

upper limit of 30 or even 40.<sup>42</sup> Arrian uses the same phrase in the *Cynegeticus*, written in Athens post c. 140, when he was c. 55+.<sup>43</sup> It is stretching plausibility to have Arrian claim that the *Anabasis* has been his all from youth when still in his 30s.<sup>44</sup> Arrian's tremendous self-confidence both about his worldly status and the supreme literary merit of the *Anabasis*,<sup>45</sup> which will assure his place in the forefront of Greek literature, also points to a relatively late dating.

A final, tantalising, item. Appian *Praef.* 15.62 runs: *τίς δὲ ὦν ταῦτα συνέγραφα, πολλοὶ μὲν ἴσασι καὶ αὐτὸς προέφηνα, σαφέστερον δ' εἶπεῖν, Ἀππιανὸς Ἀλεξανδρεὺς, ἐς τὰ πρῶτα ἦκων ἐν τῇ πατρίδι, καὶ δίκαις ἐν Ῥώμῃ συναγορεύσας ἐπὶ τῶν βασιλέων, μέχρι με σφῶν ἐπιτροπεύειν ἤξιώσαν. καὶ εἴ τω σπουδῇ καὶ τὰ λοιπὰ μαθεῖν, ἔστι μοι καὶ περὶ τούτου συγγραφῆ.*

If there is a direct relationship between this and our passage,<sup>46</sup> Appian must be prior, with Arrian delivering a stinging riposte: whereas Appian vaingloriously celebrated his name, country, *τὰ πρῶτα ἐν τῇ πατρίδι*, and his Roman achievements, and even referred the interested reader to his autobiography for further information, Arrian pointedly declines to record his name, famous though it is, country, family, or local offices, suppresses all mention of his Roman career, emphasises that he will be judged by his work, not his social status, and claims *τὰ πρῶτα* not *ἐν τῇ πατρίδι* but *ἐν τῇ φωνῇ τῇ Ἑλλάδι*. Such literary polemic would be in character, and would give the *Anabasis* a *terminus post* of the late 150s or early 160s.<sup>47</sup> The difficulty is that other parallels between Arrian and Appian are usually thought to show the priority of the *Anabasis*.<sup>48</sup> Arrian's language in the second preface can also be adequately explained internally, without reference to Appian. On the other hand, would Appian have written as he did, had the *Anabasis* already been published? I suspect that Arrian is indeed sniping at Appian. Nevertheless, the safe conclusion is *non liquet*.

*ἀπὸ νέου* and the general tone of the passage remain. In my opinion they do support a relatively late dating.

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<sup>42</sup> 30: Xen. *Mem.* i 2.35; 40: Pl. *Leg.* 951e, cf. 666b.

<sup>43</sup> *Cyn.* 1.4 (n. 38); 140 and 55 are round figures; on the chronology of Arrian's life see now Syme (n. 13) 181–211.

<sup>44</sup> Bosworth 1972, 168 n. 1 (especially as *ἀπὸ νέου* does not mean 'right from childhood').

<sup>45</sup> Bosworth's contention (1972, 168) that it 'was only a *parergon*, one of the works he undertook for practice in handling non-contemporary material' is wholly untenable.

<sup>46</sup> As Mr E. L. Bowie suggests to me.

<sup>47</sup> Literary polemic: general discussion in Bosworth 1980, 12; date of Appian's *Emphytia*: E. Gabba, *Appiani Bellorum Civilium Liber Primus* (Firenze 1958) x–xi; Bosworth 1972, 178 (c. 161–3); Bowie prefers an earlier date.

<sup>48</sup> Cf. Bosworth 1972, 176 ff. (Bowie disagrees).

