά from Mutinensis 118 (a. 14?8) 2, and κοντελέοντί from Vat. Ottobon. 58 (a. 1538).

INA. A simple contraction for ἰα, consisting of an iota with a mark of abbreviation beneath it, occurs in three mss. of my observation: Angel. T. i. 8 (s. XI), Vallicell. E. 40 (s. XI), and the Bodleian Epictetus, Misc. 251 (s. XII). The form is practically the same in all three.

K. The article in Lehmann shows well how the waved line, descendant of the original tachygraphic κ, represents final

1 Lehmann's analysis (p. 104) comes near to this, though in the single form given by Bast it was impossible to perceive the direct presence of the α. (Since the article on ἓσται was written, I have found instances of both the plain and the dotted form in the Aristotle Ven. 201 of A.D. 955. In either case the form was open, and the example is important as an indication of the age at which this tendency manifested itself.)

2 To Lehmann's account of ἓστει little exception is to be taken; I doubt however his statement (p. 102) that the horizontal line over ν in Vat. 1809 denotes w—surely it is the general sign of omission. Curious representations of the word are no. 1 from G. F. B. a. iii, no. 2 from Land. gr. 1 (s. XII).

3 On the date I must refer to my notes on the Estense in the Classical Review for February, 1889.

4 It is to be seen also in Vallicell. E. 63 (s. XII), a ms. in a hand not unlike that of the Bodleian Epictetus, and is probably common.
syllables beginning with κ, chiefly but not exclusively terminations in -κός, etc. The usage is very constant in mss. that I have seen: cf. ιατρική, ἄριστητική, ἕπιστημικὸν Plato Clarke 39, ἰαμβικός Clarke 12, πολιτικόν Auct. E. 5, 9, θεορητικὸν Nonnus Add. 18231. Nonnus however usually exhibits the case-termination, e.g. ἐκκλησιαστικής, ἀπελαστικῶν, οὐκ ἑπιστευτικός; so also μερικὴν Auct. E. 5, 9.1. Instances of terminations other than -κός are γάλακτος Clarke Plato, μικρόν Auct. E. 5, 9, εἰρήκεν, εἰρήνωσκον, κακά Laud. gr. 1, μικρόν Laur. 32, 15 (Iliad D), ἔρδομηκοντάκις Demosth. Paris Σ.2.

KATA. Neither Lehmann nor Prof. Vitelli (p. 15) has given much illustration of the modes of representing κατά. One may distinguish (1) partial abbreviation, where (a) the κ is tachygraphically rendered; so κατά 1 καταχρόως often in the London Nonnus, κατά 2 κατεκάει (sic) Clarke 12, κατά 3 and 4 Laur. 28, 3, κατά 5 Vat. 12983, or (b) the abbreviation is confined to the other letters. A few examples will suffice to illustrate this; cf. κατά 9 καταδιώκειν Bodl. Auct. E. 5, 9, κατά 10 Demosthenes Σ, κατά 11, 12 Vat. 1298, κατατίν Αντιλ. T. 1, 8 (s. XI), where the pair of dots appear to do double duty. (2) Complete abbreviation, the proper tachygraphical sign; e.g. καταδυνομένη Clarke 12, καταφειρέει Vat. 1982. The sign is universal in the more tachygraphical parts of Nonnus, but does not occur in as much of the ms. as is written in minuscule 4.

A. Lehmann’s account of the origin and usage of the contraction 5 for syllables beginning with Lambda is deservedly commended by Graux, Rev. Crit. 1880, Notices Bibliographiques, etc., p. 165. His examples however admit

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1 Rather individual forms of the κ with case-termination are ἀποστολικής, ἐγκληματικός, ἐπισκόπων from Vallicell. F. 47 (s. X).

2 Prof. Vitelli (p. 172) considers the waved line in the sense of the syllable κυ a rarity. I have found it in at least four mss.; Roe 16 δικαστήν, Auct. E. 5, 11 καυσαρέα, Laud gr. 39 καρόν, καύσαρος, νικαία.

3 κατά 6 Vat. 587 (s. XII), κατά 7 and 8 Vat. 1316 (s. XIII).

4 Cf. also καταλαμβάνω Par. 990. How uncertain the use of the symbol is appears from κατελάβει from the same ms.

5 I. e. a superimposed Lambda that afterwards assumes various shapes.
largely of multiplication. The use occurs, though rarely, in the Arethas-ms., e.g. σκαλνὸν, ἱδοσκελές Plato, πόλις Lucian; other tenth-century examples are παῦλος, πόλις, σύμβολον Clarke 12, κεφάλαιον ἄμπελον Demosth. Σ, σχολήν, βασιλείον Nonnus Paris suppl. grec 469 Λ, παραβολήν Iliad Ven. Λ; in all of these instances it will be noticed how the right stroke of the Λ is prolonged. Freer examples from the same century are ἐπιστολήν Auct. E. 5. 9 (but ὁ ἀπόστολος ib.) τέλος, παῦλος, βασιλεύς Auct. E. 5. 11. The Grotta Ferrata school use the contraction not unfrequently: so κύκλος, ἐπιστολής, κωνσταντινοπόλεως Nonnus, ἀπόστολοι G. F. B. a. i. Lastly, a few eleventh-century mss. may be cited: Laud. gr. 39, Selden supr. 11, Laud. gr. 41 (the eccentric form τοῦ διαβόλου). I add a somewhat more interesting example, θεολόγου, from Phot. Bibl. Ven. 450 (s. X)\(^1\).

ΜΕΝ. The Bodleian ms. of the poems of Gregory Nazianzen, Clarke 12 saec. X\(^2\), so often already cited, has not unfrequently the tachygraphical symbol for μεν, whether the particle or a syllable in a word; so μὲν f. 157 v., μενοῦ ib. et saep., ἕθηράσαμεν 176 v.\(^3\) For other tachygraphical usages of this ms. v. under κατά and τε\(^4\).

_OMOY_. One of the most curious signs that still remain for the palaeographer to analyse is that occurring in some manuscripts for ὁμοῦ. Lehmann s. v. has collected the quotations of it by earlier enquirers and Gitbauer (Vat. 1809). Vitelli does not notice it. The form occurs in ms. by no means tachygraphic, and even where the percentage

\(^1\) It may be worth noticing that the simple contraction for λόγος and its compounds is freely used in the Arethas-ms. I give as types ὁ λόγος, λόγος, λόγους, ἄλογος, εὐλόγος, κακόλογος, from the Harl. Lucian. Further cf. λόγος 2, λόγον 2, ἄλογος from Grott. Ferr. B. a. i.

\(^2\) Both Graux, Revue Critique 1878, p. 124, and Vitelli, l.c. p. 161, n. 2 have demanded information upon the stichometry of this ms. It may be well therefore to say here briefly, that the number of στίχοι is in this case precisely the number of verses in the poems.

\(^3\) See also infra under Par. grec 990, p. 38 (for the syllable με).

\(^4\) A contraction for μετάξι which I cannot satisfactorily explain occurs in the Clarke Plato f. 377 v., Harl. Lucian f. 73 v.; cf. the instance in the table. Otherwise (Frag. Bobiensce, D'Orv. Euclid) μεταξι is represented by Ε. 

