

Hyphens in Greek Manuscripts

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WORKS ON LATIN PALEOGRAPHY assert that somewhere between the eighth and tenth centuries, hyphens began to be placed in the right margin to indicate that a word had been divided between syllables when the end of a line had been reached,¹ and this practice seems to have become com-

¹ The following works will be cited by author's name, abbreviation, or short title: BEES=N. Bees, *Tὰ χειρόγραφα τῶν Μετεώρων* I (Athens 1967); BERNARDINELLO=S. Bernardinello, *Autografi greci e greco-latini in Occidente* (Padua 1979); BICK=J. Bick, *Die Schreiber der Wiener griechischen Handschriften* (Vienna 1920); CGV=E. Follieri, *Codices graeci Bibliothecae Vaticanae selecti* (The Vatican 1969); CL=P. Franchi de' Cavalieri and J. Lietzmann, *Specimina codicum graecorum Vaticanorum*² (Berlin 1929); CLA=E. A. Lowe, *Codices Latini Antiquiores* (Pts 1–12 [1934–71], Pt. 2² [Oxford 1972]); CONSTANTINIDES=C. Constantinides and R. Browning, *Dated Greek Manuscripts from Cyprus to the Year 1570* (Washington 1993); DÖLGER=F. Dölger, *Aus den Schatzkammern des heiligen Berges* (Munich 1948); GHA=Griechische Handschriften und Aldinen. Eine Ausstellung einlässlich der XV. Tagung der Mommsen-Gesellschaft in der Herzog August Bibliothek Wolfenbüttel (Wolfenbüttel 1978); HARLFINGER=D. Harlfinger, *Specimina griechischer Kopisten der Renaissance. I. Griechen des 15. Jahrhunderts* (Berlin 1974); KOMINES=A. Komines, *Πίνακες χρονολογημένων Πατριακῶν κωδίκων* (Athens 1968); LAKE=K. and S. Lake, *Dated Greek Minuscule Manuscripts to the Year 1200* I–X (Boston 1934–39); MARTINI and BASSI=A. Martini and D. Bassi, *Catalogus codicum graecorum Bibliothecae Ambrosianae* I–II (Milan 1906); OMONT (1887)=H. Omont, *Fac-similés de manuscrits grecs des XV^e et XVI^e siècles* (Paris 1887); OMONT (1891)=H. Omont, *Fac-similés des manuscrits grecs datés de la Bibliothèque Nationale du IX^e au XIV^e siècle* (Paris 1891); RGK=E. Gamillscheg and D. Harlfinger, *Repertorium der griechischen Kopisten. 800–1600. I. Handschriften aus Bibliotheken Großbritanniens* (Vienna 1981); II. *Handschriften aus Bibliotheken Frankreichs* (Vienna 1989); *Scrittura*=G. Cavallo, G. De Gregorio, and M. Maniaci, edd., *Scrittura, libri e testi nelle aree provinciali di Bisanzio* (=Atti del seminario di Erice, 18–25 settembre 1988 [Spoleto 1991]); VG=M. Vogel and V. Gardthausen, *Die griechischen Schreiber des Mittelalters und der Renaissance* (=ZbBibl Beiheft 33 [Leipzig 1909]); *Xéropotamou*=J. Bompaire, *Actes de Xéropotamou. Archives de l'Atchos* III (Paris 1964).

mon by the twelfth century.² No satisfactory treatment, however, has been granted to this marginal stroke as it was used by copyists of Greek manuscripts.³ In this paper I shall catalog the different shapes of marginal hyphens, or, to use E. M. Thompson's phrase, "coupling strokes," (in other languages, *tratto d'unione*, *Verbindungsstrich*, etc.) as Greek scribes used them, along with the earliest instance I have found of each shape. I hope thereby to construct a rough schema that may be helpful for dating manuscripts. I shall also give reasons why I believe that Greek scribes did not borrow the marginal hyphen from Western practice but rather developed it from a much older mark of Greek prosody, the sublinear hyphen, which we know from ancient grammarians and from papyri.

Copyists had long made it a rule to divide words at syllabic breaks when they needed to carry part of a word over to the next line of writing, although they often kept double consonants together in neglect of correct principles of syllabification.⁴ By the twelfth century, they began to place a stroke in the margin to link syllables when a word had been divided by line end. This marginal coupling stroke coexisted alongside the sublinear hyphen in Greek manuscripts into the Renaissance, appearing in diverse forms and positions on the page. Although our focus falls on the marginal hyphen or coupling stroke, it will be necessary to look at the sublinear hyphen as well, for the marginal stroke evolved from it.

² Cf. E. A. Lowe, *The Beneventan Script*² I (Rome 1980) 277f; J. Vezin, "Paléographie et codicologie," *AnnEcPratHEt* IV^e Sect. 110 (1977-78) 590f; B. Bischoff, *Latin Palaeography. Antiquity and the Middle Ages*, tr. D. Cróinín and D. Ganz (Cambridge 1990) 171; P. Saenger, "Coupure et séparation des mots sur le Continent au Moyen Age," in H.-J. Martin and J. Vezin, edd., *Mise en page et mise en texte du livre manuscrit* (Mayenne 1990) 451-55, esp. 453.

³ Sketchy or inaccurate: W. Wattenbach, *Anleitung zur griechischen Palaeographie*² (Leipzig 1877) 35; V. Gardthausen, *Griechische Palaeographie*² II (Leipzig 1913) 407; E. M. Thompson, *Introduction to Greek and Latin Palaeography* (Oxford 1912) 58.

⁴ F. Bast, *Commentatio Palaeographica*, in G. Schaefer, ed., *Gregorii Corinthii ... De Dialectis Linguae graecae* (Leipzig 1811) 859; Wattenbach (*supra* n.3) 35. Occasionally scribes put coupling strokes before γάρ, δέ, τε, etc., as though they were parts of a divided word. Cf. *New York Union Theological Seminary* 69, a Gospels of ca 1340, probably written in southern Italy: ι. 7ν γέγραπται -λυάρ; 54τ συννημένων -ιδέ; etc.

The taxonomy of hyphens outlined below was constructed from examination of almost 800 Greek Mss.⁵ and some 5,000 published plates. The latter included plates of hundreds of papyri and parchment or paper documents. For hyphens in Latin Mss., I relied principally on published studies, but I also inspected a wide range of published plates as well as sixteen Mss., including eight Latin-Greek bilingual codices, and one sixteenth-century Italian Ms. Although early Greek type fonts are a different topic, I did inspect various early printed editions.

Photographs impose limitations, but for the great majority of microfilms, one can determine from the cut of the pen, the darkness of the ink, and the nature of the writing whether the hyphens were written by the hand that wrote the main text. In several films of Ambrosian Mss., for example, it is clear from a comparison of the hyphens with corrections made in the text that a corrector added the hyphens while correcting. Still, in the case of a few Mss. that I could not consult *in situ*, some skepticism must remain about the source of certain marks in their margins.

I divided each Ms. studied into four sections of fifteen or more folia each, spacing them at equal intervals. In this way

⁵ By autopsy, 143 Mss. and three documents in these libraries: Vatican, Biblioteca Nazionale in Naples, Beinecke (Yale), Yale Medical Library, Pierpont Morgan, New York Public, and the libraries of Columbia University, Princeton University, Princeton University Art Museum, Princeton Theological Seminary, and Union Theological Seminary. On film, 640 Mss. from New York Public, Pierpont Morgan, Princeton University, and from four microfilm collections: the Ambrosiana Collection at the the Medieval Institute at the University of Notre Dame (South Bend, Indiana); Knights of Columbus Vatican Film Library at St Louis University; United States Library of Congress, Mss. microfilmed at the Greek Orthodox Patriarchate in Jerusalem and at monasteries at Mt Sinai and on Mt Athos; Plato Microfilm Archive at Yale University. Included in this figure are also microfilms of *Vind. suppl. gr. 7* and *Tüb. Mb 14*, supplied by their owner libraries, and a microfiche of *Messan. gr. 3*, supplied by the Institut de Recherche et d'Histoire des Textes. Finally, I examined eleven facsimile editions.

Of the Mss. discussed here, I have inspected these by autopsy: *Neap. III.E.15, VI.E.43*; *New Haven: Beinecke 139, 251, 424, Marston 94*, and *Yale Medical Library 35*; *New York Columbia: Plimpton 3, 5, 12, Additional 6*, and *Smith Western Additional 10*; *New York Pierpont Morgan 340, 652*; *New York Public Library 59*; *New York Union Theological Seminary 59*; *Princeton: Garret 4, 12, Greek 3*, and *Scheide 70*; *Vaticani: Vat gr. 64, Barb. gr. 541, Ottob. gr. 376, 381, Pal. gr. 232*. I have also worked carefully *in situ* on *Oxon. Bodl. Clarke 39* and *Marc. gr. append. cl. IV.1* during previous studies. I am grateful to Ms Sarah Kozodoy for inspecting *Jerus. Staurou 43* and *Taphou 46, 57* in Jerusalem.

some 120 pages would be scrutinized. For very long Mss. I looked at five sections and inspected the entire MS. when it was relatively short, when numerous scribes had collaborated, or when there was doubt about whether repeated marks were really hyphens. In the case of strokes in the left margin, one needs to examine the pattern of their use throughout the codex to be sure that they are not *paragraphoi*, *obeloi*, or quotation marks.⁶ In addition, because many stray marks appear in the margins of Mss., it is necessary to observe their placement over a range of pages in order to see whether they consistently divide words and cannot owe their presence to some other cause.

