For Use in Schools: Prosodical Marks in Two Pre-Palaeologan Manuscripts of Pindar

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WO OF OUR OLDEST and most important manuscripts of Pindar are *Vat.gr.* 1312 (B) of ca. 1180 and *Gotting. philol.* 29 (G) of the mid- to late 13th century. Both employ prosodical marks, the longum (–) and breve (–), to mark vowels of potentially ambiguous quantity (alpha, iota, upsilon) and various metrical licences. The phenomenon, which was observed by Irigoin but left unexamined ever since, is of interest for the following reasons:

(1) the date of the manuscripts: while scholars were taking new interest in metre from the early 12th century on, when Isaac Tzetzes composed a treatise on Pindaric verse, the study of the subject remained sporadic until Demetrius Triclinius, at the beginning of the 14th century, raised it to a level unknown since antiquity; consequently, prosodical annotation in pre-Triclinian manuscripts is very rare, and I do not know of a parallel for such extensive use of it as in B and G.³

- ¹ Nigel Wilson (private communication) advocates a somewhat later date than J. Irigoin, *Histoire du texte de Pindare* (Paris 1952) 172, on the basis of palaeographical comparison with dated manuscripts from the last quarter of the 13th century. See 765–766 below.
- ² Irigoin, *Histoire* 159–160 (B), 173–174 (G), and *Les scholies métriques de Pindare* (Paris 1958) 73.
- ³ Donald Mastronarde has kindly informed me that the Euripides codices *Laur.plut.* 31.10 (O, ca. 1160) and *Marc.gr.* 471 (M, 11th century) carry occasional longa, and not only in the triad plays. The script of M resembles that of e.g. *Par.suppl.gr.* 469A (A.D. 986), *Patmos gr.* 138 (A.D. 988), and *Petropol.gr.* 64 (A.D. 994), which suggests that the manuscript is to be placed earlier

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- (2) the fact that in both codices most signs were evidently applied by the main scribe (who in G also acted as rubricator): this suggests that they already belonged to the respective exemplars and were copied along with the text and scholia and such aids to the reader as strophic markings.
- (3) the care taken over the annotation: to judge by their quantity, it does not seem that the scribe of B missed many of the marks he *ex hypothesi* found in his exemplar; in G the vast majority of signs are written in the bright purple ink of the rubricator—no reader can overlook them.
- (4) the signs of continuous use both manuscripts exhibit: in B several later hands have added glosses, lost text, and the occasional quantity mark, and most of this also is true of G; moreover, the pages of G have become severely damaged, especially around the bottom edges, as from regular turning.

It is not difficult to deduce what type of book the two manuscripts represent: they are scholarly copies, valued for their content rather than their appearance. Since prosodical markings are a well-known feature of ancient school texts on papyrus and Pindar was part of the advanced literary curriculum in antiquity and Byzantine times, it is likely that B and G were produced for the use of schoolmasters and passed on in learned circles over several centuries. In that case they would be two rare examples of such texts surviving from the Greek Middle Ages, which could yield valuable information about the level of metrical knowledge before Triclinius and the way in which Pindar, and perhaps other verse texts, were taught in Byzantium.

To substantiate this argument, several strands need to be brought together. I will begin with a brief account of the textual tradition of Pindar's *Epinicians* and the place B and G occupy in it. This is followed by a diachronic survey of prosodical annotation (including the Triclinian system, which is illuminating in retrospect) before the use of quantity marks in B and G is analysed in detail and the findings placed in their historical and cultural context.

rather than later in the 11th century.

The textual history of Pindar's Epinicians

Pindar's works were edited in Alexandria in seventeen books, four of *Epinicians* and thirteen others, which have been partly retrieved from papyri. The Mertens-Pack database currently lists 56 papyri associated with Pindar, including separate commentaries and one dubious entry.⁵ As to their dates, the number of fragments from the *Epinicians* roughly equals that of other poems until the third century A.D.; subsequently we find only the *Epinicians*, with the latest papyri coming from the fifth century. A similar picture emerges from the indirect tradition, in which quotations of non-epinician odes peter out in the late second century A.D.6 A major reason for this development was probably the adoption of Pindar's Epinicians as a school text sometime during that period.⁷ From the fourth century we have direct witnesses stating that Pindar followed Homer in the syllabus alongside Menander, Euripides, and others. The philosopher and rhetorician Themistius affectionately mentions the θ iasos of great poets that metaphorically attended the school of his late father;8 and there is also the story how, after the emperor Julian banned Christians from receiving a classical education, Apollinaris the Elder of Laodicea and his more famous son of the same name strove to replace the canon with

⁴ Viz. one book each of *Hymns*, *Paeans*, *Encomia*, and *Threnoi*, two of *Dithyrambs*, *Prosodia*, and *Hyporchemata*, and three of *Partheneia*.

 $^{^5}$ This is MP³ no. 01378.000 → 01763.200 (P.Louvre inv. E 7734r + 7733r = Pind. fr. dub. 333 Sn.-M.). MP³ no. 01384.000 has been transferred to Bacchylides as no. 00177.300 (*P.Oxy*. XXIII 2364 + XXXII pp. 160–162).

⁶ Cf. Irigoin, *Histoire* 94–96.

⁷ First U. von Wilamowitz-Moellendorff, *Einleitung in die attische Tragödie* (Berlin 1889) 179, 184–186. I do not, however, agree with his enduring theory that an individual was responsible for the selection of the school texts. More probably the choice of authors and texts commonly read gradually narrowed: see A. Fries, *Pseudo-Euripides, Rhesus* (Berlin/Boston 2014) 43, on Euripides.

⁸ Them. Or. 20 (289.22–24 Dind. = II 8.3–5 Schenkl-Downey-Norman).

biblical equivalents, including an epic version of the Old Testament (in 24 books) and odes on the model of Pindar.⁹

What prompted the choice of the *Epinicians* over the rest of Pindar's oeuvre is a matter for speculation. Perhaps Eustathius' statement that they "are most of all in circulation because they are more human in character, sparing in myth and otherwise too not entirely unclear" can be transferred to late antiquity. ¹⁰ Scholars have also pointed to the frequent *gnomai* and pieces of general advice, and the fact that the crown games, except maybe the Nemeans, were celebrated until at least the late fourth century A.D. ¹¹ In any case, inclusion in the syllabus ensured the survival of the *Epinicians* into the medieval tradition, accompanied by a rich corpus of old scholia.

Like most Byzantine school authors, Pindar exists in numerous manuscripts, although none predates the late 12th century. The tradition is essentially split in two: the so-called Ambrosian branch is represented by a single codex, *Ambr*. C 222 inf. (A), which Carlo Mazzucchi recently redated from ca. 1280 to the 1180s, so that it becomes a contemporary of B.¹² The second branch divides further into a family which transmits all four books of *Epinicians* (although only the heavily contaminated *Laur*. 32.52 (D) of the early 14th century now comes close to completeness) and one which comprises only the *Olympians* and *Pythians*. Our B is a mutilated exponent of the 'complete recension', G probably the oldest representative of the 'abbreviated' one.¹³

⁹ Socr. HE 3.6, Soz. HE 5.18. Cf. N. G. Wilson, Scholars of Byzantium² (London 1996) 10.