### The new musical fragment from Epidaurus

On July 17, 1977 what appears to be the most recently found ancient Greek musical fragment was unearthed some twenty-five meters northeast of the palaestra at Epidaurus. Carved on red limestone in the third century AD, the inscription consists of eleven fragmentary hexameters from a hymn to Apollo and

other divine offspring, only the first line of which seems to contain suprascript musical notation. M. Mitsos published the inscription three years later without musicological analysis,<sup>1</sup> and S. Sipheriades then attempted a preliminary analysis at the 1982 Eighth International Greek and Latin Epigraphical Congress.<sup>2</sup> The present paper explores in greater detail the purported music of this brief, enigmatic inscription in the hope of furthering (but certainly not completing) our understanding of this, a possible fourth ancient Greek musical fragment on stone.<sup>3</sup>

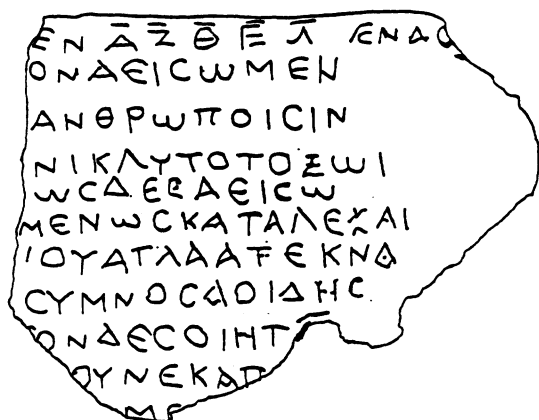
Mitsos (214–15) reported that the first line must contain seven musical symbols each with a short horizontal line above it. While he may well be correct that these seven letters represent musical notes, it would not be the short horizontal lines above each that would help us identify the letters as musical notations. The musical notations in the two Delphic hymns, which like this hymn are inscribed on stone, have no suprascript horizontal lines. The Seikilos inscription does have suprascript lines over seven of its musical symbols, but these are rhythmical disemes and trisemes which designate rhythmical elongation and do not in themselves designate the underlying letters as musical notation. The horizontal lines in the Epidaurus fragment serve a similar rhythmical purpose; they occur over long syllables only. On the musical papyri the most common loci for these frequently conflicting disemes are above melismata (*PBerolin* 6870.2–4, 6–8, 10–12; and Seikilos 7–9 and 11) or individual long syllables (*PMich* 2958), but they never appear above every syllable in any previously published fragment. This fragment's meter is dactylic hexameter, so the horizontal lines, that is, rhythmical disemes, signify the individual long notes over the vowels *a*, *ei*, *ω*, and *ε* in *ἀείσωμεν*.

Mitsos reported similar horizontal lines over the two musical symbols *EN* which precede those over *ἀείσωμεν*, but these are not at all apparent on his photograph. If there were in fact disemes above the musical symbols for this textual syllable *-ον*, then either the *EN* were to be sung to each of two short syllables forming the metrical equivalent of one long, or they were to be sung as a melisma over the short textual syllable *-ον*. Instances of melismata over short syllables do occur but are rare, e.g. over the initial syllable of *ρόθίων* in *POxy* 1786.3b and the ultima of *δεῦρο* in *PMich* 2958.9. I would prefer to think that Mitsos' conjectured *θεόν* is correct here. The proximity of the

<sup>1</sup> Markellos Mitsos, 'Ἱερὸς ὕμνος ἐξ Ἀσκληπείου Ἐπιδαύρου', *ArchEph* 1980, 212–16. Mitsos (212) gives a physical description of the stone (15 × 13 cm at its greatest height and width) and the remaining text with verbal parallels. He also offers supplements of the text of lines 2 and 4–8. That at line 4, Ἀπόλλω]νι κλυτοτόξω certainly has Homeric precedent (*Od.* xxi 267); cf. Bacchyl. 1.37. His supplement for lines 7 and 8 needlessly derive from a Solonian elegy (13.1–2 West). An equally appropriate supplement might be Ἀσκληπι]οῦ ἀγλαὰ τέκνα. Precedent for invoking offspring of Asclepius can be found in the anonymous *Paeon Erythraeus* (4th cent. BC) and the *Paeon ad Urbem Diem Repertus* (c. 2nd cent. AD). For other testimonia see L. Edelstein, *Asclepius* i 125, 282, 366, 592, 592a.

<sup>2</sup> Stelios Sipheriades, 'Ἱερὸς ὕμνος ἐξ Ἀσκληπείου Ἐπιδαύρου', *Ἀνακοινώσεις, Eighth International Congress on Greek and Latin Epigraphy* (1982) 156–9.