C 2
of 'ordinary' abbreviation is not great; it is most common perhaps in mathematical mss., but it occurs in others also where it is necessary to add up a total. It consists of two parallel strokes crossed by a single one, and may either have the rough breathing and circumflex or be without either; and in late mss. the accent and breathing are run together into a single waved line (so Lehmann rightly analyses it). In Vat. 1809 the single stroke is vertical, and the two crossing it horizontal 1, but later the form is that given in the table: viz. no. 1 Bologn. Archigin. A. 1. 18 (Euclid, s. XI), 2 Mutin. 71 (Synaxarium, s. XI-XII), 3 Vat. 191 (circ. 1404, var. mathemat.), 4 Mutin. 55 (Synesius, etc. s. XV). A curious form, distortion or misapprehension, is no. 5 from Laud. gr. 39 (s. XI ineunt.) τέλος κανόνων τῶν ἐν νικαίᾳ ὁμοίον ῥ 2.

ON. Two additions may be made to the otherwise very full article of Lehmann’s upon ον. (1) The illegitimate use of the double stroke in the sense of the single (Lehm. p. 73) occurs as early as Laud. gr. 1 3, e.g. φυλάττοντας, μόνον, ἄρχοντες. (2) The single stroke is not so seldom met with in the middle of words as Lehmann’s examples suggest; it is common in the Arethas-mss.: cf. ἄραγόντες from Euclid, παίχοντες Plato, ἐκοντεῖς Lucian 4.

ΟΣ. To the examples given by Prof. Vitelli (p. 11, n. 4) of the tachygraphical sign for ος in ordinary mss. I add some instances from Barocc. 26 (s. XI ineunt.), a ms. that offers some other peculiarities of contraction 5; viz. ἀπόστολος f. 249 r., ἐνεργοῦντος 338 v., πρός 198 v., ὀ αὐτὸς τοῖνυν λόγος 182 r. 6

1 An identical form appears to be presented in the Frag. Bobiense, f. 114 v. 26, ap. Belger Hermes XVI, but it must be admitted that certainty as to its meaning is difficult. Other instances of the compendium are no. 6 from Par. 990, no. 7 from Vat. 904 (s. XIII), no. 8 from Vat. 1319 (s. XV).
2 ὁμοίος, from Laur. 28, 3 is to be compared with the sign given by Vitelli for ὁμοίον (p. 172, n. 1, plate no. 73).
3 'Saec. XI ineuntis,' Coxe; but it may be as much as a century later.
4 More remarkable examples are ὅτως Par. 950, λέγοντες Par. 3932; cf. also ἄφαντων, τῶν from the latter ms.
5 V. s. a. 1, ovv.
6 Another instance is πλάθος from Par. 3032. V. also s. τοι.
Another mode of expressing ὠς, little noticed hitherto, is by an uncial sigma, cf. from Laud. gr. 39 ἐκαστὸς, πρὸς, περὶ τοῦ παρατεθέντος and ὁχισματικῶν; further λόγος καταφατικῶς Nonnus add. 182.31. πρὸς ὄνος Grott. Ferr. B. a. iv. (a. 992), ἵκτερος Bodl. Auct. T. 1. 2 (s. XI incunt.). These examples may go some way toward resolving Lehmann’s doubt (p. 75) about the meaning of the sigma in the two words that he quotes from Sabas.

ὢν. Illustration of this common compendium, whether as the particle or the syllable, is hardly needful. I take almost at random καλοῦνται, ὡς ὄν from the D’Orv. Euclid, ὄν 1 from the Clarke Plato, ὄν 2 from Par. grec suppl. 469 A, and the unusual ligature βεβαιώντος, ὁν from Barocc. 21 (s. XII). Of the genesis of the symbol I do not remember to have met with any account; Lehmann (p. 76) leaves the question open. If however we compare this ordinary sign for ὄν with the tachygraphic symbol for ἐν (v. supra), it is plain that they have one part in common, namely the crooked stroke that concludes either compendium: this stroke therefore, in either case, may be taken to represent ν, and while the open curve in ἐν will stand for ε, that which is closed in ὄν may similarly be inferred to represent ω.

ὢς. Of the ordinary form of the compendium for this syllable illustration is needless; somewhat remarkable forms however are ἄλλους Par. suppl. grec 469 A (Nonnus a. 986), τοῦς τόπους Vallicell. C. 41 (s. X); a combination frequent in Grott. Ferr. B. a. iv. (a. 992) is perhaps worth recording, πνευματικὸς. The double waved line (Vitelli pp. 9, n. 2, 169) occurs in Roe 16 (s. X) τοῦτος τοὺς πιστεύοντος, Laud. gr. 39 τοὺς χρόνους, Theophrastus Urbinas 61 (s. X) τοὺς

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1 I give a few examples of the sign for ὅς; no. 1, from Clarke 12 f. 180 v., resembles the primitive form as given in Vat. 1809, no. 2, from the Paris Greek Anthology, is an instance of the omission of the dots; cf. also nos. 3, 4 from Par. 3032, no. 5 from Vallicell. C. 61 (s. XV).

2 Compare ὄν as represented in Vat. 1809, e.g. συνεστῶτος, f. 195 r. B. v. 22.
ABBREVIATIONS IN GREEK MANUSCRIPTS.

tópouc1; the single waved line (the proper tachygraphic sign) in Barocc. 26, ἐλευθερομένους, αὐτοῦς χριστιανοῦc.2

ΟΥΤΟΣ, etc. To Vitelli’s examples (p. 11, n. 3) of οὗτος, οὗτος, etc., I may add a few others. The abbreviation is almost a feature of the Arethas-mss., cf. 1 οὗτος Euclid (text), 2 οὗτος ib. (scholia), 3, 4, 5 οὗτος, οὗτος, οὗτος Lucian; further 6 οὗτος Vat. 1982, 7 οὗτος Vat. 1298, 8 οὗτος Mutin. 193 (Lucian, s. XI–XII).

ΠΑΡΑ. The word παρά may be compendiously expressed (1) by π + the sign for ἀρά, (2) π with the topstroke crossed by a slanting line. (1) The former is by far the more common, and may be thought not to need exemplification; I give however some instances from mss. that are for any reason noticeable: παρά 1, 2 from Plato Paris 1807, παράκλησιν παραφυλάκι Clarke 12, παραλιπών Demosth. Σ, παρά 3 Nonnus Par. suppl. grec A 469, παρά 4 Iliad Ven. Α, παρά τόν Auct. E. 5. 9, παρά 5 παραδεξόν Laur. 28, 3, παράσχονται from so tachygraphic a ms. as Vat. 1982 (2) The other method in its nature, as Lehmann rightly observes, tachygraphic, is frequent in the Arethas-scholia; cf. παρά 6 παραβληθῇ D’Orv. Euclid, παραμυθησάμενος Plato, παρά 7 Lucian, παρά τοῖς Urbin. 35. At the same time the Plato-scholia use the contrary system as well, e.g. παραδείγματα, παρά τόν. The cross-stroke is the usual method followed by the Grotta Ferrata school; in addition to Vat. 1809, cf. παραδεδομένον from Nonnus, παραδραμών Isidore, παράβασιν Angel. B. 3. 11. The twelfth-century ms. however, G. F. B. a. iii, has the more usual system: so παρά 10. (3) A certain number of mss. offer instances of both forms at once. Beside the Clarke Plato quoted above, cf. παρακαλῶ παρά 11 from Bodl. Auct. T. 4. 19, παρά μετρῶν παραβολῆς Mutin. 12. (4) I have

1 Par. 3032 λόγους, Angel. B. 3. 11 (man. sec.) αὕτως, Turin B. vii. 30 (s. X–XI) ἄλλως.
2 The form of the sign for ou, in which it is not round but angular, occurs in Bodl. Auct. T. 4. 19 (s. X exeunt.) ἀληθαῖοιν, τοῦ λαοῦ, Par. 950 συνελθοῦσης; see further under Tachygraphy.
3 Cf. also παρὰ 8 Vallicell. F. 10 (s. X), παρά 9 Vallicell. F. 47 (s. X).
noticed some variations in the more usual form which cannot be explained as coalescence of accent (Lehmann p. 91). The difference consists in a hook at the top of the upstroke, cf. παρασκευήν, παράδειγματικός, παρά 12 from Vat. 1298; it is curious that these forms, if the semi-circle were wanting, would be almost exactly like those given by Prof. Vitelli (p. 14) from Laur. 32, 9 and Laur. 59, 9 (plate nos. 7, 24, 25). An exaggeration of this variation appears to be the form παρά 13 which I take from Angel. C. 4. 15 (Liturgiae, a. 1165). Lastly, the singular form παρά 14 Angel. T. 1. 8 (s. XI) must apparently be explained as an individual error of the scribe's, who had (v. s. T) some acquaintance with tachygraphy.