¹⁰ Eust. *Prooem. in Pind.* 34 (III 303.9–11 Drachmann): οἱ καὶ περιάγονται μάλιστα διὰ τὸ ἀνθρωπικώτεροι εἶναι καὶ ὀλιγόμυθοι καὶ μηδὲ πάνυ ἔχειν ἀσαφῶς κατά γε τὰ ἄλλα.

¹¹ Wilamowitz, Einleitung 184; cf. Irigoin, Histoire 96–97.

¹² C. M. Mazzucchi, "Ambrosianus C 222 inf. (Graecus 886): Il codice e il suo autore," Aevum 77 (2003) 263–275, and 79 (2004) 411–440.

¹³ See Irigoin's elaborate stemma (*Histoire*, between pp.430 and 431).

Codices B and G

A physical description of the two manuscripts is required here because this underpins my initial conclusions about their purpose and because their present condition has been a major obstacle in my choice of sample texts and the study of the prosodical marks.¹⁴

B is written in medium to dark brown ink on brownish oriental paper with an original page size of 24 × 20 cm. The codex, now mutilated, comprises 282 folia in two volumes, which contain the better part of *Olympian* 1 to *Isthmian* 8. The paper is thin and in bad condition: in parts the ink has been rubbed off or has eaten through the leaf to the point that little of the text remains legible. But even on good pages the script on the reverse side often shines through and can be difficult to distinguish from diacritics like longa and brevia.

The main text and scholia are all in the same fairly neat hand. The scribe made few mistakes in reproducing the traditional colometry and took exceptional care to make the commentary follow Pindar's poetry, with the result that the arrangement of text varies greatly from page to page. This and the fact that the scholia show signs of simplification and philological correction support the idea that B was produced for a schoolmaster or scholar primarily interested in a good and readable text with an up-to-date commentary.

G is likewise written in medium to dark brown ink on oriental paper, with 183 folia of 26×17 cm. It contains the *Olympians* and *Pythians*, followed by the first three *Nemeans*

¹⁴ I have examined B from the facsimile of its *Olympian* part (*Pindare Olympiques. Réproduction du Vaticanus Graecus 1312 (fol. 1–95), avec une introduction de Jean Irigoin* [Vatican City 1974]) and G from autopsy in 2014. The Göttingen University Library rarely makes the manuscript available because of its bad state of conservation, but on request they produce excellent digital images, and an old set of microfiches can also be consulted. For further details see Irigoin, *Histoire* 157–165 (B), 170–176 (G), and also *Pindare Olympiques* 5–14 (B). He only saw a microfilm of G (cf. *Histoire* 170) and so does not comment on its rubrication.

(added later from a different source) and Nicander's *Theriaca* and *Alexipharmaca*. The manuscript is extremely fragile. The edges of the leaves are frayed, especially towards the beginning of the book, where *Olympian* 1 was replaced completely, probably in the early 16th century, from a vulgate of the day. A large damp stain in the middle, running through approximately two thirds of the codex, has partly obliterated the original script, but someone has restored the most illegible parts in black ink. The colour as well as the hand closely resemble those of *Olympian* 1, and it is tempting to assume that the same person was responsible for both in one big effort of repair.

The principal script is careful and regular, and again a single-column text of varying proportions is surrounded by the scholia. G also has rubrication, but apart from a few wavy bands to separate portions of text, it is for visual clarity rather than ornamentation. Items added in purple include titles, initials, strophic indications, reference letters to the scholia, most of the quantity marks, and occasional interlinear glosses, which allow us to indentify the rubricator with the first hand. Again it is hard to avoid the conclusion that G is a fine scholar's or schoolmaster's copy, which was used and looked after across more than two centuries.

Prosodical annotation

The prosodical annotation in B and G is part of a long tradition. It goes back to antiquity where the term $\pi\rho\sigma\phi\delta$ ia (originally 'song sung to instrumental accompaniment') came to refer to all parts of grammar to do with pronunciation (i.e. accentuation, quantity, breathings) and also to the symbols used to indicate these phenomena. ¹⁶

¹⁵ Both didactic poems were authoritative on their subjects in Byzantium. In our manuscript, however, several blocks of text appear in the wrong order, presumably because the poems were copied from an exemplar where the quires had become disarranged. One wonders how readers reacted to this obstacle.

 16 LSJ s.v. προσφδία. Cf. Choerob. In Dion. Thr. (GG I.3 124.26–32 Hilgard).

The quantity marks – and \sim are first found on papyri of the second century B.C. and become increasingly frequent from the first century A.D. on, both in scholarly texts and in luxury copies.¹⁷ However, there is an important difference between ancient and Byzantine prosodical annotation. In papyri "[l]onga and brevia invariably denote the quantity of the vowel, not that of the syllable (so their employment is virtually confined to ... $\alpha \iota \upsilon$)"; ¹⁸ in other words, they were not for metrical scansion, but to distinguish homographs in uncial script and to mark rare and/or difficult words, such as dialect forms in lyric (especially the 'Doric' alpha). 19 The loss of vowellength distinction in spoken Greek also played a role. This process, which began in Egypt in the third century B.C. and was more or less complete in all dialects, except Attic, in the second century A.D., does much to explain not only the growing number of marked-up papyri, but also the gradual inclusion of prose texts, especially oratorical works (suitable for declamation training at schools of rhetoric) and philological commentaries on archaic poetry.²⁰

External evidence supports the idea that correct pronuncia-

¹⁷ See E. G. Turner and P. J. Parsons, *Greek Manuscripts of the Ancient World*² (London 1987) 12. Poetic papyri with prosody marks include *P.Oxy*. X 1231 = *Bodl. Gr.Class.* c.76 (P): Sappho; *P.Louvre* E 3320: Alcman *Partheneion*; *P.Oxy*. V 841 = BL Inv. 1842: Pindar *Paeans*; *Bodl. Gr.Class.* a.1 (P): Homer *Iliad* 1.506–507, *Iliad* 2 ('Hawara Homer').

¹⁸ M. W. Haslam, *The Oxyrhynchus Papyri* XLVII (London 1980) p.27.

¹⁹ Cf. J. Giessler, *Prosodische Zeichen in den antiken Handschriften griechischer Lyriker* (diss. Gießen 1923) 5, 8, 11, 27–28; D. Colomo, "Quantity Marks in Greek Prose Texts on Papyrus," in G. Nocchi Macedo and M. C. Scappaticcio (eds.), *Signes dans les textes, textes sur les signes* (Liège 2017) 97–125, at 97–98, 108–109.