<sup>3</sup> The other three are the two Delphic inscriptions and the Seikilos epitaph. We now have over forty authentic published fragments of Greek music.



2	[ - - - - - ]	θε]ὸν αἰείσωμεν
3	[ - - - - - ]	ἀνθρώποισιν
4	[ - - - - - ]	Ἀπόλλων]νι κλυτοτόξω
5	[ - - - - - ]	θεοπρεπ]ῶς δέ σ' αἰίσω
6	[ - - - - - ]	ἐπιστ]αμένως καταλέξαι.
7	[ - - - - - ]	]ίου ἀγλαὰ τέκνα
8	[ - - - - - ]	]ῦμνος αἰοιδῆς
9	[ - - - - - ]	ἄφθι:]τον δέ σοι ἦτ[ορ]
10	[ - - - - - ]	οὔνεκα π[- ]

FIG. 1 The Epidaurus Fragment (courtesy M. Mitsos)

musical *epsilon* to the musical *nu* indicates that a vowel immediately preceded the textual *omicron*.

I have hesitated to label these seven letters in the Epidaurus fragment positively as musical notations. One of the major factors determining my hesitancy is the careless positioning of the alleged musical letters. The person responsible for inscribing the musical notation above the text did not always place a musical symbol directly above, or uniformly above and to the right of, the appropriate syllable. This would be the correct procedure as found in the Seikilos inscription and the two Delphic hymns.<sup>4</sup> In the only surviving fully notated word, *αἰείσωμεν*, what appears to be a musical *theta* has then been erroneously positioned superior to the textual *omega* even though it most likely belongs as the second note for the diphthong *-ει-*; and because of the lavish spacing between the musical *theta* and *epsilon*, the final *lambda* has been moved to the right of its proper location.

<sup>4</sup> And the papyri, all of which are reasonably consistent. The musical notations of *PMich* 2958 (2nd cent. AD) occur directly over the syllable or, at word-end, above the space between that and the next word, e.g. lines 10 and 11. See O. M. Pearl and R. P. Winnington-Ingram, 'A Michigan papyrus with musical notation', *JEA* li (1965) 179–95. Even in this uncustomary arrangement there is great consistency. A similar pattern can be found in *PBerlin* 6870, a photograph of which is published in W. Schubart, 'Ein griechischer Papyrus mit Noten', *SB Berlin* xxxvi (1918) 763–68.

Other interpretations could be entertained. The musical *zeta* could represent the one note to which the diphthong is to be sung, and *theta* and *epsilon* would then belong to the textual *omega*.<sup>5</sup> Such a variant interpretation can exist only because the person who inscribed the music apparently did not understand what he was inscribing or how to inscribe it. The identification of the pitch notes used in the inscription will show that still another mistake seems to have been made in the copying, and this confirms the suspicion that the stone cutter did not understand the proper positioning of the notes. For the present, let us assume that the first syllable in *αἰείσωμεν* is sung to the musical *alpha*, that the textual *epsilon* is sung to the musical *zeta*, the textual *iota* to the musical *theta*, the textual *-ow* to the musical *epsilon*, and the textual *-μεν* to the musical *lambda*. The disemes above each of these notes then signify individual long chronoi of which there are four (including the diphthong which has two disemes).<sup>6</sup>

The pitch notes that these musical letters represent at first elude accurate identification. There was an error in copying them, and it must be remembered that the music which accompanied a word such as *αἰείσωμεν* could have been irregular for the purpose of word coloring.<sup>7</sup> At least the 'text' of the musical notations cannot be correct as is; ancient music theory cannot account for what is taking place musically. According to the Alypian tables, the symbols *A*, *Z*, *Θ*, *E*, and *Λ* would ascend in scalar order as  $1-\frac{1}{2}-\frac{1}{2}-\frac{1}{2}$ . This is a theoretical diatonic impossibility since there cannot be three consecutive half-tones in the diatonic genus.<sup>8</sup> The same symbols in the chromatic genus would represent in ascending scalar order the sequence  $1-\frac{1}{2}-\frac{1}{2}-\frac{1}{2}$  (or 1), and this again is a theoretical impossibility within the framework of the Greater and Lesser Perfect Systems which do not allow for three consecutive half-tones.<sup>9</sup> The same is true for the enharmonic. To make matters worse, the five notes do not appear together in any one Alypian *tropos*. In both the diatonic and chromatic genera *A*, *Z*, and *E*, for example, belong to the Aeolian or Hyperionian and *Θ* and *Λ* to the Phrygian, but this would mean that the music would proceed in the Aeolian or Hyperionian through the *A* and *Z*, modulate to the Phrygian in *Θ*, modulate again to the Hyperionian at *E*, and then modulate still again into the Phrygian at *Λ*. This is not possible.<sup>10</sup> The previously