The Sublinear Hyphen

We know from inscriptions, from Aristotle and Isocrates, and from early papyri that Greek possessed marks of punctuation before the Alexandrian period, but it is only with the production by Alexandrian scholars of critical texts of poets that we know of systems of punctuation and prosodical marks, *i.e.*, organized patterns of marks placed above, around, or below the letters to assist the reader in making out the sense of the text and in reading it aloud.⁷ To the grammarian Dionysius Thrax (2nd c. B.C.) is attributed a catalogue of ten prosodical marks, among which are the so-called $\pi\acute{\alpha}\theta\eta$: the apostrophe, the

⁶ For this last mark, *cf.* the wavy, horizontal strokes in the right margin of *Glasg. Hunt.* 408 (V.3.6), copied in 899 (RGK I.C 148). In *Ambr.* C 178 inf., copied 1324, a wavy stroke in the left margin indicates a quotation from Scripture, while double apostrophes indicate quotations from Gregory of Nazianzus. On the other hand, a double apostrophe indicates a scriptural quotation in *Ambr.* C 186 inf., copied on the island of Chalce in 1073, and words of Jesus are denoted by a straight stroke in the left margin in *Ambr.* B 56 sup. (*cf.* below on Stage 5). On diacritical marks in margins of papyri, *cf.* K. McNamee, *Sigla and Select Marginalia in Greek Literary Papyri* (= *Papyrologica Bruxellensia* 26 [Brussels 1992]).

⁷ *Cf.* W. Flock, *De graecorum interpunctionibus* (diss. Bonn 1908) 4–9; Thompson (*supra* n.3) 61f; Gardthausen (*supra* n.3) 382–414; R. Pfeiffer, *History of Classical Scholarship* I (Oxford 1968) 178ff; J. Moreau-Maréchal, "Recherches sur la ponctuation," *Scriptorium* 22 (1968) 56–66; E. G. Turner, *Greek Manuscripts of the Ancient World*² (Oxford 1987) 8–13; P. Rafti, "L'Interpunzione nel libro manoscritto: Mezzo secolo di studio," *Scrittura e Civiltà* 12 (1988) 239–98.

(hypo)diastole, and the hyphen, ἡ ὑφέν.⁸ This word, coined from the phrase ὑφ' ἑν ("into one" or "together"), is feminine because it understands προσῳδία as its substantive. The hyphen was used to show the reader that two words normally pronounced separately were to be spoken together as one.⁹ The need for the hyphen, as well as for the diastole, arose from the difficulty of reading *scriptio continua*. Ancient Greek and Latin grammarians repeat the same definition and often the same examples.¹⁰ One cannot prove, however, that a grammarian invented the sublinear hyphen, for scribes may have already used such strokes on their own volition.¹¹



Although the hyphen should be placed most properly beneath words composed of two parts that are themselves complete or virtually complete words (e.g. κελαινεφεῖ, παλιναγρετον, νεφεληγερέτα, etc.), it is frequently used beneath compound numbers or words that bear a prefix: cf. e.g. δυωδεκάτη, πρόπαν, οὐπόποτε, in *Marc. gr.* 454 (s. X), Ms. A of Homer's *Iliad*. In the medieval world, hyphens would often be placed underneath words that do not truly demand them: e.g. Leon of Reggio, who copied *Vat. gr.* 1926 in 1124–25, displays a special love of sublinear hyphens, for in addition to putting them on genuinely compound words, he also uses them with words that have prefixes derived from reduplication (τετέωρος, 65v) or with suffixed words (δεοιμένουσ, 91v; δικαιοσύνης, 99r).

⁸ The πάθη indicate the effect that sounds undergo when they are intoned in the way demanded by the sign; cf. A. Hilgard, *Grammatici Graeci* I.3 (Leipzig 1901) 145. Some grammarians did not include them among the prosodical marks or admitted them only as "improperly so-called"; cf. A. Wouters, *The Grammatical Papyri from Graeco-Roman Egypt. Contributions to the Study of the 'Ars Grammatica' in Antiquity* (Brussels 1979) 190–97.

⁹ ἡ δὲ ὑφέν τίθεται, ὅταν δύο λέξεις ἐν τῷ ἅμα ὀφείλωσι λέγεσθαι, οἷον φιλόθεος ἀρχιστράτηγος, καὶ εἰς τὰ ὅμοια, Dion. Thrax *Epit.*, in G. Uhlig, *Grammatici graeci* I.1 (Leipzig 1883) 113f. On the authenticity of the treatise ascribed to Dionysius Thrax, see now V. Di Benedetto, "At the Origins of Greek Grammar," *Glotta* 68 (1990) 19–39. Several papyri include the hyphen among prosodical marks. Cf. *P.Amh.* 2.21 (cf. A. Wouters [*supra* n.8] 188–97, Pl. VIII) and *P.Oxy.* XLIX 3453–54 (cf. A. Bülow and J. E. G. Whitehorne, *P.Oxy.* XLIX (1982) 95–98).

¹⁰ In addition to citations in the major Greek and Latin lexicons, cf. Gardthausen (*supra* n.3) 410–15, and scholia collected by Hilgard (*supra* n.8) xl, 126, 135f, 145, 147, 149f, 155f, 296f, 443f, 566, 569.

¹¹ F. G. Kenyon, *The Palaeography of Greek Papyri* (Oxford 1899) 31.

Papyri provide the earliest examples of sublinear hyphens, which appear beneath the letters as a straight stroke or a boat-shaped curve.¹² The use of hyphens below the line persists in Mss. up to the time of printed books, although their shapes vary: e.g. in *Par. gr.* 1807 of Plato (=A, s. IX), besides boat-shaped and straight strokes, one finds sublinear hyphens in the shape of rectangles that lack their tops, rather like upside-down paper staples.¹³ In the first printed book in Greek, Constantine Lascaris' grammar (Milan 1476), the symbol of the hyphen given in the list of prosodical marks is , while that found in the 1495 Aldine edition of Theodore Gaza's *Introductiva grammaticae* is .

Over time some scribes show a tendency to elongate hyphens. Many Mss. display boat-shaped hyphens of three letters' width: e.g. *Lond. Arund.* 549 (s. XI; *RGK* I.C 288) and *Ambr.* D 58 sup. (1259). Straight strokes three letters wide appear in *Cant. U.L.* Ii 5.44 of 1279 (*RGK* I.C 327). Enormous boat-shaped hyphens of six or more letters' width are found in the just mentioned *Vat. gr.* 1926, in *Ambr.* M 88 sup. (s. XIII), in the work of the scribe Iohannes (f. 40v), and in *Ambr.* Q 76 sup., copied by Stephanus of the Merkourion in 1288.

The latest Western Ms. in which I have seen sublinear hyphens is *Vat. gr.* 1351, the *De raptu Helenae* of Colluthus, copied in Messina in 1498 by Constantine Lascaris (*CGV* tab. 64). Although the aforementioned Aldine edition of Theodore Gaza contains a few sublinear hyphens in addition to the one that appears as an example in his list of prosodical marks, this sign did not find favor among Western printers. One may suppose that the habit of separating words in the text by leaving distinct spaces, already long established among Ms. copyists, had removed much of the need for the sublinear hyphen and the diastole, and that the inconvenience that such a sign posed to the typesetter drove it from the printed page.

¹² For examples of boat-shaped hyphens, cf. the Bacchylides papyrus, s. I B.C., reproduced in *The Poems of Bacchylides. Facsimile of Papyrus DCCXXXIII* (London 1897) col. 11, 12, and in Kenyon Pl. XIII. The hyphen takes the form of a straight line in the Harris Homer, s. I, reproduced in Thompson (*supra* n.3) 126, and in the list of prosodical marks in *P.Amb.* 2.21.10. It is shaped like a wide V in the list of prosodical marks in *P.Oxy.* XLIX 3454. Cf. also Turner (*supra* n.7) 12, Pl. 14.

¹³ Cf. L. Perria, "Scrittura e ornamentazione nei codici della 'Collezione Filologica'," *RStBizNeoll* 28 (1991) 60 fig. 2.

The sublinear hyphen persisted longer in the Greek world. In *New York Columbia Plimpton Add. 6*, a Ms. of the *Geometrica* of Hero Alexandrinus, copied in Greece or Asia Minor ca 1525, large, sublinear hyphens appear in profusion under words like ἡμικύκλιον, τρίπλευρα, ἰσοσκελές, etc. Sublinear hyphens also appear in *New Haven Beinecke 139*, a Divine Office of s. XV, and in *Beinecke 251*, copied on Mt Athos in 1585. This mark still appears in modern Greek and is called τὸ ὑφέν.