²⁰ Respective examples are *P.Oxy.* LXII 4321 (Dem. 4.47–51), heavily equipped with lectional signs by a second hand, and *P.Oxy.* VIII 1086 (*Hypomnema* to *Il.* 2). See Colomo, in *Signes dans les textes* 98–100, 104 (description), 108–118 (evaluation), and on *P.Oxy.* LXII 4321 also P. J. Parsons, "Homer: Papyri and Performance," in G. Bastianini and A. Casanova (eds.), *I papiri omerici* (Florence 2012) 17–27, at 25–26.

tion according to principles defunct in every-day speech was a topic of education. So, for example, the Technê Grammatikê attributed to Dionysius Thrax, which became the basic textbook in the Byzantine era, begins by dividing grammar into six parts, of which the first is "accurate reading according to prosody" (πρῶτον ἀνάγνωσις ἐντριβης κατὰ προσφδίαν, Dion. Thr. 1 [GG I.1 5.4–5 Uhlig = 42.4 Lallot]); and the following section on reading (2, περὶ ἀναγνώσεως) includes the remark that the attention paid to prosody shows the skill of the reader (ἐκ δὲ τῆς προσφδίας τὴν τέχνην ... ὁρῶμεν [GG Ι.1 6.7-8 Uhlig = 42.4–5 Lallot]). The foremost concern of Dionysius Thrax was primary instruction, but at the more advanced level one can add that the Atticists of the second and third centuries also issued prescriptions on pronunciation.²¹ It would be interesting to know what exactly people aspired to in reading poetry and whether contemporary treatises on metre, such as Hephaestion's Encheiridion, had any practical effect.

Pronunciation and graphic ambiguity continued to be a concern in Byzantine times.²² But we do not have the same number of prosodically annotated manuscripts as from antiquity; in fact I am not aware of any before the probably early-11th-century codex *Marc.gr.* 471 (M) of Euripides (cf. n.3 above). Yet this hardly presents the correct picture. It must be the case that early annotated school editions have not survived, for indirect sources attest the use of quantity marks. George Choeroboscus, in his commentary on the *Canons* of Theodosius (another standard grammar in Byzantium), advises against placing longa and brevia on any but the ambiguous vowels alpha, iota, and

²¹ See C. Vessella, "Atticist Lexica and the Pronunciation of Greek," *CHS Research Bulletin* 3.1 (2014) at http://www.chs-fellows.org/2015/05/01/ atticist-lexica-and-the-pronunciation-of-greek/ (paper and video), and "Reconstructing Phonologies of Ancient Languages: The Case of Late-Greek $<\eta>$," *RSO* 84 (2011/2) 257−271, esp. 267−269; also Colomo, in *Signes dans les textes* 110−111.

²² The iota subscript did not become regular before the 12th century and only solved the problem of distinguishing between 'proper' and 'improper' alpha + iota diphthongs (i.e. $\bar{\alpha}\iota$ [= α] as against $\check{\alpha}\iota$).

upsilon (*GG* IV.1 118.5–11 Hilgard).²³ This still reflects the ancient practice of marking the quantity of vowels rather than syllables (in prose as well as verse, presumably); and as far as general education goes, Choeroboscus indeed considered metre as of limited importance, as is evident from a statement in his commentary on Hephaestion's *Encheiridion* (180.16–18 Consbruch):

χρήσιμον δέ έστι τὸ παρὸν σύγγραμμα οὐ πᾶσιν, ἀλλὰ τοῖς ἔμμετρα ποιήσουσι βιβλία, οὐ γὰρ ῥήτορσιν ἢ ἁπλῶς τοῖς τῆ πεζῆ φράσει κεχρημένοις.

The present treatise is not useful for everyone, but (only) for those who are going to write books in verse; not for rhetoricians or those who simply use prose.²⁴

If Choeroboscus regarded metre as specialist knowledge rather than an essential part of literary education, he may have responded to as well as assisted the decline of metrical studies in the 8th and 9th centuries, although from the 8th century we still have evidence for the teaching of the main stichic verses;²⁵ and even a 10th-century secondary schoolmaster—the so-called 'Anonymous Professor', whose collection of 122 letters survives in a single manuscript (*BL Add.* 36749)—could ask his pupils to compose iambic trimeters in honour of a prominent citizen, who was himself 'the writer of many beautiful iambics' ('Anon. Prof.' *Ep.* 94 [83.5–8 Markopoulos]).

²³ Cf. Wilson, Scholars of Byzantium 71–72.

²⁴ Similarly Choerob. *In Heph.* 182.4–20 Consbruch, where he denies that metre should be studied before all the other elements of poetic texts. On this and the following see Wilson, *Scholars of Byzantium* 72–73.

²⁵ Ignatius *Vita Tarasii* 423 Heikel (*Acta Soc. Scient. Fenn.* 17 [1891] 391–439): οὐ γὰρ ἐπιλήσομαι τῆς σῆς εἰς ἐμὲ διδασκαλίας τὸ χρήσιμον ... τῆς μὲν ἐντρυφήσας ἐν ἀκμῆ τῆς νεότητος καὶ μυηθεὶς ἔκ σου τριμέτρων καὶ τετραμέτρων τροχαικῶν τε καὶ ἀναπαιστικῶν καὶ ἡρώων ποιημάτων τὰ κράτιστα ("For I will not forget the teaching you gave me in terms of its usefulness ... the teaching, when I revelled in the height of my youth and was initiated by you into the most important aspects of [iambic] trimeters, trochaic and anapaestic tetrameters and heroic verse").

It was probably with something like that in mind that Stephanus, a commentator on Dionysius Thrax usually dated to the 7th century, advocated metrical instruction at the elementary level (*GG* I.3 204.25–28 Uhlig):

φασί τινες οὐ καλῶς ἐν εἰσαγωγικῆ τέχνη περὶ μέτρων γράψαι τὸν Διονύσιον· τὸ γὰρ περὶ συλλαβῶν περὶ μέτρων ἐστίν. εὖ δὲ πεποίηκεν ὁ τεχνικός, ὡς ἂν ἀπὸ τῆς πρώτης ἡλικίας συνήθειαν ἔχοιεν οἱ παῖδες ποδίζειν τοὺς στίχους.

Some say that Dionysius did not well to write about metrics in an introductory textbook; for the study of syllables is part of metrics. But the grammarian has done the right thing, so that children get used to scanning the verses from the youngest age.

The important point is that Stephanus speaks about metrical scansion, not $\pi\rho\sigma\omega\delta$ ία in the ancient sense. The passage stems from his commentary on the section Περὶ $\sigma\upsilon\lambda\lambda\alpha\beta$ ῆς (Dion. Thr. 7), which deals with the quantity of syllables in essentially the same way we still do today. Presumably, therefore, Stephanus used the prosodical signs not only to mark ambiguous vowels, but also to point out metrical licences like 'epic' correption and the variable effects of *muta cum liquida*, of which the ancients and some learned Byzantines were aware.

Such 'modern' prosodical annotation is what we find in the Pindar manuscripts B and G. They will have been influenced by the first Byzantine renaissance in metrical studies, which in the early 12th century had already produced the verse treatise on Pindaric metre by Isaac Tzetzes (†1138). His composition largely depends on Hephaestion and the ancient metrical scholia to Pindar, but he also made some competent corrections and added his own analysis of *Olympian* 1, which in his text

 26 On the quantity of syllables cf. especially Heph. 3.3–8.9 Consbruch, who distinguishes (1) correption, (2) short vowels followed by *muta cum liquida*, and (3) word-final short vowels lengthened for reasons no longer understood (e.g. *Il.* 14.421 μέγ $\bar{\alpha}$ (ϵ)ἰάχοντας, prolonged original digamma making position) or indeed just metrical licence (e.g. *Od.* 10.109 ἀλλὰ τά γ' ἄσπαρτ $\bar{\alpha}$ καὶ ἀνήροτα πάντα φύονται, where the penthemimeral caesura may help).

lacked the relevant scholia. Both these tasks required the ability to scan, and he may have covered his personal copy with longa and brevia in the style of B and G (some of his analyses are peculiar, but he certainly possessed the basic skill).²⁷ Two centuries later Demetrius Triclinius (ca. 1280–1335) built on the inherited system. In the preface with which he introduces all his final editions of the three tragedians, Aristophanes, and Pindar he explicitly states that quantity marks should qualify syllables, not individual letters.²⁸ He also invented two new symbols to distinguish whether an ambiguous syllable was to be scanned as short (L) or long (¬),²⁹ a theoretical complication that did not catch on.