ΠΡΟΣ. I have not seen the sign for πρός in the Arethas-scholia, and it will probably be found not to occur; its place is taken by πρ. It is constant however in the text of the D’Orville Euclid (Stephanus) — a large and characteristic form: cf. nos. 1–4. A few instances of its occurrence elsewhere are πρόσωπον, πρός τά Demosth. Σ, πρός 5 Anth. Pal. (scholia to the Paris portion) προστάται πρός 6 Vat. 1298, προσκλώμενος, πρός 7, 8 Epictetus Bodl. misc. 251. A degraded form is πρός 9 from Barocc. 235 (Caten. in Psalm. s. XI)1.

Σ. The representation of τ by two dots placed over or across the following vowel or syllable is one of the most characteristic and consistently carried out practices of Greek tachygraphy, and is found in mss. otherwise of the ordinary type of writing far more often than is usually supposed. It is in fact often the only trace of tachygraphy that a ms. will show. The scanty account in Lehmann has been greatly added to by Prof. Vitelli (τα, p. 11, 170, τακ 11, 32,

1 It is extraordinary that a doubt can exist as to the origin of this sign. The slightest reflection upon the forms given above leads us back to the type that is in use in Vat. 1809, and of which not a bad example will be found under the xith century ms., Grotta Ferrata, B. a. iii, p. 34. Each of the four letters is represented. The speculations in Lehmann (p. 87) must be read to be believed.
ABBREVIATIONS IN GREEK MANUSCRIPTS.

te ib., 173, τοῖς 11, τοῦ ib., τῷ 32, τῶν 170, τῶς 11), and I am able to offer here some further collection of instances. The first example of each syllable, by way of type, is taken from the British Museum Nonnus; cases where the example comes from the strictly tachygraphic part of that ms. are enclosed in brackets. The notation appears entirely absent from the Arethas-scholia.

TAI: μέμνηται Nonn., φοβοῦνται Par. 990, ἔσται Par. 3032.

TAC: i from Nonn., 2 Laur. 28, 3.

TAN: ὅτα 1 Nonn., ὅτα 2 Par. 3032.


¹ For τα τ. a.

² I have not concerned myself, here or under ἐσ, with the illegitimate use of the two dots in the sense of ἐσ. It is worth recording however that the use occurs passim in the Ravenna Aristophanes, and is most remarkable in a ms. of
The tachygraphic abbreviation for ὑπὲρ cannot be said to occur frequently outside of the Grotta Ferrata school; I have not found it in the Arethas-scholia. Cf. however ὑπὲρ τῶν ὑπὲρ φωκέων from Demosth. Σ, ὑπὲρ 1 from Grott. Ferr. B. α. xix (α. 965), ὑπὲρ 2 ὑπὲρ σοῦ Nonnus, ὑπὲρ λόγον Gr. Ferr. B. α. i, ὑπὲρ 3 ὑπερβάς Angel. B. 3. 11. For the partial-abbreviation, which is frequent, v. s. ἘΠ.

that age and style. Cf. διεκπεράωντες (text), τεκνηφόρες (scholia, man. πτ.). This coincidence between the text and the first hand of the scholia may serve as another proof of the identity of the hands, in addition to those already brought together by M. Albert Martin in his admirable study upon this ms.
\(\Sigma\Pi\). A tachygraphical contraction for \(\dot{\nu}\dot{\pi}\dot{\o}\) occurs more frequently than for \(\dot{\upsilon}\dot{\pi}\dot{\rho}\) but without being itself common. There appear to be two distinct symbols in use: (1) one, already known from tachygraphy, and frequent in the Grotta Ferrata mss. : so 'πο 1 G. F. B. α. xix, \(\dot{\upsilon}\dot{\pi}\dot{\o}\) τής \(\dot{\upsilon}\dot{\pi}\dot{\o}\dot{\nu}\dot{o}\dot{i} Νοννοις, \dot{\upsilon}\dot{\o}\dot{\pi}\ Λεχ. Β. 3. 11, \(\dot{\upsilon}\dot{\pi}\dot{\o}\ 3 \) Par. 990 1.

(2) Another sign, quite unlike the former, already quoted by Bast (p. 794) from S. Germ. 249, is identical in shape with the symbol for \(\dot{\upsilon}\dot{\o}\dot{\pi}\) (q. v.) so largely used by the Grotta Ferrata school, and only distinguished from it by the breathing, or in fact, where the breathing is ambiguous or incorrect, by the context. Certain instances are \(\dot{\upsilon}\dot{\o}\dot{\delta}\dot{\epsilon}\dot{\kappa}\dot{\epsilon}\dot{\kappa}\nu\dot{\nu}\dot{o}\dot{n}\nu\tau\alpha, \dot{\upsilon}\dot{\o}\dot{\kappa}\dot{\kappa}\alpha\dot{o}\dot{\theta}, \dot{\upsilon}\dot{\o}\dot{\pi}\dot{o} 4\) from the Bodl. Epictetus, Misc. 251; the same form is probably given by Vat. 1982 in \(\upsilon\)\(\sigma\)\(\o\)\(\sigma\)\(\e\)\(\theta\)\(\e\)\(\iota\)\(\sigma\)\(a\) (sine spir.), and further by a late mathematical ms., Vat. 191 circ. 1404, \(\upsilon\dot{\o} 5\) (sic). The fact of one compendium standing for both \(\dot{\upsilon}\dot{\o}\dot{\pi}\) and \(\dot{\upsilon}\dot{\o}\dot{\pi}\) at once suggests that the letters actually denoted by the sign must be those common to both words, viz. \(\pi + \o\); and though I do not hold this conjecture proved, especially as regards the \(\o\), it may at all events strengthen the conclusion arrived at by Lehmann (p. 84) from consideration of \(\dot{\upsilon}\dot{\o}\dot{\pi}\) alone.

\(\Omega\Pi\). Under this head I have to notice the tachygraphic sign, rightly described by Lehmann at the beginning of his article as a waved line; it is in fact not unlike an open omega inverted. In this form it is used by an ancient hand.