The Marginal Hyphen or Coupling Stroke

It should be clear that the function of the marginal hyphen or coupling stroke is essentially the same as that of the Alexandrian sublinear mark: to join "in one" (ὑφ' ἑν) syllabic units that a reader may not realize are parts of one and the same word. What differs is the mark's shape and position on the page as well as the coupling stroke's use on divided words that are not compounds. Numerous scribes during s. XIII–XIV use both sublinear hyphens *and* marginal coupling strokes. But what I want to argue is that the marginal stroke is an outgrowth of the sublinear hyphen. How it arose from the sublinear hyphen can be seen if we lay out its developmental stages.

Stage 1 comprises the sublinear hyphen discussed above. When the page layout causes the junction of the two parts of a compound word to coincide with the end of a line of writing, the hyphen then appears below the first or the last letter of a line. Were the word in question to fall in the middle of a line, the hyphen would still be placed under the same letters. Although it is occasioned only by chance, I call this position Stage 2, for it represents a step closer to appearance in the margin itself. Examples occur frequently.¹⁴ In the twelfth century, paired sublinear hyphens begin to appear, i.e., a hyphen is placed on a divided word at the end of the line and again at the beginning of the next line. My earliest example is on fol. 123v of *Vat. gr. 1992* of Gregory of Nazianzus, copied in 1104 by Bartolomeo da Simeri: δηλωνότι.¹⁵ Cf. also fol. 191v in Scribe B's

¹⁴ E.g. in Paris A of Plato, most of them boat-shaped (fol. 8r συκο | φάντης and 15r ἐπαντο | φώρωι), a few horizontal (fol. 292r ἀλληλο | φαγίας); *Vat. gr. 1591*, copied in southern Italy 964–65, ὄμο | πατρία; cf. CL Pl. 14.

¹⁵ In this Ms., Bartolomeo places hyphens only under δηλωνότι and τοιγαροῦν. He places sublinear hyphens, however, under a few other words in *Vat. gr. 2021*, copied in 1105: ψυχομαχοῦσα, κοσμοκρατόρων (fol. 81v). On

portion of *Athos Vatopedi* 929, a Gospels and Praxapostolos of s. XII–XIII: ὁμοῦλοπαθεῖς. These paired sublinear hyphens anticipate paired marginal hyphens (*cf.* Stage 5 below).

In Stage 3, the hyphen appears below the line of writing but intrudes into the margin. I have seen only boat-shaped hyphens written in this way. The scribe of Paris A of Plato extends some of his line-end hyphens into the margin, as on fol. 6v ὁ θρασύμαχος, or on 13r ἡμιμόχθηροι, where the hyphen bends up in a little hook on the right. Other early examples are *New York Pierpont Morgan* 652, a deluxe copy of Dioscurides copied *ca* 890, fol. 294v ἕτερογενές; and *Ambr.* B 106 sup. of 966–67, fol. 98v in the scholion: τὸ διατρέχον ὕδωρ. Paired sublinear hyphens are found in *Vat. gr.* 103, copied by Demetrios in 1226, on ff. 163r, ἐνδείκνυται and 203r, ἀπέστρεψε.

It is my theory that end-of-line occurrences of the kind we see in Stages 2 and 3 suggested to scribes the idea of placing a hyphen underneath the last letter of a divided word when the page layout might create confusion, even when the divided word was not a true compound and would not normally carry a hyphen. We can call this Stage 4. (1) John the Calligrapher, the scribe of the Clarke Plato, finished off a word in a tiny, “rump” line at the bottom of fol. 38r and joined these leftover letters to the end of the previous line with a hyphen: καλοῦμεν. (2) A corrector of the *Pierpont Morgan* Dioscurides added on fol. 290r a curved, sublinear hyphen in the margin on εὐτόνωτέραν, which is not a true compound. Apparently, he wanted to show that the line did not end in εὐτόνω. This corrector probably did not work later than the eleventh century, for he supplies square breathing marks. (3) The scribe who wrote *Princeton Scheide* 70, a Gospels (s. XI–XII), found himself at the right margin when he had gotten to the *beta* in πρόβατα (fol. 37v). He completed the word above the line but in the margin, connecting the extra letters to the *beta* with a curved, sublinear hyphen below the first *alpha*.

I have organized Stages 2–4 on formal principles, *i.e.*, as they represent successive steps away from the sublinear hyphen and toward a marginal stroke that marks *any* divided word. Only

Bartolomeo da Simeri, *cf.* most recently *RGK* I.A 33; S. Lucà, “Rossano, il Patir e lo stile rossanese. Note per uno studio codicologico-paleografico e storico-culturale,” *RStBizNeoll* n.s. 22–23 (1985–86) 102ff, and “Attività scrittoria e culturale a Rossano: da S. Nilo a S. Bartolomeo da Simeri,” in *Atti del Congresso Internazionale su S. Nilo di Rossano* (Rossano-Grottaferrata 1989) 25–73.

the advent of paired sublinear hyphens in the twelfth century has been of any chronological significance. With the next codex, however, we come close to the birth of true marginal hyphens. *Jerus. Staurou* 43 is a typikon copied in 1122 by Basileios ὁ Ἀγιοπολίτης, lector and scribe of the Church of the Anastasis in Jerusalem. On f. 3v, Basileios placed a curved, sublinear hyphen in the left margin on the word κοσμοκράτωρ, in the way seen in Stage 3 above. The stroke in the right margin, however, looks like a *virgula* rather than another hyphen (*cf.* PLATE 1). It was made with the same ink and pen as the surrounding letters, but the unique shape of the stroke, as well as the less measured *ductus*, suggest that perhaps Basileios added it for greater clarity after he had already penned the sublinear hyphen on the left. A *virgula* appears in some Latin MSS. as a type of coupling stroke, and the Jerusalemite origin in particular of this Ms. makes one wonder whether Basileios was influenced by Latin examples. We shall return to this question.

When scribes begin to place strokes in the margin halfway up the letters between separated syllables of *any* word, Stage 5 has been reached: the marginal hyphen or pure "coupling stroke." Hyphens tend not to stand any farther out in the margin than one or two letters' width. The earliest example known to me appears on fol. 149r of *Ambr. B 56 sup.*, a Gospel Ms. copied in Campania in 1022.¹⁶ The marginal stroke here, however, was not inserted as part of a system of punctuation, but rather was added to repair the effect of the scribe's initially faulty reading of his model: ... οὐ χι ἡ καρδία ἡμῶν καὶ-λομένη ἦν ἐν ἡμῖν ... *sic*, with the syllable καὶ *in compendio* (Lk 24:32). Realizing that καιομένη really continued on the next line, the scribe added a stroke in the right margin to indicate this (without erasing the grave accent). I have examined the entire codex on film and have found no other marginal coupling strokes (there *are* strokes in the left margin, which mark words of Jesus). This stroke would suggest itself to almost any copyist; no theory of marginal hyphens was as yet being followed, and this example does not signal the birth of a convention of coupling strokes.

¹⁶ *Cf.* S. Lucà, "Scritture e libri della 'Scuola niliana'," in *Scritture* I 352. At the time of this writing, the *codices Ambrosiani* are still locked in a vault, so that it is not now possible to view the Ms. by autopsy. Even from microfilm, however, one can determine from the cut of the pen and the coloration of the ink that the stroke was added by the first scribe. It is the same in all ways as is, for example, the wrongly placed grave accent discussed below.

The first Ms. known to me to display in its margin a boat-shaped hyphen that has risen to the height of the letters without fusing two words to form a compound is a twelfth-century Gospel Ms., *Jerus. Taphou* 46, 239v: ἐπ' αὐ-ιτοφώρω.¹⁷ As a sublinear hyphen would belong underneath the *omicron-phi*, it is clear that the scribe was not trying to write that traditional mark; he was signalling instead that a divided word continued on the next line. Thus, a true coupling stroke has emerged. The Ms. carries one other, a small, straight stroke on f. 5v: δύνα-ιται (cf. PLATE 2).