Prosody marks in B and G

I now come to the prosodical annotation in B and G. Since studying the manuscripts in their entirety seemed not only impractical, but also unnecessary in order to gain reliable results, I concentrate on two odes, *Olympians* 6 and 13. Both are of sufficient length (five triads each), fully preserved and reasonably legible in both codices, and composed in different metres (*Ol.* 6 is pure dactylo-epitrite, *Ol.* 13 a mixture of aeolo-iambic and dactylo-epitrite). However, as the annotation of these poems is somewhat sparing in G, I occasionally add information from other odes, mainly *Pythian* 1, which again consists of five triads (in pure dactylo-epitrite) and, owing presumably to its popularity, is amply supplied with prosody marks.

As I analyse the use of longa and brevia in B and G, I will illustrate each category with salient examples, printed with exactly the marks they carry in the manuscripts. The two tables

²⁷ See in detail Irigoin, Les scholies métriques 57–72.

²⁸ Tricl. *Praef.* 41.18–42.4 Abel. His reason (not entirely precise) is that letters taken by themselves do not have a particular quantitative value, while syllables do.

²⁹ Praef. 42.10–23 Abel. Following Hephaestion (n.26 above), he defines an "ambiguous syllable" (κοινή) as either involving muta cum liquida or being word-final (and, by implication, subject to some metrical licence).

in the Appendix can be consulted for an immediate overview and the complete evidence for the odes under consideration.

1. Longum

(a) Naturally long αιυ

As in the papyri, the longum is most frequently employed in B and G to designate naturally long alpha (mainly the 'Doric' alpha), iota, and upsilon: e.g. Ol. 6.2 θαητόν, 6.7 \bar{i} μερταῖς, 13.28 εὕθ \bar{v} νε (B), and 6.26 ταύτ $\bar{\alpha}$ ν (G).

This category includes the dative singular of a-stem nouns, which could be marked simply because it usually appears in the 'Doric' form: e.g. $Ol.~13.82 \ A\theta \ alpha v \ alpha \ alp$

Sometimes the annotation is inconsistent. Thus B has $\Pi\bar{\upsilon}\theta\hat{\omega}\nu\dot{\alpha}\delta$ ' at Ol. 6.37, but in 6.48 $\Pi\upsilon\theta\hat{\omega}\nu\sigma\zeta$ the upsilon remains unmarked; and one cannot argue that it was deemed sufficient to establish the quantity of the vowel once because the same manuscript offers, for example, $\Sigma\tau\upsilon\mu\phi\bar{\alpha}\lambda$ - at both Ol. 6.84 and 6.99.31

Finally, some vowels are wrongly marked as long, more often

30 The regularly written accents of minuscule script should have been of some use in determining grammatical forms. Educated Byzantines were probably able to distinguish visually between e.g. dative singular Ἀθάναι and nominative plural Ἀθᾶναι (cf. John Philop. *Praec.Ton.* 18 [8.13–17 Xenis] on οἴκοι vs. οἶκοι and ποιῆσαι vs. ποιήσαι) and both visually and aurally between e.g. ἀγκύραι and ἄγκυραι (the latter in Ol. 6.101, 761 below). But a word written as δίκαι would, in terms of the accent, have looked and sounded identical in the dative singular and nominative plural, and in any case quantity marks may have been considered more immediately helpful in an educational context.

³¹ There is a general tendency to mark arguably less familiar proper names. Note also *Ol.* 6.93 Ἱέρων, 13.52 Σἶσυφον, 13.106 Ἐνῦαλίῳ (all B), and 13.29 ἐκ Πἴσας (G).

in G: e.g. Ol. 6.91 σκυτ $\bar{\alpha}$ λα, 13.105 γενέθλ $\bar{\imath}$ ος. In the latter case the mark is not written in purple, but in the brownish colour of the main script, a phenomenon which has many parallels in G^{32} and which again suggests that the prosodical signs were copied (763 below).

(b) Metrical lengthening

B, unlike G, also indicates metrical lengthening. Two instances are particularly noteworthy: Ol. 6.71 Ἰαμιδαν has to be contrasted with the corresponding 6.43 "Ĭauoc, where the iota carries a breve. Short iota is etymologically correct (< "iov, 'violet'), but since Ἰαμιδαν is one syllable longer than Ἰαμος, it begins a position earlier, where the dactylo-epitrite rhythm requires a long. Schol. Ol. 6.71/121 (I 180.14–15 Drachmann) remarks "Ἰαμιδαν is lengthened because of strophic responsion" (ἐκτεταμένον τὸ Ἰαμιδᾶν διὰ τὸ ἀντίστροφον), and it is conceivable that this is why the quantity mark was applied, especially if A (Ambr. C 222 inf.) can now be assigned to the same environment as B.33 The second example is Ol. 13.92 'Ολύμπω, which is unanimously spelt with initial omicron before Manuel Moschopoulos, who changed it to Οὐλύμπω. Whether or not this is a case of very early mis-transliteration (Pindar's alphabet would have had only the letter-form O for both omega and omicron), it was noticed that the metre demanded a long syllable.

(c) Muta cum liquida making position

Both B and (more rarely) G note places where *muta cum liquida* makes position. In addition to 'simple' cases like *Ol.* 6.21 ἐπῖτρέψοντι and 13.27 ἀβλαβῆ, B also has *Ol.* 6.60 λαοξτρόφον,

³² Cf. for longa e.g. Ol. 13.14 ὕμμῖ δέ, 13.30 πενταξθλφ, 13.98 ἐν Νεμέᾳ, and for brevia e.g. Ol. 6.13 Ὁϊκλείδαν (sic), 13.20 μέτρα (sic), 13.40 ἀμφιάλοισι. All will be discussed in their respective categories.

³³ In the light of Mazzucchi's redating of A to the 1180s (n.12 above) it may be worth looking to see whether there is any contamination. On the other hand, there is at least one case where the metrical annotator of B (or one of its ancestors) did not pay attention even to the scholia in the same codex (see 762 below).

which bears not only a longum, but also another lectional sign known from papyri but fairly rare in medieval manuscripts: the $\dot{\nu}\varphi$ ' έν (> 'hyphen'), a curve below the line to mark a word as a compound.³⁴ Synapheia is observed at e.g. Ol. 13.10 ματέρα θρασύμυθον (which also exhibits the ubiquitous indication of 'Doric' alpha), whereas an untypical mistake occurs at Ol. 13.69 πατρί. There the alpha needs to be short, although it is possible that the annotator was confused by the resolved 'epitrite' rhythm (E | e - ~e - | | | |), where the first syllable of πατρί occupies the second half of the double short.