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1 The argumentation between Gylbauer and Lehmann (Lehn. p. 88) upon the origin and relation of the signs for \(\dot{\upsilon}\dot{\pi}\dot{\o}\dot{\rho}\) and \(\dot{\upsilon}\dot{\o}\dot{\rho}\), does not perhaps admit of proof or disproof; but it may be allowable to suggest another hypothesis that appears at least as probable. Lehmann justly doubts Gylbauer's half-revolution of the sign for \(\dot{\upsilon}\dot{\pi}\dot{\o}\dot{\rho}\) as a preliminary to explaining it; but his own analysis of it, and especially his theory of the original identity of the two signs, appear to me no less arbitrary. A simple comparison of the common letters in \(\dot{\upsilon}\dot{\pi}\dot{\o}\dot{\rho}, \dot{\upsilon}\dot{\o}\), with the common strokes in the two compendia suggests that (1) the left-hand stroke in \(\dot{\upsilon}\dot{\pi}\dot{\o}\dot{\rho}\) is \(\rho\), while the left-hand stroke in \(\dot{\upsilon}\dot{\o}\) is \(\o\) (the tachygraphical \(\o\) is a line bent into two curves); (2) that the right-hand cross-stroke in either case is a mere mark of abbreviation, to erect the letters \(\rho\) and \(\o\) into substantive symbols for \(\dot{\upsilon}\dot{\pi}\dot{\o}\dot{\rho}\) and \(\dot{\upsilon}\dot{\o}\). For an analogy I may refer to my own analysis of the strange sign for \(\alpha\aleph\) (p. 12).
among the Plato Arethas-scholia, e.g. τῶν ὀντῶν, ἀρχῶν, πλάτων (as a rule the Arethas-mss. use the ordinary form, and that as often within the word as at the end). Cf. also τῶν νέων Vat. 1982, τῶν θεωρημάτων, τῶν ἀγίων Mutin. 12

Early dated examples of the coalescence of the circumflex accent with the ordinary sign (Vitelli p. 10, n. 2) are τῶν Genuens. 2 (a. 1075), ψυχῶν Angel. C. 4. 15 (a. 1165).

ΩΡ. A few instances of the compendium for this syllable, to be added to those given by Vitelli (pp. 15, 32, 171) are: ρύτωρ Clarke Plato, ρεωρησίων Harl. Lucian, (both in the scholia), έκτωρ Iliad Laur. 32, 15 (text), νυτροπάτωρ Laur. 5, 3 (not cited, I think, by Prof. Vitelli), αντιλαίπτωρ Laud. gr. 1, ὀδωρ Mutin. 193 (Lucian, s. XI–XII, text), ὀ ρύτωρ Bodl. Misc. 251, παντοκράτωρ Vallicell. E. 29 (s. X), γεώργιος Neap. II. A a. 22.

ΩΣ. The examples that I give of ως are meant to illustrate its form and its position with regard to the line. (1) The slight variation by which the last curve of the sign takes a turn upwards, is, as Bast notices, a peculiarity of the strongly-marked writing of the Plato Paris grec 1807 (cf. ως 1, οὗτως, ἀττικῶς), but it is found also in the text of the D'Orville Euclid f. 120 v, οὗτως, and it existed in the 'codex Vallae' of Archimedes from which Angel. C. 2. 6 was copied; cf. the passage in the plate from f. 222 v, explaining ως and πως 2. (2) The syllable is found written on the line most constantly in mss. more or less connected with tachygraphy, e.g. οὗτως Nonnus, ὠστε Angel. B. 3. 11, φύσεως Grott. Ferr. B. a. iv, ὁσπερ ib. B. a. iii, οὗτως καρέως Vat. 1982, but not unfrequently elsewhere, so ὠστε ὁσπερ often in the Arethas-scholia, ὀς 2 Laur. 28, 3 3.

1 A few more examples are των 1 Vallicell. F. 10, των 2 Vat. 1456 (s. XI), πλάτων Par. 5032, πάντων Par. 900, τῶν αἱρετικῶν Ven. 450 (Phot. Bibl. s. X).
2 I make bold to explain in this way the sign given by Prof. Vitelli, plate II. no. 49, p. 172, n. 2: it is ως + επ, i.e. ὁσπερ, which, as Prof. Vitelli says, is demanded by the context. Another instance of this form of ως is δρεως Vat. 2 (s. XI).
3 The beginner may with profit contemplate the fourth example of ως in
Abbreviations in Greek Manuscripts.

ΩΣΠΕΡ. I do not remember to have seen or read of a single sign for ΩΣΠΕΡ; the separate abbreviation of either syllable is of course frequent enough. A ligature, consisting of the tachygraphical signs for both syllables interlaced, is given by the ms. Etym. Magn. D’Orville x. 1, 2 s. XIV, of which a facsimile is prefixed to Gaisford’s edition of the E. M.; cf. no. 1 from f. 289 v., no. 2 from 288 r.; both are at the end of the line. The context of the first is, ἱστέον δὲ ὁσπέρ λέσεται κροῦμα καὶ κροῦσμα, οὐτω λέσεται χρύμα καὶ χρύσμα. The formation of the symbol is clear if we compare ΩΣΠΕΡ, ΩΠΕΡ from the tachygraphic part of Nonnus 1.

Tachygraphy. It has been often pointed out that in Greek minuscule and late uncial writing there are two systems of abbreviation in use at once: one, of rare occurrence and of obviously tachygraphic origin, the other, far commoner, and though also ultimately tachygraphic in source, so familiar as to be known by contrast as the ‘ordinary’ system. Facts as to the coincidences and divergencies of the two systems are well given by Lehmann in his introductory chapters, and a masterly sketch of the subject, with illustrations, will be found in Graux’ review of Gardthausen, Journal des Savants 1881, p. 312 sq. The extent to which the ‘tachygraphic’ system entered into the writing of ordinary books is one of the questions in palaeography which most stand in need of additional evidence. That the system was far more widely spread and more generally used in books than was commonly supposed, there

Lehmann, § 47. He will not get light from Gardthausen, p. 258, nor even from Diels’ explanation of the Fragmentum Bobiense, Hermes 1877, p. 421 sq.

1 I have in this tract hardly touched the large and interesting province of mathematical signs. I may however here mention one that is quoted by Huitsch ap. Gardthausen from Vat. 211, but that has not hitherto found an explanation. It represents χαρίν, and is found with or without case-ending. Examples 1 and 2 are χαρίν, 3 χαρίν, 4 χαρία. All these come from Euclid Laur. 28, 3. The usage occurs also in the D’Orv. Euclid, but at the moment of writing I am without examples. It consists of χ and ρ rendered tachygraphically, upon the same system as that employed in Vat. 1809; cf. any page of Gitlbauer’s facsimile. The second cross-stroke is doubtless a mark of abbreviation.
can be no doubt; but whether any principle governed its employment, and whether any place, persons or style of author can be connected with it, must for the present remain an open question. One of the few facts known for certain is that the later tachygraphical system was practised by monks of the order of S. Basil, and in especial by the Basilian school of Grotta Ferrata near Rome. Of the eleven manuscripts whose usage I proceed to summarise, seven were certainly written at Grotta Ferrata, one may have been, and another, though written elsewhere, was the work of a Basilian.