In the same century, patterns of coupling strokes begin to appear in the margins of a few codices. The earliest dated Ms. in which I have found a pattern of marginal hyphens is *Jerus. Taphou* 57, a collection of patristic writings copied by Gerasimos of the Nea Mone Monastery on Chios ca 1182.¹⁸ In the left margin, in the hand of the first scribe, hyphens appear consistently on proper names: e.g. f. 4r ἀμ-φιλόχιον; 8r οἱ ἀπὸ σευῆ Ι-ρου; 30v πρὸ Ι-κλου· ἐφραΐμ ... etc. The last hyphenated name I have seen in the codex appears on f. 93v πρὸς σοῦ Ι-κενσον, although Gerasimos continues the codex as far as his subscription on f. 287v. As scribes often do, Gerasimos seems to have dropped an element of his system of punctuation as he proceeded through the codex (cf. PLATE 3). Other twelfth-century MSS. with hyphens in the left margin are: *Jerus. Saba* 140, Lives of the Saints, a hyphen about every five folia; *Jerus. Staurou* 47, Discourses of Symeon, a hyphen about every ten folia, all but two on proper names; *Princeton Garrett* 4, a Gospels, a hyphen every five or six folia; *New York Pierpont*

¹⁷ Cf. A. T. Papadopoulos-Kerameus, Ἱεροσολυμιτικὴ βιβλιοθήκη ἤτοι κατάλογος τῶν ἐν ταῖς βιβλιοθήκαις ... ἐλληνικῶν κωδίκων I (St Petersburg 1891) 126. The catalogue's twelfth-century date is consistent with the Ms.'s light brown ink, small accents, mixed styles of breathing marks, degree of evolution from the canon of *Perlschrift*, and the letter forms, all of which find counterparts in Mss. of s. XII or even earlier, although distinctive later forms are absent. The crowding of the lines of writing and the awkwardness of the hand suggest a provincial origin. Sarah Kozodoy reports that the hyphens in this Ms. and in *Jerus. Taphou* 57 mentioned below were made by the first scribes.

¹⁸ See Papadopoulos-Kerameus (*supra* n.17) 138-42; on the scribe, *RGK* I.A 65, II.A 50. The date is deduced from internal evidence, but it cannot be off by much; cf. P. Canart and L. Perria, "Les écritures livresques des xi^e et xii^e siècles," in D. Harlfinger and G. Prato, *Paleografia e codicologia greca* (= *Atti del II Colloquio internazionale, Berlin-Wolfenbüttel 17-21 ottobre 1983* [Alessandria 1991]) 72 n.16.

Morgan 340 (s. XII–XIII), a Gospels, four hyphens in 304 folia (plus one hyphen in the right margin); Scribe C of *Princeton Garrett* 14 (s. XII–XIII, ff. 276–311), Homilies of John Chrysostom, four hyphens; and *Lond. Add.* 37486 (s. XII–XIII), a New Testament copied by Xenophon, hyphens on proper names (*RGK* I.C 334). In addition to *Taphou* 46, hyphens appear in the right margin in the two Gospel folia that constitute *New York Columbia Plimpton* 12, s. XII, all written by the first scribe.

In another group of twelfth-century Mss., hyphens appear in either margin and at other times as 'paired' hyphens in both margins simultaneously on the same word: *Ambr.* E 97 sup., Praxapostolos; *Jerus. Taphou* 43, a Praxapostolos; *Vat. Ottob. gr.* 381, Acts–Epistles–Gospels, dated 1200, with numerous sublinear hyphens that extend into the margin; *Jerus. Saba* 166, a Gospel Ms.; *Saba* 244, likewise a Gospels, which offers in addition sublinear, boat-shaped hyphens that intrude into the right margin to span page breaks, as though sublinear hyphens in the margin perform the same function for compound words as hyphens at the height of the letters perform for other words (e.g. f. 100r καθεύδατε τοῖς λουπὸν and f. 227r μεσοῖνυκτίου).¹⁹

The same theory underlies the habit of Theodore tou Kazanopoulou, who copied an Aristides, *Ambr.* G 66 sup., in 1294. Alongside coupling strokes in the left margin, we find that on divided, compound words, a sublinear stroke at line end is added to the coupling stroke in the left margin. That the line-end position occasions the creation of these paired hyphens is revealed by contrast with the many words formed from two roots that receive no hyphen in mid-line: e.g. f. 117r ἐφιλανθρωπέυσαντο and f. 134r (cf. PLATE 4), where δικαιοσύνη in mid-line lacks sublinear hyphens but receives them when divided at line end. An indication that the marginal coupling stroke is a logical outgrowth of the sublinear hyphen is furnished on f. 15r, where the sublinear hyphen, correctly placed on μεγαλοῦ-ψυχία, not only intrudes into the right margin but turns upward to the height of the letters. The same combination of an upturning, sublinear hyphen on the right with a horizontal coupling stroke on the left occurs in *Ambr.* C 100 sup., a palimpsest of s. XIII.

¹⁹ τὸ λουπὸν not uncommonly receives a sublinear hyphen in Mss. of the eleventh century and later, as do expressions like δῆλον ὅτι, τὸ αὐτό, etc.

The late date of the two latter Mss. means that we cannot use them as a proof that marginal hyphens developed from their sublinear predecessors. What we can say is that the practice seen in these two *Ambrosiani* illustrates the way in which the marginal coupling stroke and the sublinear hyphen perform a kindred function: to join word elements. This intuition provides the theoretical basis, so to speak, for supposing that the former could grow out of the latter. Many scribes, of course, used both marks, as in *Vat. Ottob.* 381 mentioned above.

From this beginning in *s.* XII, hyphens in the margin become more and more common. Of some 183 whole or partial Mss. of the twelfth century that I have examined (including eighteen that could be *s.* XI or XII), I have found twelve to contain some hyphens, or 7%.²⁰ Of 214 thirteenth-century scribal productions (including twenty-three that could be *s.* XII or XIII), fifty-nine, or 27%, contain hyphens. For the next three centuries, data on texts with hyphens total as follows: *s.* XIV, 52 of 114 (46%); *s.* XV, 123 of 176 (70%); *s.* XVI, 89 of 97 (92%). On the other hand, of 120 items from the eleventh century (including twenty-three that could be *s.* X or XI), only *Ambr.* B 56 sup. can possibly be considered a 'hyphenated' Ms., and as we have seen, it contains only one hyphen. I found no examples in thirty-eight pieces from *s.* X (including seven that could be *s.* IX or X), none among seven from *s.* IX, and no examples among one Ms. of *s.* VII–VIII, one of *s.* V–VI, one of *s.* V, and one of *s.* IV–V. I have seen no marginal hyphens in papyri.²¹ Among dated Mss. or Ms. portions, the following proportions of Mss. with hyphens to the total obtained: *s.* IX: 0:1; *s.* X: 0:3; *s.* XI: 1:34 (*Ambr.* B 56 sup.), 3%; *s.* XII: 2:48 (*Taphou* 57, 1182, and *Vat. Ottob. gr.* 381, 1200), 4%; *s.* XIII¹: 0:23, 0%; *s.* XIII²: 9:22, 41%; *s.* XIV¹: 10:26, 38%; *s.* XIV²: 5:10, 50%; *s.* XV¹: 37:52, 71%; *s.* XV²: 52:72, 72%; *s.* XVI¹: 13:16, 81%; *s.* XVI²: 17:17,

²⁰ In compiling these statistics and those following on 'regular' usage of hyphens, I count scribal productions of at least eight folia rather than codices as such, and in the case of Mss. earlier than *s.* XII, of at least fifteen folia, for several hands often are found in one Ms. I have counted multiple hands in this way for ninety-five codices in the total sample of 795 Greek Mss. On the other hand, when volumes of a multi-volume Ms. are given separate numbers but are the work of the same scribe, as e.g. *Ambr.* E 49 inf. and E 50 inf. (*s.* IX), I count them as one item.

²¹ Hyphens in printed editions of papyri are modern printing conventions. Many papyri contain horizontal filler signs to justify the right margin, but these should not be confused with coupling strokes. Cf. e.g. *P.Oxy.* LI 3614.6 (J. R. Rea, ed. [1984] 36 with Pl. V), or *P.Oxy.* L 3557 ([1983] Pl. XIII).

100%. Hyphens thus become more frequent in the second half of the thirteenth century.

The genre of the work copied affects the likelihood that a scribe will use hyphens. Liturgical MSS., whether of prayers or music, virtually never contain them until the sixteenth century, and even late ones like *New York Columbia Plimpton 5* (s. XVIII *med.*) or *New York Public Library 126* (1731 in part) may lack hyphens. The absence of hyphens in the majority of liturgical MSS. may seem strange, for the hyphen would help the lector or cantor to phrase the words aloud, but it is explicable both as a result of the conservatism that ruled the production of this kind of codex and as a consequence of the tendency of the Byzantine chant to build itself upon syllables rather than words. In the case of lectionaries, a lector's familiarity with the traditional pericopes would tend to make hyphenation unnecessary. Lexicons most often limit entries to a single line, so that occasions for hyphens are few.²² Most types of poetry do not contain lines that end in the middle of a word (this never happens, for example, in Homer), and even when lyric meters demand that a line end in mid-word, MSS. often reflect a misapprehension of strophic structure, so that lines are wrongly made too long, with words less often divided. I have found only a few, late instances of hyphens in MSS. from Mt Athos,²³ a fact perhaps explained by the conservatism and isolation of that monastic milieu. On the other hand, among scribes of s. XIII², those who worked on texts of classical prose authors seem more likely to have put frequent hyphens in the margins. Hyphens appear often in MSS. of authors like Aristotle, Simplicius, Aristides, and Plato, which were copied by scholarly hands.