In G the odes under consideration (including *Pythian* 1) only yield Ol. 13.30 πενταέθλω, which actually must be scanned with synizesis (πενταέθλω). G also sometimes places a longum over short vowels that are long by position in the ordinary way (e.g. Ol. 13.98 ἐν Νεμέ $\bar{\alpha}$, Pyth. 1.66 ἄνθησεν). As in other cases, I have not been able to detect an underlying principle here, nor have I found instances of this in B.

(d) Final $v \in (\rho)$ making position

A subtler prosodical rule is likewise observed in B. In epic, elegy, Pindar, and Bacchylides final nu, sigma, and rho can make position by being slightly protracted in pronunciation. The man who annotated B (or one of its ancestors) marked several such cases, if not always appropriately by modern standards. At Ol. 6.28 σάμερον έλθειν he was right; at 6.48 ἐκ Πυθῶνος, ἄπαντας and 6.63 ἐς χῶρον ἴμεν he was not. But while the former is impossible to justify, the latter is correct insofar as the verse position requires a long syllable. What the annotator did not know, or guess himself, is that Pindar must have written χώραν, which is transmitted by A and as a supra-

³⁴ In B also e.g. Ol. 6.91 ἀγαφθέγκτων, 13.5 ἀγλαόκουρον, 13.50 παλαιγόνων. Choerob. *In Dion. Thr.* (GG I.3 125.32–126.14 Hilgard) adds the ὑφ' ἕν (as well as the apostrophe and the hypodiastolê, a kind of comma separating two words that could be taken together in scriptura continua) to his list of more common prosodical signs (n.16 above). See further Wilson, Scholars of Byzantium 72.

³⁵ See M. L. West, Greek Metre (Oxford 1982) 16.

script correction in G and L (Vat.gr. 902).³⁶

This 'rule of protraction' is also sometimes applied to syllables that are properly brevis in longo at period end, but in the traditional colometry had come to stand in the middle of a line. So Ol. 6.33/4 βρέφος || ος ἀνδρῶν (strophe/antistrophe), 6.104/5 πόσῖς || Ἀμφιτρίτας (epode), and 13.60/1 τοῖσι μέν || ἐξεύχετε ~ 13.83/4 κτῆσῖν (κτίσιν Mosch.) || ἤτοι (strophe/antistrophe).³⁷ More often, however, a short in these positions is overlooked, while at Ol. 13.106/7 Παρνασσία || ἕξ (but not at the corresponding 13.98/9 μοι || ἔξορκος)³⁹ 'epic' correption is wrongly indicated at the hiatus (cf. 761 below). There is no explanation for these inconsistencies, though it is worth remembering that the colometries had become partially corrupt and strophic responsion was not understood.

(e) In place of ephelcystic v

- ³⁶ The reading is also found in manuscripts influenced by Moschopoulos and Triclinius, which Turyn subsumed under the siglum 'Byz.'
- 37 See also Irigoin, $\it Histoire~160~(B),~174~(G),~with~further~examples~from~other~odes.$
- 38 Ol. 6.68/9 πατρί θ' || ἑορτάν (θ' (δ' A) del. Hermann) $\sim 6.75/6$ δρόμον || ἐλαυνόντεσσιν $\sim 6.89/90$ ἀλαθέσι || λόγοις (where an ephelcystic ν is missing; see below); 13.14/5 ὤπασαν || ἄκραις.
- 39 Nor at Ol . 13.42/3 ἀοιδαί· \parallel ὅσσα (epode) and 6.12/3 δίκα \parallel ἀπό \sim 6.54/5 ἀπειράντω (ἀπειρίτω Heyne) \parallel ἴων (strophe/antistrophe).
- ⁴⁰ Irigoin, *Histoire* 160, refutes the claim of A. Turyn (*De codicibus Pindaricis* [Cracow 1932] 35) that some corrections in B were metrically motivated. Cf. Irigoin, *Histoire* 173, on G, and *Les scholies métriques* 72, on the lack of modification in the metrical scholia of B (and, by implication, G).
- ⁴¹ See Irigoin, *Histoire* 160 (B), 174 (G), with further examples. As usual, not all relevant places are marked up in either B or G.

nu was one of Triclinius' favourite metrical remedies, it seems strange that the same measure did not also occur to his two predecessors.

2. Breve

The breve can be discussed more briefly, although its presence in our manuscripts has not been commented on before, except that Irigoin observed the addition of several short marks by a later hand in B.⁴² I will refer to this scribe as B² and propose to identify him with one of the secondary correctors and commentators whose work is evident throughout the codex. A specific candidate could be the probably midto late-14th-century hand which wrote, for example, the correction $\kappa \acute{\alpha} \tau \alpha$ (sic) for $\kappa \alpha \theta$ at Ol. 13.112–113 (fol. 92^v) and which perhaps also added the missing two syllables to $Ol \acute{\alpha} \iota \acute{\alpha} \sim at Ol$. 6.26 (fol. 35^r).⁴³

In addition, B exhibits numerous brevia by the first hand, which differ from B² mainly in the width of the pen-stroke. Isolated short marks also appear in G, often very faint and not written in purple, but apparently all by the principal scribe.⁴⁴ Overall the breve signifies three phenomena, two of which have direct equivalents in the use of the longum.

(a) Naturally short αιυ

In both B and G the breve is applied to naturally short alpha, iota, and upsilon: e.g. Ol. 13.11 κἄλά (B²); 13.29 ἐκ Πίσας, 13.40 ἀμφιάλοισῖ (G). The prosodical competence of B is particularly visible in Ol. 6.43 Ἦσις as against the metrically

⁴² Irigoin, *Pindare Olympiques* 10 n.20.

⁴³ The decision is largely based on ductus, which is very hard to judge in such small words and diacritics. But Nigel Wilson assured me that the identification is possible; and the 14th-century date would fit the Palaeologan interest in metre. The scheme of a glyconic drawn in the top margin of fol. 28^r could also be by the same person. There were not too many metricians, after all.

⁴⁴ Given that Irigoin had to work from a black-and-white microfilm (cf. n. 14 above), where images do not come out well because of the condition of the manuscript, one cannot blame him for not discovering these signs.

lengthened $\frac{1}{1}$ αμιδαν at 6.71 (757 above) and in Ol. 6.24 $\frac{1}{1}$ κωμαι (cf. 10.93 $\frac{1}{1}$ κηται) as against 6.48 $\frac{1}{1}$ κετ', where the initial iota conceals the temporal augment.

G shows isolated cases of brevia marking the nominative plural of a-stem nouns, such as Ol. 6.101 δύ' ἄγκυραϊ and Pyth. 1.18 ταϊ. In the second example the sign is placed on top of the alpha, as it would have been in papyri, to indicate that only the vowel, not the whole diphthong, is short; in the first it actually sits between the alpha and the iota. By analogy with the longum applied to the corresponding dative singular (756 above), this suggests that the annotation goes back to the time when the iota adscript would have made it harder to distinguish between the two forms.