(1) An account of the history of the school of S. Nilo at Grotta Ferrata, the monastery and village between Frascati and Marino on the lower slopes of the Alban Hills, is to be looked for in the Prolegomena that are to complete the catalogue not long since published by the learned librarian of the Abbey, P. Antonio Rocchi. In the mean time it may be convenient to say that San Nilo, the founder of the monastery at the close of the tenth century, established therewith a school and style of writing. The school may be said to continue, at least in the person of the Bibliothecarius, to the present day; the distinctive characteristics of the handwriting of S. Nilo may be traced, in mss. written by his disciples, for more than a generation. Manuscripts with which I am acquainted that exhibit this type of writing are, beside the three books in the hand of S. Nilo himself (B. a. xix, xx, xxi), two mss. still in the monastery, B. a. i and B. a. iv, one in the Biblioteca Angelica at Rome, B. 3. 11, the London Nonnus, and

2 Codices Cryptenses, Tusculani, 1883.
3 Cf. the extract from the Vita Nili Rom. 1624, p. 28, quoted by Rocchi under B. a. xix: litteram formam ut ens densa et minuta. Facsimiles of the three Grotta Ferrata mss, and the one from the Angelica are shortly to be published by the Palaeographical Society.
4 When I was at Rome the celebrated Vat. 1809 was temporarily inacces-
the fragment Vallicell. D. 43. The type loses its chief characteristics in the twelfth century, but still exists as a particularly neat and close minuscule; authentic examples are B. α. iii, and the latter part of Angelica B. 3. 11. I have imagined resemblances in Mutinensis 12 and Bodl. Rawl. 156. It has always been well known that S. Nilo's disciples were tachygraphers, and the two great examples of their production in this direction, Vat. 1809 and Brit. Mus. add. 18,231 have been more or less carefully examined; but for our knowledge of the codices that still remain in the Abbey we still depend practically upon Montfaucon and Piacentini. A stay of five days at Grotta Ferrata in May of last year (1888) gave me opportunity to inspect the library with this purpose. I have to thank Padre Rocchi's benevolence not only for access to the manuscripts that he knows so well, but for the arrangements that he was good enough to undertake for my entertainment in the village. May he accept an imperfect acknowledgment of one of the pleasantest weeks that have fallen to the writer's experience.

The three mss. in the hand of S. Nilo (a. 965) are unabbreviated. On the last four pages however of B. α. xix occur a considerable number of compendia; most noticeable tachygraphically are ύμηρ (υμηρ του λαου), ύπο, and ις in ἡ ἀποίη νυσικ. The last sign is one of the rarest of those in use by the school, and will probably hardly exist elsewhere than in the purely tachygraphical parts of Vat. 1809 and Nonnus and, in ordinary writing, in Vallicell. D. 43. The other mss. appear to give the syllable always in full. Vat. 1982 gives the common sign, v. s. ΕΙΣ (ιασικ).

(2) The ms. of the British Museum, add. mss. 18,231,
containing works by Gregory Nazianzen with the comment of Nonnus, has for some years past been known to offer extensive examples of tachygraphy; I need not refer to the passages in the handbooks where it is noticed, nor to the facsimiles of pages in the various collections. It may be said to exhibit three styles of writing: (a) minuscule: the text, only rarely abbreviated, and various introductions, indices, etc. (ff. 4 v., 12, 13, 14 v., 15 r., 318 r.–330 v.) which on the contrary are very closely contracted; (b) scholia in large semi-uncial, which, beginning almost without contractions, gradually increase the percentage of signs till they almost reach pure tachygraphy; (c) purely tachygraphical marginal remarks, glosses and corrections. In this article I deal with tachygraphy only in so far as it is introduced into ordinary writing, and therefore it is only the first of these three classes that I here notice. It is to be hoped indeed that the whole tachygraphical contents of the ms. may some day be made public, but I offer here nothing beyond a collection of the tachygraphical signs that are found in the minuscule part of it. The ms. was written, it is well known, in 972, but the writer has not given his name. Lehmann (p. 53) has rightly concluded, from a comparison of facsimiles, that it belongs to the Grotta Ferrata school, and the resemblance is obvious to anyone who has been both at London and Grotta Ferrata; but he is certainly wrong in identifying the scribe with Paul who wrote the Isidore. The editors of the Palaeographical Society, who in their forthcoming fasciculus publish several facsimiles of Grotta Ferrata mss., decide that the hand of Nonnus is the same as that of the Angelica Theodoretus, to be noticed below; and there is a clear difference of writing between these mss. and the Isidore. A graver fault, however, with regard to this ms. has been committed by Lehmann, than the wrong identification of its hand. Relying upon the evidence of the facsimile of a single page, he has in various places of his book made general statements of the usage of the entire
ms.—which are wrong; and based upon them theories as to the history of Tachygraphy, which are necessarily even further from the truth. It is sufficient to warn anyone who uses the book that the statements in pp. 21, 22, 53, 54, 57, 67, as to the representations in the Nonnus of the syllables ειν, ιν, εις, are incorrect. The matter is the most serious blot in a meritorious handbook, and a conspicuous example of the results of ‘Palaeography from Facsimiles.’

The manuscript then, in this part of it, exhibits specifically tachygraphical signs for the following syllables: αϊ, αις, ὁπο, ἀρ, ειν, εν, ἐπι, ιν, ου, παρα, τα, την, -τ' ἐστι, τως, ὑπερ, ύπο. Cf. the words φαιδρότατε, εὐχαίς, ἀπο, ὑπάρχειν, συμπράττειν, κατὰνερκεν, ἐπικαθίασα, ἐτειν, οὐδείς, οὐδαίος, τὴν τε, τοῦτ' ἐστι, οὔτως, ὑπερ, ὑπονοίας. Here the frequent use of αι, αις, ειν, ιν and especially ου, is noticeable; the last compendium occurs in ‘ordinary writing,’ only in the mss. Vallicell. D. 43 and Par. 990. The curiously consistent contraction for τοῦτ' ἐστι also deserves notice; in the semi-uncial scholia the words are still farther abbreviated. Otherwise the use of the symbol for Ταυ is singularly limited. The other signs are more or less characteristic of the school. For instances of τα v. ante s. A.; the usage of the manuscript for αρ, εἴναι, ἐρ, κατά, παρά has also been previously illustrated. Lehmann’s statement that ις in this ms. is always written in full, is true to the extent that the tachygraphical sign does not occur in this part of the ms.; in the scholia and the pure tachygraphic glosses it is common, and in the minuscule part itself the ordinary sign sometimes represents the syllable: v. ante s. εις. The sign for ις, as I have already noticed, is very rare in all the Grotta Ferrata school.

(3) The Biblioteca Angelica at Rome possesses one ms. of the school of Grotta Ferrata, Theodoretus B. 3. 11. The book consists of two parts, of which the first is of the tenth century, the second of the eleventh or twelfth. A description of it will be found in my notes on the Angelica
shortly to appear in the *Classical Review*, and in the current fasciculus of the Palaeographical Society, where a facsimile of a page from the first part is given. This earlier hand is the same, Mr. Maunde Thompson tells me, as that of the London Nonnus of A.D. 972; it is very considerably abbreviated. The second hand, though later, is not without traces of tachygraphy, v. *ante* s. **EN.** The tachygraphical signs used by the first hand are as follows: 

_The well-known Isidore, B. a. i, written in 986 by Paul, second Abbot of Grotta Ferrata, offers the following distinctively tachygraphical signs: αι (σκολιαί), αις (διαθίκαις) αρ, and combinations of α with other letters (*ante*), ἀπο (πώπος), ει (διάμείκει), ειν (υφαίνειν), ἐπί (ἐπικαλέσωνται), ἐρ (ποιέω), ἑν (ὑδαίνθινον), παρά (*ante*), ὑπέρ (*id.*), ὑπό (*id.*)._

(4) It was my good fortune to have brought to me in the Biblioteca Vallicelliana at Rome, one day in February of this year, a Latin ms. numbered D. 43, of the Dialogues of S. Gregorius Magnus, saec. XI, at the end of which were bound up two leaves of a Greek ms. in the writing of Grotta Ferrata. A photograph of one leaf was sent to Pre. Rocchi at the Monastery, and he was afterwards good enough to examine the ms. itself. His conclusion as to the hand is, I am happy to say, a confirmation of what suggested itself to me at first sight: that the writer is Paul, monk of Grotta Ferrata, the scribe of the Isidore B. a. i.