Frequency of Hyphens in the Margin

As we have seen, in the earliest MSS. that display a pattern of hyphens, one hyphen appears about every five to ten folia. Their use may be motivated by the appearance of potentially

²² One lexicon that does have hyphens is *New Haven Beinecke Marston 94*, copied ca 1460 in Verona.

²³ *Athos Esphigm.* 78, copied in 1417 (cf. E. Lamberz, "Die Handschriftenproduktion in den Athosklöstern bis 1453," in *Scrittura* I 65, Taf. XIX); *New Haven Beinecke 251*, copied by Cyrillus in the Monastery of Simopetra in 1585 (with one two-stroke hyphen on p.1330 in a portion copied in 1651 by Joasaph of the same monastery).

puzzling words like proper names (as with *Taphou* 57, *Staurou* 47 [s. XII] and *Ambr.* C 124 sup. [s. XIII]) or words in which the syllables might be misread as words themselves (as with *Ambr.* D 57 sup. [s. XIII], fol. 39r ἔν καὶ ἀντὶ πολλῶν). Often, however, no clear pattern emerges that will explain why the copyist chose to hyphenate some few words and not the others, and this is not surprising, given the centuries-long vagaries of scribal habits of punctuation (cf. Turner [*supra* n.7] 11). It is not useful to attempt to create overly fine distinctions between stages of the relative frequency with which hyphens occur, for the increase in their number is steady but gradual. After 1250 one begins to find several hyphens on a page in certain codices, e.g. *Vat. Reg. gr.* 63, 1259–60; *Par. gr.* 857, 1261 (Omont [1891] Pl. LVI); *Vat. gr.* 64, 1269–70; *Par. gr.* 1115, 1276 (J. Munitiz, *Scriptorium* 36 [1982] Pl. 4); *Patmos* 14, 1280, frequent but not regular hyphens (Komines Pl. 25); *Neap.* III.E.15 (337), Scribe C, s. XIII *p.m.*, frequent in both margins.

When hyphens begin to appear commonly on *all* words divided by line end, their use has become rationalized. This is what I call ‘regular’ employment of hyphens. The earliest example known to me occurs in the authenticated copy, made at the same time as the original, of a chrysobull of Michael VIII Palaeologus, Jan. 1259 (*Archive Iviron* no. 61; cf. J. Lefort *et al.*, *Actes d’Iviron* II [Paris 1990] no. 58, Pls. X–XI), where hyphens appear in the left margin on all divided words. My earliest Ms. with regular hyphenation is *Guelf. 35 Gud. graec.*, fragments of Lives of Thucydides, copied in the last quarter of s. XIII, probably in Constantinople (*GHA* Abb. 10), with hyphens on the left. Other early examples of ‘regular’ hyphens: fol. 2r–3r of *New York Columbia Smith Western Add.* 10, which leaves were copied by George (later Gregory) Chioniades, hyphens on the left (cf. PLATE 5);²⁴ *Par. gr.* 234, section of

²⁴ These leaves contain the end of Chioniades’ discussion of division of sciences (the beginning has fallen out of the Ms.) and his introduction to St John of Damascus. Chioniades’ marginal scholia, which were written at about the same time (the main scribe leaves room for him to construct astronomical diagrams on fol. 112r–115v), contain frequent but not fully regular coupling strokes on the left, as well as sublinear hyphens.

The bulk of the codex contains works of Damascenus and was copied by Symeon Chartophylax, who hyphenates frequently but not consistently on the left. His name appears in a monocondylion on f. 273r. No scribe listed in VG or RGK I–II can safely be identified with him. His subscription on fol. 271v reads μηνὶ σεπτ(εμβρίῳ) ἰν(δικτιῶν)ος ἰ’ ἔτους ζωε (?), i.e., 1296 (not 1297, against D. Pingree, *The Astronomical Works of Gregory Chioniades*,

Scribe A, who collaborated with Romanos Anagnostes in 1318 on Cyprus, hyphens on the right (Constantinides Pl. 40); the second part²⁵ of *Vat. gr. 256*, ca 1321, almost regular paired hyphens with a few singles on the right.

During the fourteenth century, many MSS. display frequent but not regular hyphens, *i.e.*, three to six per page. 'Regular' hyphens do not begin to become common until the Italian Renaissance, and then they rest in the right margin. Single strokes are placed consistently on divided words in *Flor. Ricc. 54*, a copy of Plato's *Protagoras* and *Golden Sayings of Pythagoras* copied in 1405. In the roundness and relative size of its letter forms, the scribe's hand looks like that of a poorly educated Italian rather than a native Greek copyist. Indeed, on f. 58v, where the scribe writes "*dolor.*" in the margin, one can see him forming his Greek and Latin letters with the same movements, so that he appears to be a Westerner. The colophon on fol. 70r seems to indicate that the Ms. was copied in Constantinople,²⁶ perhaps by an amanuensis who had gone there in the service of an Italian collector. Among 176 scribal productions of s. XV that I have examined, twenty-seven display a pattern of regular hyphens (15%),²⁷ and fifty of 97 from s. XVI have regular hyphens (52%). Of 332 scribal productions represented in plates from s. XV (*cf.* Omont [1887], *RGK I-II*, Bernardinello, Harlfinger, and *GHA*), forty-three show a pattern of regular hyphens (13%), and of 283 plates from s. XVI, 117 show regular hyphens (41%). As the fifteenth century advances, marginal hyphens or coupling strokes are employed 'regularly' by more and more scribes. Indeed, discounting eight plates that are not dated more precisely than to the second half of the s. XV, twenty-two of the thirty-nine remaining fifteenth-century plates that show regular hyphens

li: Corpus des Astronomes Byzantines II [Amsterdam 1985] 18). The last numeral is apparently the lower half of a closed, minuscule *epsilon*, the upper half of which has faded in a blot on the page. On the Ms., *cf.* also Pingree's findings as reported by L. G. Westerink, "La profession de foi de Grégoire Chioniadès," *REByz* 38 (1980) 237f.

²⁵ *Cf.* G. Mercati and P. Franchi de' Cavalieri, *Codices Vaticani graeci I: Codices 1-329* (The Vatican 1923) 337; CL Pl. 40.

²⁶ As transcribed by G. Vitelli, "Indice de' codici greci Riccardiani, Magliabechiani e Maruccelliani," *StIt* 2 (1894) 506: "die vi Oct. finivi. 1405. Constan."

²⁷ Some earlier examples are: *Lond. Harl. 5587*, s. XV *init.* (*RGK I* 371); *Vat. gr. 1334*, ca 1420-27 (Harlfinger spec. 10); *Vind. phil. gr. 151*, 1427 (Bick Pl. XXXII); *Par. suppl. gr. 192*, 1439 (*RGK II* 246).

date after 1475. Of twenty dated Mss. of s. XV in whose margins I found regular hyphens, fifteen date from 1465 or later.

Although hyphens become increasingly commonplace, some Mss. even of the sixteenth century and later have no marginal hyphens. Even some Italian scribes totally eschew their use.²⁸ Therefore, the absence of hyphens cannot be used to date a codex. This caution is especially important for anyone inspecting photographs of isolated folia of particular Mss., because hyphens may appear on some leaves but not others.

Shape and Position of the Marginal Hyphen

The marginal hyphen was first formed as a single, horizontal stroke in either margin. This was drawn either as a straight line, as a wavy line resembling a tilde (~), or as a straight or wavy stroke that bends up or down on one end. I have not sought to distinguish these shapes as definite types, for scribes often indulge a desire for variation even on the same page. More useful distinctions are those based on number, position, or angle of strokes, for decorative styles flourish in the fifteenth century and after, many of them importations from Latin Mss. Early and late examples are offered below.

Stage 5A, single stroke in left margin:

Begins s. XII, first regular usage s. XIII *ex. (cf. above)*.

Latest examples: *Vat. gr.* 2139, 1498, by Demetrius Moschus Lacon, f. 25r; *Vind. phil. gr.* 259, 1500, fol. 176v: πολῦ ἰ - ανθρωπία and 176r εἶ ἰ - η by third scribe; *Scor. gr.* Ω.I.1, 1523, regular (Bernardinello tav. 76).