<sup>5</sup> Parallels for a textual diphthong sung to just one pitch include *POslo* 1413.8b and *Mesomedes Hymn to Nemesis* 13. All line references hereafter unless otherwise noted are from Egert Pöhlmann, *Denkmäler altgriechischer Musik* (Nürnberg 1970).

<sup>6</sup> Normal procedure would have one long diseme stand above both notes of a melismatic diphthong and not one over each, e.g. *PBerlin* 6879.6 and 7.

<sup>7</sup> Greek music often colors words relating to song, e.g. the first Delphic hymn, lines 15 (*ῥοδᾶν*) and 16 (*ῥυμοισιν ἀναμέλπεται*). All three words here contain the colorful borrowed note *O*.

<sup>8</sup> Aristoxenus iii 65.

<sup>9</sup> Aristox. iii 74 (=92.12–17 da Rios), followed by Cleonides 195.4–196.8 Jan, allows for a rearrangement of tetrachordal intervals with the three *σχήματα* of the *dia tessaron* ( $\frac{3}{2}11$ ,  $1\frac{1}{2}1$ ,  $11\frac{1}{2}$ ), but even a mixture of two different 'figures' would not contain the necessary three consecutive half-tones. Cf. Aristox. iii 65.

<sup>10</sup> Where modulation occurs in the fragments, it moves most often from one *tonos*, genus, or system to another in cola or blocks of cola but not back and forth within one word. Both Delphic hymns modulate in blocks of cola.

published fragments do not reveal such a double modulation within one word, word coloring or not. They may reveal back and forth movement but usually within the modulated *tonos* (e.g. chromatic/diatonic or conjunct/disjunct modulations) or to notes common to both *tonoi*.

An emendation is necessary. The authentic vocal notation no doubt resembled a *theta* to the eye of the musically untrained stone cutter, but it was more probably a recumbent *phi* which resembles a *theta* but which belongs more appropriately to the diatonic and chromatic Hyperionian *tropos*. This means that the scale of the piece can now be identified as chromatic Hyperionian ( $1\frac{1}{2}-\frac{1}{2}-\frac{1}{2}-1\frac{1}{2}$ ); the diatonic Hyperionian ( $1\frac{1}{2}-\frac{1}{2}-\frac{1}{2}-1\frac{1}{2}$ ) is not likely since the traditional diatonic tetrachord contains no trihemitonic interval.

In the chromatic Hyperionian the melody would be moving from *paramesē* (*A*) in the first note of *ἀείσωμεν* to *mesē* (*Z*)—both standing (*ἐστῶτες*) notes—and then to *nētē synēmmenōn* (*Θ*)—also a standing note but in the *synēmmenōn* tetrachord and not the *diezeugmenōn* (of which the *paramesē* is technically the bottommost note). From there the lines goes down to *tritē synēmmenōn* (*E*) and then to final *Λ*.

This final *lambda* presents a new problem since it does not belong to the chromatic Hyperionian. If the symbol was indeed intended to be a *lambda*, then the music would here shift into either the *tritē synēmmenōn* of the chromatic Phrygian, the *parhypatē* of the chromatic Hyperphrygian, the *tritē diezeugmenōn* of the chromatic Dorian, or the *tritē hyperbolaiōn* of the chromatic Hypodorian. To simplify the analysis, one should merely describe this final note as a 'borrowed note' or *leiterfremde Note* (as labelled by Pöhlmann). One finds such notes in the first and second Mesomedes hymns, the first Delphic hymn, the second Delphic hymn (31–33a), the Berlin Papyrus (16–23), and apparently the Oslo papyrus.<sup>11</sup> They are often employed at grammatical or colon end, especially in lines 14 and 16 of the first Delphic hymn and in the Berlin papyrus, and they represent a momentary borrowing from another scale.