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1 An unusual way of rendering ε. The diacritic point is appended to the sign for α. In Vat. 1809, as one sees in Gitlbaner's facsimile, it is _iota_ and the diacritic point that together give α.
The subject-matter is harder to determine; the leaves contain, as a librarian’s note on the first of them and at the beginning of the ms. says, ‘fragmentum indicis codicis antiqui,’ but the work to which the index was prefixed Pre. Rocchi was unable to discover; it was probably, in his opinion, a commentary on part of the New Testament, possibly S. Paul’s Epistles.

The interest however of the fragment is palaeographical. The leaves, numbered 88 and 89, measure $10\frac{3}{4} \times 8$ in., are in double columns with 44 lines in each; they together form one sheet of vellum, and, the text being continuous, must therefore have been the middle leaves of a quire; the flesh-side of the vellum is outward, the rulings are on the hair-side. The writing is above the line. The abbreviations are extraordinarily numerous; both in this respect and for the rarity of some of the symbols used, no other piece of ‘ordinary writing’ at present known to have come from Grotta Ferrata can compare with these two pages. The following list gives the tachygraphical signs that I have found: $\alpha$, $\alpha i$, $\alpha i c$, $\alpha n a$, $\alpha p o$, $\alpha r$, $e i c$, $e k$, $e p i$, $e p$, $e s t i$, $e s i$, $e i n a i$, $i n$, $i c$, $o u$, $p a r a$, $t o u \tilde{\iota} \tilde{\eta} \tilde{\iota} \tilde{\iota} t i$, $t h n$, $\tilde{\upsilon} e r$, $\upsilon o$: cf. the words $k o u \tilde{\iota} t i$, $f a i n e t a i$, $n e f e l a i c$, $\alpha n a s e n t o n t a i$, $a p o d i m e i$, $\alpha p a r k h$, $s a f e i c$, $\epsilon k d e m e i \epsilon k t o c$, $\epsilon p i f a i n o m e n o u$, $m e t e r k h o m e n o u c$, $\epsilon s t i$, $e s i$, $e i n a i$, $a i t o d i n h$, $\theta e m i c$, $o u k$, $n o u f i m e n o c$, $p a r a$, $t o u \tilde{\iota} \tilde{\eta} \tilde{\iota} \tilde{\iota} t i$, $p a r a b a t h n$, $\tilde{\upsilon} e r$, $\upsilon o p o f i n o c$. Of these signs four are of great rarity, $\dot{\alpha} n a$, $\dot{\epsilon} k$, $i c$, $o u$; of $\dot{\alpha} n a$ I do not know another instance in ordinary bookhand; Nonnus has it, but in the tachygraphical portion: $\dot{\epsilon} k$ occurs also in Vat. 1982 and Par. grec 990: $i c$, as I have already observed, is found elsewhere only in G. F. B. i. xix, and $o u$ only in Nonnus and Par. grec 990. It is instructive to compare the amount of abbreviation used by the same scribe in these two mss., G. F. B. a. i and Vallicell. D. 43.

(6) The ms. of S. Maximus, Grott. Ferr. B. a. iv written in 992 by Neophytus, is far less widely contracted than the Isidore, while on the other hand it offers some examples of
signs which that ms. does not use. Cf. αι (ὄτι ναί), ἐκ (ὡς ἐκ τοῦ), εν (ὁμολογεῖν), ἐν (ὕλησιν), τεκ (ante), την (id.): a small piece of more continuous tachygraphy occurs on the margin of f. 390; ρήτων μυστηρίων.

(7) Again ms. B. a. iii (s. XII according to Rocchi), in a good calligraphic hand, has, with an abundance of compendia of the ordinary sort (cf. s. A, AP, ΕΙΝ, ΕΠ, etc.), the peculiarity of the tachygraphic sign for αυ, unknown elsewhere in the ordinary writing of the school, but very frequent here, whether as αυ or ταυ: cf. s. ΑΥ and the examples ταυτης, ταυτην, εαυτον, αυτην: I take a longer piece of tachygraphy from f. 67 ν. θέσαι δὲ μόνω τῶ πρὸς ἀλίθοιαν [?] βλέποντι.

(8) Montfaucon Pal. Graec. p. 283 gives a facsimile of a manuscript in the house of the Basilian order at Rome. The entire collection once belonging to this order is well known to be now in the Vatican, where it is incorporated under the ‘Vaticani graeci,’ beginning at 1962. The particular ms. intended by Montfaucon is, as I have found out, Vat. 1982 or Basil. 21. Its description is as follows: membr. 8 x 5½ in., ff. 223; ff. 1–189 are in ordinary script, 36 lines on a page, in a rather small good eleventh-century hand below the line, only slightly contracted; ff. 190 r., 190 v., 191 r., being blank leaves of the same book, are filled with contemporary semi-tachygraphic writing, containing on 190 r. and v. various medical receipts, on 190 v. 191 r. an extract from Chrysostom (inc. τὰ γὰρ πλείστα τῶν ἀμαρτημάτων), 191 v. is blank. Ff. 192–223 are apparently a different book, in a much smaller but contemporary hand, much abbreviated, 29 lines to the page, containing S. Basil’s λόγοι on various portions of scripture, the first being that on Psalm VII which Montfaucon facsimiled; it is defective at the end. The book may have come from Grotta Ferrata, but was certainly not written there, for on a modern fly-leaf at the beginning is the inscription Ex libris MS. Monasterii
S. Helie Carbonensis¹ Nullius Dioecesis, Anglonen. Ordinis S. Basilii Magni, and the hand bears not the slightest resemblance to that of the famous Isidore of Grotta Ferrata; it is in fact hard to see what can have suggested their identity to Montfaucon ².

The ms. appears to use the following tachygraphical signs: 

æc (παροιμίαις), au (ἐνταῦθα), ἀπο (ἀπὸ τῶν), δε (ante), έκ (πο. 1), ἐν (ante), ἐπι (ἐπιθυμίας), κα (both with a dot, as κατεχόμενοι, and without, as καλλιφωνίας), καρ (κάρδια), κατα (καταφωείρει), μα (σπέρμα), μαρ (Ἀμαρτημάτων), ο (ὑποθέσεις), τα, τας, τες, τοις, τονς, τους, τοις, τως, των, τως (ante), υπο (ὑπὸδεθείας), ον (ante); see also under Α, ΔΣ, ΕΙΝΑΙ, ΕΙΣ, ΠΑΡΑ. The most noticeable points are the use of some quite rare forms, such as έκ, κα, καρ, μα, μαρ, σα (μα and σα very frequently), the series of τ-σyllables, and the absence of signs ³ for ai, ειν, ιν, εις, ες, ύπερ, ύπο (in the more usual form, cf. ante), syllables which are so common in the Grotta Ferrata school. I add a phrase that I cannot at present decipher, from f. 190 r; the words immediately preceding are ταῦτα λέξεις ὅ σωτὴρ.