5B, single stroke in right margin:

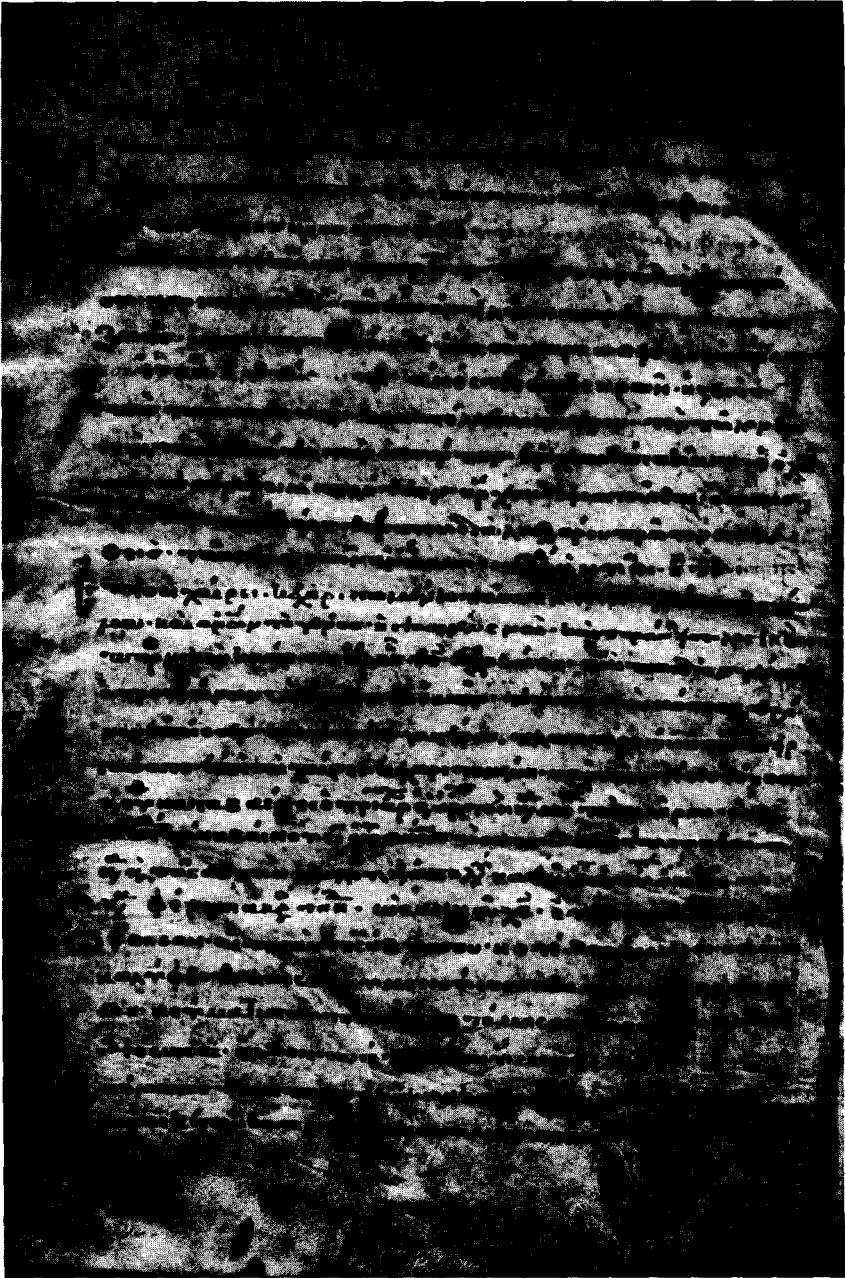
Ambr. 56 sup., 1022, then s. XII to present, *Par. gr.* 234, 1318, first regular usage (*cf. above*), by far the most common type by s. XIV.

5C, paired hyphen, single stroke in each margin:

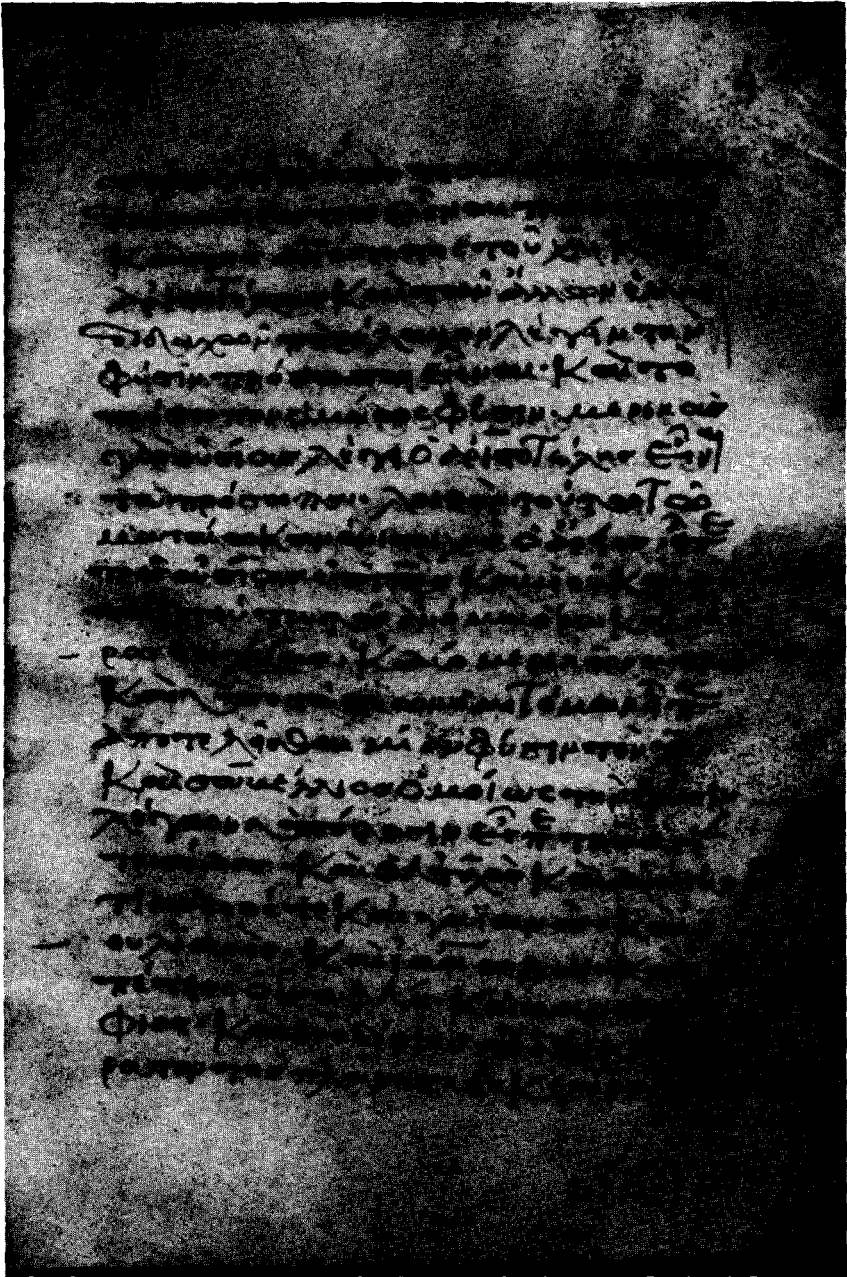
Begins s. XII (*cf. above*); almost regular usage in *Vat. gr.* 256, 1321, Scribe B

Latest examples: *Mut. Esten. gr.* 19 (III A 5), 1519, (Constantinides Pl. 156); *Marc. gr.* 554, 1538 (RGK I.C 173); *New Haven*

²⁸ E.g. Damiano Guidotto, who copied *Columbia Plimpton 3 ca 1500*, as well as other Mss.: *cf.* P. Eleuteri and P. Canart, *Scrittura greca nell'UMANesimo Italiano* (Milan 1991) 89 and Tav. XXX, with bibliography.



MS. *Jerus. Staurov* 43, A.D. 1122, f. 3v
(Courtesy Library of the Greek Orthodox Patriarchate, Jerusalem)



Ms. *Jerus. Taphou 57*, ca A.D. 1182, f. 42r
 (Courtesy Library of the Greek Orthodox Patriarchate, Jerusalem)

[The page contains a dense block of handwritten text in a medieval script, likely Gothic or a similar cursive. The text is arranged in approximately 25 horizontal lines. The ink is dark, and the parchment shows signs of age and wear. The script is highly stylized and difficult to decipher without specialized knowledge of the language and script. The text appears to be a continuous passage, possibly a letter or a section of a larger work. There are some faint markings and bleed-through visible on the right side of the page.]

Ms. Ambrosianus G 66 sup., A.D. 1294, f. 134r
(Courtesy Ambrosiana Collection, University of Notre Dame)

Yale Medical Library 35, 1585, copied by Andrea Darmario, one instance.

5D, horizontal two-stroke on right, like an 'equals' sign (=), in certain documents long before appearing in Mss.:

Archive Xeropotamou 35, Protagma of Andronicus II, October 1295, κατέ= ἴχασθαι (*Xéropotamou* Pl. XXXIII). Also *Xéropotamou* Pls. XLIV–XLV, 1346, and Pl. XLVIII, 1351 (=Dölger 19); *New Haven Beinecke* 424, 1541, by Valeriano Albini da Forli in Venice, two-stroke and single strokes; *Vat. Reg. gr. Pii II* 53, s. XVI², regular usage (RGK I.C 144); *Marc. gr. II.62*, 1600, horizontal and slanted two-stroke hyphens, regular (RGK I.C 11); *Patmos* Mss. of s. XVII–XVIII (Ms. 295, 354, 503, 596, 623, 684, 754, Μαθ. Πατρ. 143; cf. plates in Komines); *Protagma* of John VII Palaeologus, copy made in s. XVIII–XIX (Dölger 45 II [Pl. 45a]).