(b) Muta cum liquida not making position

Another use of the breve that B and G have in common is the annotation of places where muta cum liquida does not make position: so e.g. Ol. 6.27 δέξαντος χρή, 13.12 εὐθεῖὰ γλῶσσαν (B²), 7.35 τέχναισι(ν) (B), 6.13 Ὁϊκλείδαν, 13.20 μέτρα (G). Here G presents a graphic peculiarity in that the prosodical sign is put on top of the consonant cluster, not the preceding short vowel as one would expect (and as B has it). Incidentally, Ol. 6.13 Ὁϊκλείδαν is a mistake. The patronymic needs to be scanned trisyllabically (Οἰκλείδαν), but an annotator faced with the trema, and lacking actual metrical knowledge, could easily be misled.

(c) 'Epic' correption

In recognising the more advanced prosodical licence of 'epic' correption, B (represented by both B and B²) again stands alone. In addition to straightforward, and correct, instances like Ol . 6.6 φύγοι ὕμνον, 6.9 Σωστράτου υίος (B), 13.113 ἢ ὡς (B²), we also find specimens of 'creative' dealing with a wrong text or colometry. At Ol . 13.106/7 Παρνασσία $\mathbb I$ ἕξ the final alpha of Παρνασσία is long by nature, and the hiatus indicates period end. But as medieval metricians did not know of periods and the word boundary stands in the middle of an ancient colon, it seems reasonable that B found epic correption here, although he ignored it elsewhere (cf. 759 above).

As for erroneous text, B reads καλά τοῖ φράσαι at *Ol.* 13.11, instead of καλά τε φράσαι in all other manuscripts and indeed the lemma in the B-scholia (I 359.6 Drachmann). Yet it did not occur to the scribe to alter the text, despite realising that the particle occupied a short position. He simply applied a breve to τοι, which here could not be short by any metrical licence. Whether he actually thought of correption in the diphthong or of φρ- as *muta cum liquida* not making position is impossible to tell—and irrelevant. But this is the most striking misapplication of a quantity mark I have found so far.

Evaluation and conclusion

The time has come to interpret the results of this investigation and to place the manuscripts B and G in their historical and cultural context.

It is evident that the prosodical annotation is much more extensive and sophisticated in B than in G. The two codices actually share very few individual markings (e.g. Ol. 6.89 $å\lambda\bar{\alpha}\theta\dot{\epsilon}\sigma\iota$, 13.14 $\mathring{\nu}\mu\mu\bar{\iota}$ $\delta\dot{\epsilon}$), which precludes any direct relationship. At the same time there are extraordinary lapses and inconsistencies: far from all instances in any given category are indicated in either B or G; and one need only compare B's brilliant recognition of metrically lengthened $\mathring{\iota}\alpha\mu\iota\delta\hat{\alpha}\nu$ at Ol. 6.71, or its ingenious (if wrong) application of protracted - ν at 6.63 $\mathring{\epsilon}\varsigma$ $\chi\hat{\omega}\rho\bar{\delta}\nu$ $\mathring{\iota}\mu\epsilon\nu$, with the seemingly arbitrary shortening of $\tau\bar{\delta}\iota$ before $\phi\rho\hat{\alpha}\sigma\alpha\iota$ at Ol. 13.11, to see the wavering competence of the annotator.

While Byzantine metricians cannot be measured by modern standards, it is hard to avoid the conclusion that no systematic metrical analysis was intended in B or G. In that case, the signs would have been applied far more regularly, both within the odes and across the corpus, and one should also find some metrical corrections based on the old scholia or at least the treatise of Isaac Tzetzes.

On the other hand, all the evidence is consistent with the

⁴⁵ Cf. Irigoin, *Histoire* 173.

idea that, as in antiquity, the mark-up was for guidance in the rhythmical reading aloud of Pindar's odes, most probably in an educational environment. In line with grammarians like Stephanus, the commentator on Dionysius Thrax (754 above), it expands on the ancient custom of noting merely ambiguous vowels; yet it lacks the complications of the Triclinian system, which are of use only to the advanced metrical theorist (755 above). Of the few extant pre-Palaeologan manuscripts with prosody marks B and G are the most extensively annotated; yet they are unlikely to have been alone among Pindaric codices.

The fact that two only distantly related codices display the same rare feature is itself an indication of an underlying tradition, however slim. Another argument lies in the possible origin of the quantity marks in B and G. Apart from some brevia in B, all appear to be by the respective main scribes, and while it is conceivable that they were original to these manuscripts, two factors rather suggest that they are older. First, the occasional differentiation between the dative singular and nominative plural of a-stem nouns makes more sense if these forms are spelled with an iota adscript (756 and 761 above). Neither B nor G has this, but their exemplar or a somewhat more distant ancestor probably did, given the rarity of the iota subscript before the 12th century (n.22 above). Secondly, the best explanation for the presence of brown as well as purple prosody marks in G seems to be that the former were inadvertently copied along with the main text, whereas the latter were inserted later, together with the other lectional aids in purple.

As for the date of these presumed ancestors, I would hesitate go much further back than 1150, not only because B is usually placed around 1180, but also because we do not have any evidence for serious interest in metrics between the middle of the 10th and the beginning of the 12th century. Even if we think only of prosodical reading, the annotation in B at least required a theoretical basis.

⁴⁶ Viz. the 'Anonymous Professor' and Isaac Tzetzes respectively.

But how do the the extant manuscripts fit into the time of their production? Here B is easier to deal with, but G is potentially more interesting. Isaac Tzetzes was not the only Byzantine scholar in the 12th century who was interested in Pindar. From a little closer to the date of B we have the *Preface to Pindar* by Eustathius (ca. 1115–1195), a lengthy introduction to a proposed commentary on the *Epinicians*. Nigel Wilson's theory that Eustathius "gave classes on Pindar, for which he used a quantity of material collected in note form, but [which] was never worked up into the same form as the Homer commentaries" is appealing, as it would allow us to connect the *Preface*'s two statements on the effect of Pindar's poetry *when heard* with an educational milieu:

Eust. Prooem. in Pind. 9 (III 289.8–12 Drachmann)

καὶ ὡς ἱλαρύνει μὲν ἀκοὴν οἶς καὶ ξυνετὰ λαλεῖ καὶ πρὸς γλύκασμα, ἐκπλήττει δ' αὖθις οἷς καὶ τὴν φράσιν κατὰ πολυτροπίαν στρυφνοῖ ἑτέρωθι, καὶ λέξεις δὲ τὰς ἐκ τριόδων ἀπορρίπτων παρεμπλέκει που καὶ ὰς ὁ τὴν ἀρχὴν ἀκούσας πάνυ ἐπαπορεῖ·

And that he pleases the sense of hearing of those for whom he speaks intelligibly and sweetly, but in turn astounds those for whom elsewhere he makes his speech harsh with his versatility, and rejecting colloquial language, he also in places interweaves words which he who has heard the beginning doubts entirely.

Prooem. in Pind. 15 (III 291.9–11 Drachmann)

καὶ ἡ καινότης δὲ τῶν διαλέκτων, δι' ἦς καινοφραδής ἐστι καὶ ἀλλόκοτος εἰς ἀκοήν, ἡ τοῦ βιβλίου δηλώσει ἀνάγνωσις.

And the novelty of the dialects, on account of which he is innovative and unusual to the sense of hearing, will be revealed by the reading of the book.