(9) A manuscript in the Estense at Modena, ii. A. 12, S. Maximus de caritate, shows some tachygraphical influence: it is of the eleventh to twelfth century, membr. 5½ x 4 in., ff. 135, in two hands, of which it is the former (ff. 1-56) that is partly tachygraphical. The non-tachygraphic abbreviations are uniformly of the later type: e.g. those for εις, ες, ειν, ιν (q. v. ante). Tachygraphic signs occur for αρ (σαρκός), ιν (γνώσις, ποιῶσιν), παρα (ante), τα, τες, τον (ante), ον (δοστέων); the most noticeable of these is that for ιν, which is very frequent. This hand is upright and well-formed, and bears some resemblance to the twelfth-

¹ MSS. from this Library are now to be found at Grotta Ferrata, e.g. Δ. a. xiii sq.
² Montfaucon's mistake had already been perceived, from a comparison of facsimiles, by Lehmann, p. 54.
³ That is, tachygraphic signs.
century type of Grotta Ferrata hand, as shown in B. α. iii. The second hand is quite dissimilar.

(10) I have next to mention a ms. that has long been famous in the history of Greek tachygraphy—that of Hermogenes at Paris, which is now numbered grec 3032. From this book Montfaucon took his 'notae rhetoricae et oratoriae omnium lectu difficillimae,' which for more than a century were the only published examples of Greek shorthand; they reappeared, as is well known, with an improved interpretation in Kopp's 'Palaeographia Critica,' in 1817. It is not however with this venerable material that I have to concern myself. The book falls into two parts, the text and the marginal annotations, and it is the latter that Montfaucon published and Kopp revised. Of the text, on the other hand, no account hitherto has been taken; it offers nevertheless considerable palaeographical interest.

The ms. is a small vellum book, pp. 152, of no doubt the tenth century, in quaternions, written, mostly below the line, in a small upright ornamental minuscule, considerably ligatured; in the margin, not very constantly, are annotations in pure tachygraphy in the same hand as that of the text, and in characters quite as large. We have therefore an instance of what may be called the normal case for the introduction of tachygraphy into book-hand; the case namely where a scribe accustomed to practise the tachygraphical system sets himself to write a book for the purposes of an ordinary reading public. For much the greater proportion of his text, abbreviation of any sort is excluded; but at times, and especially at the ends of lines, it is legitimate, and it is inevitable that here, a scribe who is cognisant of tachygraphy will borrow signs from it as well as from the system of abbreviation ordinarily in use. Mss. of the sort are the London Nonnus, where the text is as a rule written out in full, not however without a diligent inspection of ends of lines yielding a fair return of
tachygraphical symbols, and the second part of Angel. B. 3. 11, where the tradition of the school manifests itself in the same manner in a twelfth-century hand.

This is precisely what has happened in the ms. in question, Par. grec 3032. The text is on the whole little contracted, but frequently at the ends of lines, and occasionally in the body of the paragraph, the scribe allows himself to shorten a word, adopting the same system as that in which he afterwards wrote his marginal comments. A considerable number therefore of signs usually considered tachygraphical may be taken from the text of this ms. I enumerate those that I have found, adding that as my study both of this and the following ms. was short, the list must not be considered exhaustive. Syllables represented are: οι (δύναμι), απο (ἀποβλέπων), αρα (ἀρα), νου (αἰσχίνου), οι (δοξοι), ον (τόν, φιλίππον), ος (πλάθος), οτι (βίς), ι (παραδείγματος), τα (ἐσται), ταν (οταν), το (τοῦτο), ων (πλάτων). V. also s. OYC.

(11) Another tachygraphical Paris ms., grec 990, has been indicated and in part described by Ch. Graux, in the brilliant sketch of Greek Tachygraphy to which I have already referred, Journal des Savants, 1881, pp. 316, 317. I learn from M. Omont that there is no likelihood of the complete study of the ms., which is there promised, being published, and I therefore take the opportunity of giving here such further particulars as I was able to gather during a short inspection of the ms. I lament that my account is not fuller, and does not better take the place of the authoritative study that was to have been expected of the regretted French palaeographer; but, as tachygraphy now stands, the addition of even a handful of new forms is worth making, especially when, as in the present instance, there are at hand the means for reproduction.

The ms. is dated 1030, and is of the ordinary minuscule of that period; there is nothing in the character of the hand to suggest the tachygraphical knowledge of the
TACHYGRAPHY.

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scribe. The ordinary compendia that are used, e.g. for 

\textit{aic, eiv}, exhibit the later stage of the forms. The ms. con-
tains the poems of S. Gregory Nazianzen with a prose paraphrase, in parallel columns; it is in the paraphrase, according to the necessities of space, as Graux clearly describes, that the abbreviations occur. I have observed the following, to which must be added the forms already quoted by Graux, the most interesting of which are \textit{πο} and 

\textit{δος}:

\[\begin{align*}
\text{ai (μωραίνοντες)}, & \text{ aic (ἀνοίας)}, \frac{αλ}{αλ} (\phiθαλμούς), \text{ ἀπο (ἀπό στέρμοις)}, \text{ au (παύσεται)}, \\
& \frac{ελ}{ελ} (βέλτιστον), \frac{επι}{επι} (πορέρχεται), \text{ eu (πνεύμα)}, \text{ ιν (καλούσιν)}, \text{ κα} (κατέλαβεν), \text{ καί (πο. 2)}, \\
& \frac{κατα}{κατα} (καταλαμβάνω), \text{ με (πο. 3 μετά)}, \text{ οι (ἀνεμοί)}, \frac{μοιος}{μοιος} (πο. 4), \text{ ον (ὄντως, τόν)}, \text{ ου (αυνελθοῦσε)};
\end{align*}\]

\[\text{παν (πάντως)}, \text{ ραν (πο. 5 κεραυνός)}, \text{ τα (πάντα, ταύτα, ὑπερειδώματα)}, \text{ ταί (φοβοῦται)}, \text{ τας (καταφοβοῦνται)}, \text{ ταύ (ν. ταύτα ἀbove)}, \text{ τε (τέκνοις, ἡμετέροις)}, \text{ της (της θαλάσσης)}, \text{ το (πρωτοκάθεδροι)}, \text{ τοις (τοῖς δικαίοις)}, \text{ τον (φθαρτόν)}, \text{ τος (κλαπέντος)}, \text{ του (τοῦ χρίστου)}, \text{ τω (ἀμυντῳ)}, \text{ των (φοιτώντων)}, \text{ τως (οὕτως)}, \text{ ύπο (ὑπὸ τήν)}, \text{ ον (ὁθων)}.\]

A remark or two upon some of these forms may be in place; to discuss the ms. as a whole will need more complete examination. The syllables \textit{αλ}, \textit{ελ}, \textit{με}, \textit{ραυ} are of very great rarity. I do not know if parallels can be quoted from any ms. but Vat. 1809 and Add. mss. 18231. The form \textit{οι} is illustrated by Graux l. c., and by Vitelli \textit{Spic. Fiorent.}, pp. 13, 168: it must still be called rare. The form \textit{ευ} has been found by Martin in the scholia to the Ravenna Aristophanes; the tachygraphical \textit{π}, as in \textit{πάντως}, is very uncommon in ordinary bookhand; the sign for \textit{ον} is not generally found on the line; \textit{καί} represented by three dots occurs elsewhere in Vat. 1809, Add. mss. 18231, in some Laurentian mss. quoted by Vitelli, pp. 15, 32, and in the late ms. Vat. Pal. 73 discussed by M. Desrousseaux (v. p. 28, n. 1). With regard to the series of Tau-abbreviations, there is to be noticed the freedom with which the dots are superimposed instead (their more usual position), of being arranged one on either side of a stroke of the sign for the following syllable;
ἈΝ ἔδωκ᾽ ὅτι ἔι ὑλὴ ᾠδὴ γίνετ" ὑπὲρ ὑπηρετεῖν καὶ ἀνακαλέσειν Ῥουκαλῖν ἀντὶ ἀνων