5E, paired horizontal two-stroke, like paired 'equals' sign:

Vat. gr. 1892, fol. 181v^{im}, s. XVI?; *Vat. Regin. gr.* 121, s. XVI, with other types of hyphens; *Letter of Mathaios Barsarampas*, 21 March 1642 (*Thesaurismata* 15 [1975] Pl. A, letter 3), paired and single hyphens.

5F, slanted single stroke on right (/):

Scor. Y.I.13, Plato, s. XIII⁴, ff. 6r, 8r; *Ambr. R* 50 sup, 1408?: Latin text of Aristotle with Greek around it by same scribe; Latin hyphens complete, Greek sporadic; appears to be slanted on right on 3r, 7v; *Vat. Urb. gr.* 32 and 33, 1444, by Leonardo Aretino; *Par. lat.* 13038, ante 1478, Aulus Gellius of s. XII² with Greek quotations added by Pietro da Montagnana: regular on right in both languages (*Scriptorium* 30 [1976] Pl. 16); *Vat. gr.* 693, 1566 (R. Riedinger, *ByzArch* 12 [1969] Pl. 11); *Oxon. Can.* 52, 1600, regular (RGK I.C 262).

5G, slanted single stroke on left:

Scor. X.I.13, s. XIII–XIV, f. 260r, 264v, plus other styles; *Vat. gr.* 933, s. XIII, f. 313v, 333v (where hyphen runs into first letter).

5H, slanted two-stroke on right, like slanted equals sign, adopted from Latin Mss. (cf. *Vat. Pal. lat.* 330, 1400: many slanted two-strokes on right):

Oxon. Seld. B 45 (40), 1482 (RGK I.C 157); *Oxon. Corpus Christi* 106, 3 May 1495 (R. Barbour, *Greek Literary Hands* [Oxford 1981] Pl. 92); *Cant. U.L. Add.* 4173, s. XVI¹, regular usage (RGK I.C 340); *Lond. Add.* 40755, 1600, faint two-stroke, almost two-dot, regular (RGK I.C 245); *Athen. Meteor.* 217, 1634–35 (Bees, Pl. XXXI); *New York Pierpont Morgan* 656, s.

XVII, Psalter by Matthew of Buzau in Romania: scattered usage, small size, along with two-dot hyphens (*cf.* 5K below).

5I, paired slanted two-stroke:

Marc. gr. II.93 (coll. 562), s. XVI, autograph of Meletios Pigas; ὀνομά// | //ζεται δορκ// | //άδι *etc.* (*Thesaurismata* 16 [1979] Pl. IΘ'); *Archiv. Stat. Ven.* Collegio III, Secreta Lettere Cardinali, Patriarchi, Vescovi b. 2, 15d, letter of Meletios Pigas, 26 September 1590 (*Thesaurismata* 11 [1974] Pl. B).

5J, slanted two-stroke on the right below the line, adopted from Latin humanist hands (*cf.* *New York Publ. Lib.* 59, s. XV *ex.*, Latin translation of Aristotle's *De virtutibus* by Georgius Hermonymus: slanted one-stroke hyphens below the line):

Vat. Pal. gr. 392, 1564 by Andrea Darmario, ff. 82–87, with earlier parts done in s. XVI; both first hand and Darmario use this type.

5K, two dots on the right, like a colon:

Par. gr. 3033, s. XVI *med.*: two-stroke, occasional two-dot, regular usage (*RGK* II.C 227); *Lond. Add.* 37010, s. XVI *ex.*, ἄρ: χειρισκόπου, *etc.*, regular usage (*RGK* I.C 207); *Archiv. Stat. Ven.* Collegio III, Secreta Lettere Cardinali, Patriarchi, Vescovi b. 2, 15d, letter of Meletios Pigas, 26 September 1590 (*cf.* type 5I above); *Princeton Greek* 3, ca 1780, musical Ms. copied by Petros Byzantios Protopsaltes, two-dot, regular usage in titles and rubrics; *Siegelbrief* of February 1791, regular (Dölger 92); *Princeton Garrett* 12, s. XIX *init.*, musical Ms. with two-dot hyphens used regularly in titles and rubrics.

The Genesis of Coupling Strokes

Hyphens in the margin were common already in Latin and Anglo-Saxon Mss. at the time when they begin to be seen in Greek codices. A few Latin scribes prior to s. X² try to show word division by using an occasional *virgula*²⁹ or a high point.³⁰

²⁹ *Vind. lat.* 418, written in Salzburg 785–821, uses horizontal *virgulae*; *cf.* E. A. Lowe, *Codices Latini Antiquiores: A Palaeographical Guide to Latin Manuscripts Prior to the Ninth Century* X (Oxford 1963) 1478 (no examples on the plate, however). Vezin (*supra* n.2: 590) refers to the discussion in *Nouveau traité de diplomatique* of small, upright *virgulae* in *Par. lat.* 1732, s. VIII¹, but the authors of the *Nouveau traité* report (III 478) that the same mark is used in cases when words are not divided, so that it is not clear whether it is a real coupling stroke. This *virgula* came to be called the *virgula iacens*, *i.e.*, horizontal, in discussions of punctuation; *cf.* Vezin 591.

³⁰ *Monac.* CLM 14513, s. VIII–IX (*CLA* IX 1302); Thompson (*supra* n.3) 58.

Straight strokes in the right margin used to divide words are attested by *s. X²* in the British Isles,³¹ and they become general on the Continent by the twelfth century. Horizontal strokes dominate at first,³² but a consistent slant prevails by *s. XII*.³³

Two explanations of the appearance of this mark in Greek MSS. are the most likely: either it developed according to the 'internal logic' of the sublinear hyphen, or it was borrowed from Latin codices in some place where copyists of Greek had access to them. Follieri has posited a link between punctuation marks shaped like a nail, which appear in Greek codices of southern Italy in the tenth to twelfth centuries, and similarly shaped marks in Beneventan MSS.,³⁴ and *Ambr. B 56 sup.*, our earliest MS. to show a coupling stroke, was copied in this same region, viz. Campania. Hyphens in twelfth-century Greek Palestinian MSS. might be taken as witnesses to the influence in that region of Latin scribal habits such as those visible in Queen Melisende's Psalter, which was copied in Jerusalem *ca* 1149 and

³¹ N. R. Ker, *Catalogue of Manuscripts Containing Anglo-Saxon* (Oxford 1957) xxxvf; J. Vezin, "Les manuscrits datés de l'ancien fonds latin de la Bibliothèque Nationale de Paris," *Scriptorium* 19 (1965) 86. Saenger (*supra* n.2) finds the coupling stroke even in Mss. of the eighth century.

³² Cf. e.g. *Oxon. Keble Coll. Ms. 22*, copied at Salisbury in *s. XI²* (M. B. Parkes, "Punctuation, or Pause and Effect," in J. J. Murphy, ed., *Medieval Eloquence. Studies in the Theory and Practice of Medieval Rhetoric* [Berkeley 1978] 141); *Neap. VI.E.43, 1097-99* in Beneventan script, with horizontal or slightly slanted hyphens (inspected by autopsy; cf. E. A. Lowe, *Scriptura Beneventana. Facsimiles of South Italian and Dalmatian Manuscripts from the Sixth to the Fourteenth Century II* [Oxford 1929] Pl. LXXXI); *Vat. Lat. 3833, 1099-1118* (inspected on film; cf. also F. Erhle and P. Liebaert, *Specimina codicum latinorum Vaticanorum²* [Berlin 1932] Pl. 35).

³³ Vezin (*supra* n.31) 86. Early examples of oblique hyphens: *Lond. Cotton Nero A.VII, s. XI ex.* (M. P. Brown, *A Guide to Western Historical Scripts from Antiquity to 1600* [Toronto 1990] Pl. 24); *Bern. Bürgerbibl. 386, s. XI-XII*, with slanted hyphens used regularly in text and scholia (L. Holtz, "La typologie des manuscrits grammaticaux latins," *RevHistText* 7 [1977] Pl. III); *Tol. Catedral Ms. 14-3, 1105* (F. M. Gimeno Blay, "De Scriptura Gothica. Algunos ejemplos a propósito de sus inicios en la península ibérica," *Scriptorium* 47 [1993] Pl. 20). Oblique hyphens rest below the writing line in *Durham, Dean and Chapter Library B.11.22, s. XI ex.* (M. B. Parkes, *Pause and Effect. An Introduction to the History of Punctuation in the West* [Hants 1992] Pl. 53).