With "the book" in the second passage Eustathius meant his own work, which illustrates and, to a degree, analyses Pindar's use of dialectic forms. But their first impression is on the ear, and one is tempted to speculate that the "novelty of the dialects" would be even more obvious if the words were pro-

⁴⁷ Wilson, Scholars of Byzantium 203.

nounced with something approaching their original rhythm. A learned and aspiring 12th-century secondary schoolmaster may have tried to impart this to his students by reading out the poems aloud himself and asking the class to repeat what they have heard and perhaps to commit it to memory.⁴⁸ For him a copy of Pindar like B would have been the ideal textbook—and a precious possession to look after and pass on to a successor.

G shows even stronger signs of coming from such a practical background. Its annotation is less ambitious but, like the other aids to the reader, it stands out clearly, even in dimmer light, by its bright purple colour. There is also a noticeable variation in the number of quantity marks between individual odes. Olympian 13 has fewer than Olympian 6, and not even strophic indications; but this cannot be due to its position later in the book, as if the scribe became bored with adding lectional signs, because Pythian 11, for example, is as well equipped as Pythian 1, and both are better equipped than the two Olympians. Most probably, therefore, popular poems were more fully annotated: Pythian 11 is short and treats the well-known myth of the House of Atreus, while Pythian 1 has always been one of the most widely-read Epinicians, to judge by the number of allusions and quotations starting in the 5th century B.C. Such economy again fits best into a pedagogical context.⁴⁹

The dating of G is significant too. If the manuscript is located in the middle of the 13th century, as by Irigoin (n.1 above), it would be a product of the politically and economically difficult times following the fall of Constantinople to the Crusaders in

⁴⁸ Given the cost of books, this was the ordinary Byzantine way of teaching reading skills. Cf. H. Hunger, *Schreiben und Lesen in Byzanz. Die byzantinische Buchkultur* (Munich 1989) 76–77; A. Markopoulos, "Education," in E. Jeffreys et al. (eds.), *The Oxford Handbook of Byzantine Studies* (Oxford 2008) 785–795, at 788.

⁴⁹ Colomo, in *Signes dans les textes* 116, suggests that the heavy prosodical annotation found in some papyrus fragments did not necessarily extend to the entire roll either. Teachers or students probably marked up individual passages for practice in the classroom.

1204, or the first few years after the return of the Greeks to their capital in 1261. There is evidence for the continuation of scholarship and higher education especially in the Nicaean Empire,⁵⁰ but one may still be surprised to find such a carefully prepared and annotated copy of Pindar from this period.

If, on the other hand, the book is somewhat later, as Nigel Wilson believes (n.1 above), it would join two other Pindar manuscripts, Vat.gr. 121 (T, ca. 1280) and Vindob. suppl.gr. 64 (Vi, ca. 1260–1280).⁵¹ Both contain essentially the same selection as G (Olympians and Pythians, and Nemeans 1-2 in T), which probably reflects a narrowing of the school syllabus comparable to the 'triads' of the three tragedians and Aristophanes. But while T looks fairly ordinary, Vi could hardly be more interesting. It is a palimpsest, with Pindar covering a 10th-century sticherarion. The originally high-quality parchment shows signs of heavy wear even before it was re-used: many of the edges are darkened, and there are numerous holes and cuttings, as well as illuminations that could only partially be removed. It was not therefore the best palimpsest parchment, but the text and scholia of Pindar are written over and around these blemishes with great care, which includes minute attention paid to the ephelcystic nu and additional punctuation intended to facilitate reading,⁵² though no prosody marks. All this suggests a school book, produced during a period of restoration, when good writing material was difficult to acquire, but texts for elemen-

⁵⁰ See Wilson, Scholars of Byzantium 219–225.

⁵¹ Descriptions in Irigoin, *Histoire* 212–216 (T), 216–219 (Vi), and digital images at http://digi.vatlib.it/view/MSS_Vat.gr.121 (T) and via https://www.onb.ac.at/digitale-bibliothek-kataloge/ (Vi). In addition to Pindar, T offers three other ancient texts read in Byzantine schools (Dionysius Periegetes, Hesiod *Works and Days*, Aratus *Phaenomena*); Vi (my siglum) contains additional scholia by a certain Germanos and has been identified by Irigoin as the exemplar of two Pindar manuscripts commonly quoted in critical apparatuses, *Vindob.hist.gr.* 130 (U) and *Par.gr.* 2403 (V). I examined Vi by autopsy in 2016.

⁵² E.g. the comma at *Pyth*. 1.33–34: ναυσιφορήτοις δ' ἀνδράσι πρώτα χάρις / ἐς πλόον ἀρχομένοις<,> πομπαῖον ἐλθεῖν οὖρον.

tary and higher education were in such demand that people were willing to sacrifice copies of Christian literature.⁵³ G demonstrates this desire for learning in its own way.

To sum up: the Pindar manuscripts B and G testify to a living interest in ancient Greek verse rhythm in the 12th and 13th centuries. With their system of marking the quantity of syllables, which differs little from the one still employed today. they stand between the ancient practice of noting ambiguous vowels and the specialist studies of Demetrius Triclinius, and thus add an important link to the broken chain of evidence that connects earlier metrical scholarship with that of the Palaeologan renaissance. In addition, the codices allow us a precious glimpse into Byzantine higher education if, as external sources and relevant papyrus fragments suggest, the purpose of the prosodical annotation was to help the teacher and/or students to read Pindar aloud in a 'proper' fashion. For lack of similarly equipped manuscripts, it is hard to tell how widespread this practice was, but we have probably lost a considerable number of books primarily intended for the use in schools. Our manuscripts are lucky survivors. B went through the hands of several other scholars (including at least one with metrical interests, viz. B2) before around 1500 it came to Italy, where it was owned by Pietro Bembo and Fulvio Orsini and eventually came to the Vatican as part of the latter's library.⁵⁴ G was almost literally read to pieces and restored again during the

⁵³ The practice is amply documented by E. Gamillscheg, "Zur handschriftlichen Überlieferung byzantinischer Schulbücher," *JÖB* 26 (1977) 211–230. On Vi as a school text see 211 n.5: "Wegen der reichhaltigen Scholien kann vermutet werden, daß auch dieser Codex für den Unterricht verwendet wurde." Parallels for classical authors are *Laur. GS* 152 (A.D. 1282), which contains the Sophoclean triad (*Ajax, Oedipus Rex, Electra*) and *Philoctetes* with scholia on top of two prophetologia (Gamillscheg 214 with n. 21), and *Wrocław Rehdiger* 26 (ca. 1270), an illustrated Homer written over patristic texts (N. G. Wilson, *Gnomon* 89 [2017] 173–174 [review of Capone, *Circolazione di testi*]). Both these manuscripts are from Apulia, which indicates that the economic crisis of the time was not restricted to the eastern empire.