ἈΠΟ ἄν ἦς ὅτι ὕλη ὑπήρξῃ ἀνθρώπους ἤ θάνει

ἈΡ ἐπιτίμων ἀλήθειαν μοι καὶ πιστικόν

ἈΡΑ ἤτοι ἂν ὑπὸ σε μελέτην φρεν ἄσπρον ἔτη

ἈΚ ἀναρέσθη χρήσην κάρον ἔλεγον ὑπὲρ

ἈΤ ἢ ἰπόθεσθ᾽ τὴν ὑπὸ τὴν ἂν θῇ"
Abbreviations in Greek MSS.
I C  συνέβλασεν  χρίστανας  αρματος  ἐπὶ  κεφαλήν
λογίου  βαπτίσαντες  κρατεῖ  ἐχθροῖς.

H C  Ἀπειλεῖ  ἀποδόν δὲ  φραγμοὺς  ἕνας ἐπὶ τὸν

ΕΙΝΑΙ  1  2  3  4  5  6  7  8  9  10  11
   12  13  14  15  16  17  18

ΕΝ  γινείς  εἰς  ἐνώπιον  ἐπὶ  βλέπετα  πιθήκον
ἐπὶ  ἀνθρώποις  σὺν  ἐνώπιον  ἀράχνης  ἐπὶ
[μνημόνιοι  συνεπηθεὶς] μετ' ὧν ἐπὶ
ὑποστηρικτοὶ  ὑπὸ  ὑπὸν  μετὰ
λόγομης  εἰς  αυτὸν  ἐπὶ

ΕΡ  ὁμίλοις  ἀνθρώποις  ἐπὶ  υἱακὴν  ὑπὸ
μεν'  δὲ  με  τὶς  νὰ  ὑποστῆσαι  ὑπὸ  τοῖς
ἀντὶ  ὑπὸ  ὑπὸ  ὑπὸ  ὑπὸ  ὑπὸ  ὑπὸ

ΕΚ  ΝΙΚΟΣ  ΓΕΝΙΤΙΚΑ  ἐξὸς  ὑπανθής  λέοντι

Γ)  πονὸν  συμφραγίσει  ὑπὸ  ὑπὸ  ὑπὸ  ὑπὸ  ὑπὸ  ὑπὸ

ὅλης  ἐπὶ  ἐπὶ  ἐπὶ  ἐπὶ  ἐπὶ  ἐπὶ

δεδεδομένοις  ὑπ'  ὑπ'  ὑπ'  ὑπ'  ὑπ'  ὑπ'


Ἄραμαρτίσεις Ἰδ bcm, ἡ μάρτυς ἡ Μονάσιν ἐνθάραξεν

ECTAI

ECTI

1

IND

Καὶ ἀπεκτάσθη ἐπιστημονίᾳ ἰδιωτῆς πολλῇ

καὶ ἦν ἐν ἁμαρτίᾳ ἀπεκτάσθη ἀπὸ τῆς ἡμέρας διπλάτοις

μετὰ τοῦ ἁλαί μὴ ἀρρητῶς ἐρνήσας καθάπερ ἑιδεμενον οργανός

καὶ διηγομένη σκαφεῖα στροφαὶ σωσιαί μῦσα

KATA

σωματικαὶ χαράξεις ἐσθῶ πάνυ καὶ εἰς τὸ ιύξαν

abbreviations in Greek MSS.

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Λ εκείνη ἡ παύλης η σύμμοιρος ἦσαν αὐτῶν
cοιτή, ἤσει τοὺς διδάκτους τοῦ καθὼς
ὁ αὐτὸς ἐστιν ἡ καθήκων
τοῦ δικαίου θεοῦ

ΛΟΓΟΣ εἰς τὸν αὐτὸν καὶ εἰς τὸν ἑαυτοῦ

ΜΕΝ ὡς ἐνθρόν

ΜΕΤΑΥ οὕτως

ΟΜΟΥ 1 2 3 4 5 6 7 8

ΟΜΟΙΩΣ όμιλος

ΟΝ φυλή τι μόροι ἀνευράξω ἵππος

ἘΚΩΣ ἤπειρος μὲν ἐνακτήσῃ τῷ ἱππότῃ

ΟΣ ἀναμέλθη ἔνδειξεν τῷ ὁ ἀντιστοιχεῖο

ΟΤΙ 1 2 3 4 5 6 7

ΟΥΝ καὶ φησίν ὡς ὁ εἰς ἄνωθεν τὸς

οὕτως

ΟΥΚ ἀλλὰ τῷ τούτῳ ἡ ΠΝΙΧΗΣ τοῦ ἂν ἔτολμαν

τῷ χρόνῳ τῇ δὲ λόγῳ αὐτῆς ἄλλης

ἐνδεχόμενος αἰτεῖν Χριστοῦ.
ΟΥ ὁλισθαίνει καὶ σωματίζει

ΟΥΤΟΣ 1 2 3 4 5 6 7 8

ΠΑΡΑ 1 2 3 4 5 6 7 8 9 10

ΠΡΟΣ 1 2 3 4 5 6 7 8 9

ΤΑΙ [ΜΕΛΜΗ] 1 2

ΤΑΙΚ [?] 1 2

ΤΑΝ [δη] 1 2

ΤΑΣ [τὴν] οὖν ὄνομα διηρημολογοῦν
do μονὸν ὁ καταφύγω το πιάρον

ΤΑΙΚ [μῆ] 1 2

ΤΕ [ὑπο] τὴν ὁπινίν εἰς ὁπίσω

Abbreviations in Greek MSS.
Plate VIII.

Abbreviations in Greek MSS.

Thn 1 2 3 4

Ti πέργαλις

Tin ἡ ἐκτάσεις προστασίας τουκ

Toc [τού] "κατὰ τῆς διακοινωνίας του

Toc [τού] ἀνάμειας τοῦ φιλοσοφοῦ

Toc [τού] ἄγιον οὐκ ἀμοιβὴν

Twn [τοῦ] ἀνάμειας τοῦ ποιήματος ἀπὸ τῆς φοιτητικῆς

Twc [τού] ἀνάμειας τοῦ πάνηγυρος ἀπὸ τῆς λέρωμας οὗτος.
Plate IX.

...

Abbreviations in Greek MSS.

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(1) Ἐ ἴ ἡ ὅ ῆ ἐ ἱ ἀ ὕ ὑ ἐ ὅ ῆ

(11) φiland tε βύχεν ὑ ὑ υπο χι

(111) συναρτήσει να πωθομεν ὑ λι ὁ στατή ἵ ὅ ῆ ἐ ὅ ῆ Ͻ� ὑ ὑ υ τε ἵ ὅ ῆ

(1111) συναρτήσει παρά τῳ ἑμι χρυσ ὑ πὸ γνή

(11111) οὔομεν ἐ ἱ ἴ χυ λι ὁ νῆ νην ἐ ἱ ἴ χυ λι ὁ νῆ

(111111) μαίνατον ἐ ἱ ἴ ὑ μην ἐ ἱ ἴ χυ λι ὁ νῆ

Abbreviations in Greek MSS.

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