³⁴ Cf. E. Follieri, "Attività scrittoria calabrese nei secoli X-XI," in *Calabria bizantina. Tradizione di pietà e tradizione scrittoria nella Calabria greca medievale* (Reggio Calabria 1983) 119-23.

carries such hyphenated words as *femi-| neo sexu*.³⁵ But even in Constantinople, large numbers of Westerners began to make their presence felt as trade and cultural contacts increased in the eleventh and twelfth centuries.³⁶ On the other hand, an occasional Western scribe would write Greek, most often in a Latin Ms., and it is conceivable that Greek-speaking scribes may have come across some of their productions and have gotten the idea of marginal hyphens from them.³⁷ Some Greek Mss. make use of parchment taken from Latin codices, either individual pages that serve as flyleaves³⁸ or even entire MSS. reused as palimpsests,³⁹ and marginal hyphens could have been imitated from examples in these. The same speculation may arise from

³⁵ *Lond. Egerton 1139*, fol. 202v. Cf. H. Buchthal, *Miniature Painting in the Latin Kingdom of Jerusalem* (Oxford 1957) 1–9, Pls. 17b, 18–19; L. A. Hunt, "A Woman's Prayer to St. Sergius in Latin Syria: Interpreting a Thirteenth-Century Icon at Mount Sinai," *ByzModGrSt* 15 (1991) 114f and fig. 18. On the contact between Latins and Greeks in Palestine, cf. R.-J. Lilie, *Byzantium and the Crusader States 1096–1204*, tr. J. C. Morris and J. E. Ridings (Oxford 1993) *passim*, esp. 195–252; A. P. Kazhdan and A. W. Epstein, *Change in Byzantine Culture in the Eleventh and Twelfth Centuries* (Berkeley 1985) 174f.

³⁶ Cf. W. Berschin, *Greek Letters and the Latin Middle Ages. From Jerome to Nicholas of Cusa*, tr. J. C. Frakes (Washington 1988) 201–42; Kazhdan and Epstein (*supra* n.35) *passim*, esp. 181–201. For a case of Greek-Latin collaboration and mutual influence in the late eleventh or early twelfth century, cf. works by N. G. Wilson: "A Mysterious Byzantine Scriptorium: Ioannikios and his Colleagues," *Scrittura e Civiltà* 7 (1983) 162–76; "New Light on Burgundio of Pisa," *StIt* 79 (1986) 113–18; "Ioannikios and Burgundio: A Survey of the Problem," in *Scrittura* II 447–55. Unfortunately, no clear examples of hyphens appear in the plates of the 1983 article.

³⁷ Cf. W. Berschin, "Griechisches in der Domschule von Verona," in *Scrittura* I 221–34, and (*supra* n.36) 37ff. *Oxon. Canon. gr.* 97 was written 1239–43 in Paris, and in *Corpus Christi Coll.* 108 a Western scribe of similar hand copied a medical note using a hyphen: σφακελίζοντες σπασ-μώδη πηδήματα; cf. *Greek Manuscripts in the Bodleian Library: An Exhibition held in connection with the XIIIth International congress of Byzantine Studies* (Oxford 1966) no. 37, Pl. XV.

³⁸ In *Ambr.* C 60 sup. from the early s. XIII, ff. II–III have been taken from a Latin Ms. of about the same age. Cf. also e.g. *Ambr.* C 135 inf., ff. 387f from a Roman Missal of s. XIII, used as backing sheets; *Ambr.* Q 74 sup., ff. 1f, 266f from a Latin breviary of s. XIV–XV

³⁹ E.g. *Ambr.* C 100 sup., a thirteenth-century palimpsest from Calabria written over a Gregorian missal of the previous century. Hyphens appear in the Latin but are lacking in the Greek rescript text.

the production of bilingual codices in southern Italy or even the Greek East.⁴⁰

All the above only argues for the plausibility of borrowing. The only datum that can be taken to support the 'borrowing hypothesis' is fol. 3v of *Staurou* 43 (cf. above on Stage 4B and PLATE 1), for the *virgula* served as a coupling stroke in some Latin Mss. (cf. *supra* n.29). Working as a scribe and lector of the Shrine of the Anastasis, which was then under the control of the Latin Patriarchate, Basileios may have seen Latin Mss. with such marks.⁴¹ The mark on 3v, however, cannot prove that Greek conventions of marginal hyphens in general came from Western models, for Basileios is only one copyist, this mark is the only such in the codex, and it is not formed like the *virgulae* that divide words in Latin Mss.

Against the 'borrowing hypothesis', the location of early hyphens in either or both margins, with a preference for the left, reflects the practices observable in the placement of sublinear hyphens on divided words in Greek codices. It clashes with the Latin habit of placing hyphens on the right.⁴² Second, Greek hyphens before the Renaissance lie parallel to the writing line, be

⁴⁰ Unfortunately for this theory, no example I have seen is much earlier than s. XIII, and my earliest bilingual codex with hyphens in both languages is a humanist Ms., *Ambr. R 50 sup.* (1408?), a Latin translation of Aristotle with the Greek written around it by the same scribe as far as f. 25r. Some bilingual Mss. with hyphens only in the Latin are: *Lond. B. L. Harl.* 5786, 1153 (Lake II, Pl. 141, trilingual); *Oxon. Canon. gr.* 63, a Latin-Greek psalter on Western parchment, s. XIII *init.* (*Gk Mss. ... Bodleian* [*supra* n.37] item 42, Pl. XVIII); *Vat. Pal. gr.* 232, *Adversus Latinos* of Nicholas of Otranto, copied in a crude, Southern Italian hand of s. XIII-XIV, with an adjoining Latin translation composed by the same copyist; *Vat. gr.* 329, copied s. XIII-XIV, probably in Ephesus (G. De Gregorio, "Osservazioni ed ipotesi sulla circolazione del testo di Aristotele tra Occidente e Oriente," in *Scrittura* II, 491), with an occasional hyphen in the Latin of Cato's *Distichs* and Boethius (e.g. f. 64v *pe- lconie*); *Vat. gr.* 760, copied in the Greek East ca 1330-40 (De Gregorio, *tav.* XVI). Romanus, Abbot of St Benedict of Ullano near Cosenza, used no hyphens in either language in *Vat. gr.* 1070 (cf. CGV 80 and tab. 57) and *Vat. Barb. gr.* 541, both of 1291-92.

⁴¹ Although clergy living in the monastery attached to the shrine were Westerners organized under the rule of St Augustine (cf. Buchthal [*supra* n.35] xxx), some lower Greek clergy continued to have ties to the Anastasis and celebrated the liturgy there. Cf. J. Prawer, "Social Classes in the Crusader States: The 'Minorities'," in N. P. Zacour and H. W. Hazard, ed., *A History of the Crusades V: The Impact of the Crusades on the Near East* (Madison 1985) 73-76.

⁴² A small number of Latin and Anglo-Saxon Mss. prior to s. XII have 'paired' hyphens. Cf. Vezin (*supra* n.31) 86; Ker (*supra* n.31) xxxvi.

they straight, wavy, or upturned on one end, although Latin hyphens in *s.* XII and later tend to be written as oblique strokes. Of course, different conventional practices do not of themselves prove different sources.⁴³ But the weight of convention is considerable. An example of how a copyist could keep Greek and Latin practices distinct is provided by *Vat. Pal. gr.* 232 (*cf. supra* n.40), whose scribe uses sublinear hyphens only in the Greek, and marginal coupling strokes only in his Latin translation. Unless more evidence emerges to show that Greek scribes did derive the marginal hyphen from their Latin cousins, it seems prudent not to press this admittedly tantalizing hypothesis. And it is not yet possible to establish where Greek scribes first began to use coupling strokes, although a Palestinian connection is worth tracing.

Only with the appearance in the Renaissance of Italians who wrote Greek, or of Greeks who copied for Italian patrons, do we find distinctive Latin hyphen types beginning to surface in Greek Mss. (*cf. supra* Stages 5E–J). These *are* cases of direct influence. And however much it looks as though the marginal hyphen was created when certain Greek scribes moved the sublinear hyphen into one of the margins (*cf. supra* Stages 3–4), the increased hyphenation after 1250 may have been abetted by Latin influences that had spread after the capture of Constantinople.⁴⁴

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⁴³ R. Marichal has shown that the *diple* was placed in the left margin in certain Greek papyri from Herculaneum but within or at the end of the line in the Latin *P. Hercul.* 817; *cf.* "De l'usage de la 'diple' dans les inscriptions et les manuscrits latins," in *Palaeographica Diplomatica et Archivistica. Studi in onore di Giulio Battelli* (Rome 1979) I 63–69, esp. 67.

⁴⁴ I wish to thank the staff of the many libraries where I worked for their forbearance and ever patient assistance. I would like to thank also the Nightingale-Bamford School for its generous support of my research through a summer stipend. Finally, I am grateful to Nigel G. Wilson and Francis Newton for their suggestions and criticism. Naturally, any faults in this paper are my sole responsibility. Earlier versions of this paper were presented at meetings of the Classical Association of the Atlantic States in Princeton, April 1993, the Saint Louis Conference on Manuscript Studies, October 1995, and the American Philological Association in San Diego, December 1995.