⁵⁴ See Irigoin, *Histoire* 159, and, in greater detail, *Pindare Olympiques* 16–18.

first three centuries of its existence. In 1774 the Göttingen University Library bought it from the extensive book collection of Johann Nadler, late privy councillor to the Duke of Sachsen-Coburg, but I do not know where he acquired it, nor where it had been before. Further research into the history of this fascinating manuscript may prove fruitful.⁵⁵

APPENDIX: TABLES

1. Longum

Vat.gr. 1312 (B)	Gotting.philol. 29 (G)
Ναturally long α ι υ: ΟΙ. 6.2 θᾶητόν, 7 ἶμερταῖς, 12 Ἄγησία, 37 Πῦθῶνάδ', 38 ἀτλᾶτου, 39 φοινῖκόκροκον, 40 κῦανέας, 42 πρᾶΰμητιν, 47 κᾶδομένοι, 48 ῗκετ', 49 γεγᾶκειν, 52 μᾶνυε, 64 ᾶλίβατον, 78 κᾶρυκα, 84 Στυμφᾶλίς, 86 πἶομαῖ, 89 ἀλᾶθέσι, 91 κρᾶτήρ, 93 σκᾶπτφ, 94 φοινῖκόπεζαν, 99 Στυμφᾶλίων	Naturally long α ι υ: Ol. 6.12 δίκᾳ, 13 Οϊκλειδάν, 18 δεσπότᾳ, 26 ταύτᾶν, 28 σάμερον, 38 ταύτᾶς πάθᾶς, 39 ζώνᾶν καταθηκαμένᾶ, 44 κνιζομένᾶ, 56 κατεφάμιξε, 59 Δάλου θεοδμάτας, 60 τιμάν, 63 φάμας, 76 μορφάν, 77 Κυλλάνᾶς, 82 ἀκόνᾶς, 85 πλάξιππον Θήβᾶν, 88 "Ηρᾶν, 89 ἀλαθέσι, 91 σκυτάλα (falso), 105 Ἀμφιτρίτᾶς
Ol. 13.2 ἄμερον, 4 τάν, 7 Εἰρήνα, 10 ματέρα (θρ-), 14 Άλάτα, νικαφόρον, 28 εὔθῦνε, 31 θνατός, 36 αἴγλα, 37 τιμάν, 38 Ἀθάναισι,	Ol. 13.98 Νεμέᾳ, 105 γενέθλῖος (falso)

⁵⁵ A version of this paper was presented at the Oxford Classical Languages and Literature Sub-Faculty Seminar "The Greek Book from Antiquity to 1515," organised by Enrico Emanuele Prodi and Nigel Wilson in autumn 2015. I am particularly grateful to Nigel Wilson for his regular supply of expert guidance and the long-term loan of his facsimile of B. Daniela Colomo, Simon Hornblower, Donald Mastronarde, Peter Parsons, and Philomen Probert also helped me by providing relevant information and/or literature, while Angus Bowie improved the written presentation in several places. Finally, I thank the staff in the manuscript and rare books departments of the Niedersächsische Staats- und Universitätsbibliothek, Göttingen, and the Österreichische Nationalbibliothek, Vienna, for their courteous efficiency.

45 μᾶν, 46 ψᾶφων, 50 γαρύων, 52 Σἶσυφον, 53 τάν, αὐτῷ, 54 ναῖ, 59 Ἑλέναν, 61 Πειράνας, ἀρχάν, 62 κλαρον, 64 Πάγασον, 65 κούρα, 67 φώνασε, 69 ἀργάεντα, 70 ὄρφνα, 75 τελευτάν, 81 Γαιαόχω, 82 Άθάνα, 83 τάν, καὶ [τὰν] παρ', κούφαν, 84 Βελλεροφόντας, 95 καρτὖνειν, 97 ἔβαν, 98 ἀλαθής, 100 άδύγλωσσος βοὰ κάρυκος, 104 μᾶν, 106 Ένῦαλίω, 109 Πέλλανα, 110 α, 111 Αἴτνας, 112 α, 115 τύχαν	
Metrical lengthening: ΟΙ. 6.57 ἄθάνατον, 71 Ἰαμιδᾶν ΟΙ. 13.43 ἄριστεύσατε, 92 Ὁλύμπφ (Οὐλ- Mosch.)	
Μυτα cum liquida making position: Οl. 6.21 ἐπῖτρέψοντι, 60 λαδτρόφον Οl. 13.3 θεράποντᾶ, γνώσομαι, 10 μᾶτέρᾶ θρασύμυθον, 27 ἆβλαβῆ, 69 πᾶτρί (falso)	Muta cum liquida making position: Ol. 13.30 πενταξθλφ (actually πενταξθλφ)
	Short vowel long by position: <i>Ol.</i> 13.98 εν Νεμέᾳ Cf. e.g. <i>Pyth</i> . 1.66 ἄνθησεν
Final v ς (ρ) making position: Ol. 6.28 σάμερον ἐλθεῖν, 33/4 βρέφος ὅς, 48 ἐκ Πυθῶνος, ἄπαντας (falso), 63 ἐς χῶρον ἴμεν (χώραν AG²L², recte), 104/5 πόσῖς Ἄμφιτρίτας Ol. 13.60/1 τοῖσι μἔν ἐξεύχετε, 83/4 κτῆσῖν (κτίσιν Mosch.) ἤτοι	
In place of ephelcystic v:	In place of ephelcystic v:

$Ol. 6.16$ τοιοῦτό τι ἔπος $Ol. 13.14$ ὅμμ $\bar{\iota}$ δέ, 75 δε $\hat{\iota}$ ξ $\bar{\xi}$ τε $Ol. 13.14$ ὅμμ $\bar{\iota}$ δέ $Cf. e.g. Pyth. 2.29 ὧρσ\bar{\epsilon}· τάχα$	$Ol. 6.16$ τοιοῦτ $\overline{0}$ τι ἔπος $Ol. 13.14$ ὅμμ $\overline{1}$ δέ, 75 δε $\overline{1}$ ξ $\overline{6}$ τε	Ol. 13.14 ὔμμῖ δέ Cf. e.g. Pyth. 2.29 ὧρσε· τάχα
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2. Breve

Vat.gr. 1312 (B)	Gotting.philol. 29 (G)
Naturally short α ι υ: Ol. 6.24 ἴκωμαι, 43 ἤαμος, 93 Ἰέρων Ol. 13.11 κἄλά (Β²), 31 ἄνήρ (Β²?), 45 κἄλῶν (Β²)	Naturally short α ι υ: Ol. 6.101 δύ' ἄγκυραϊ (cf. Pyth. 1.18 τἄί), Ol. 13.29 ἐκ Πἴσας, 40 ἀμφιάλοισϊ, 66 αὐτίκἄ
 Muta cum liquida not making position: Ol. 6.27 δέξαντὄ· χρή (B²) Ol. 13.12 εὐθεῖἄ γλῶσσαν (B²) Cf. Ol. 7.35 τἔχναισι(ν) 	Muta cum liquida not making position: Ol. 6.13 Ὁ ικλείδαν (actually Ο ικλείδαν) Ol. 13.20 μέτρα
'Epic' correption: Ol. 6.6 φύγοι ὕμνον, 9 Σωστράτοῦ υἰός, 65 οἱ ἄπασε (B²), 86 πἴομαϊ, ἀνδράσιν (Β²), 92 καὶ Ὀρτυγίας Ol. 13.7 καὶ ὁμότροφος (B²?), 11 τοῖ φράσαι (? falso), 17 πολυάνθεμοῖ ἀρχαῖα, 76 οἱ αὐτά (Β²?), 106/7 Παρνασσίᾶ ἕξ, 113 ἢ ὡς (Β²)	

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