Another possibility, of course, is that the *lambda* is actually a misunderstood pointed *leimma* which would fit appropriately at verse end and which would thereby indicate a pause at the end of the hexameter. This stone cutter would certainly not have recognized this notation as a *leimma*, and the error was an easy one.

Another possibility is that this apparent shift to one note in a different *tropos* may have resulted from another error on the part of the stone cutter. *Λ* could have been cut instead of an *A*, in which case the music would conclude on an acceptable and final *A* (*paramesē*), a standing note. *Delta* ( $g^b$ ) would be still another possibility since its pitch lies between *E* (*tritē synēmmenōn*) and *Θ* (*nētē synēmmenōn*) and since it belongs preferably to the *synēmmenōn* tetrachord of the Hyperionian chromatic *tropos*. If *delta* were the authentic symbol, then the line would conclude on the *paranētē synēmmenōn* and there would again be no borrowed note.

<sup>11</sup> Cf. R. P. Winnington-Ingram, *Mode in ancient Greek music* (Cambridge 1936) 40 n. 1, and Eitrem, Amundsen, and Winnington-Ingram, 'Fragments of unknown Greek tragic texts with musical notation', *Symb. Osl.* xxxi (1955) 45–7.

As for the last four symbols in this line, *ENΔE*, Mitsos was probably correct in suggesting that they are textual letters that begin the (marginal) temporal reference *ἐνδε[κατη]*; he cites as parallel the *ῶρα τρίτη* of the Epidaurian hymn to Pallas (*IG iv 1<sup>2</sup> 134*).

It is not impossible, however, that these four letters are actually more musical notation. At least the possibility must be considered since the letters *ENΔE* would as musical notations conform to the musical structure *AZΘEA*; all as musical notations, although the reading of final *epsilon* is extremely questionable, would fall within the chromatic Hyperionian *tropos*. If the final *Λ* is an incorrectly interpreted carving for a *leimma* or *delta*, one might argue, despite the liberal spacing between the *Λ* and the ensuing *E*, that the sequence *ΔENΔE* could be a melisma over the *-μεν* syllable.

One could conceivably argue that the final four letters are instrumental notation, for the three letters *E*, *N*, and *Δ* belong to the instrumental notation of three of the four *tropoi* into which the music sung to *ἀείσωμεν* might shift—the Phrygian, Dorian, and Hypodorian chromatic. Such an instrumental interlude or postlude can be found in the *Orestes* papyrus and *PWien G 13763/1494*. The sequence (*Λ*) *ENΔE* ( $d^b C f e^{bb} C$ ), however, would contain a tremendous leap in pitch from the *E* to the *N*—the equivalent of an eleventh—which would be unparalleled in all the previously published fragments.<sup>12</sup>

Because of the great number of difficulties found in interpreting the meaning and correctness of the musical and non-musical symbols above the first line of text of this hymn, it is not possible to provide an unqualified transcription of the music. Problems arise in the placement of the notes *EN* and *ΘE*, in the identification of the letters or notes *ENΔE*, and in the correctness of the vocal notations *Θ* and *Λ*. The transcription of the most probable musical text of the fragment would be as follows:

FIG. 2

The pitches here are based on those chosen by Jan (*ex* Bellermann) for his transcriptions of the Alypian tables. The rhythm allows a quaver for a short (*chronos prōtos*), a crotchet for a long (each here designated with a diseme). It is most probable that the two disemes over *ZΘ* were to render the notes equivalent to one long, but without a hyphen it is impossible to be certain; here the method

<sup>12</sup> *PWien G 13763/1494*, line 3, contains a rise of a ninth. The second Delphic hymn, line 29, contains a drop of a ninth.

derives from that employed by Winnington-Ingram in his transcription of *POslo* 1413.<sup>13</sup>

In this transcription one can see that the melody follows the contour of the pitch-accent by rising to its highest pitch for the accented syllable.<sup>14</sup> If the word before *ἀείσωμεν* is in fact *θεὸν* then the pitch over its grave-accented syllable correctly lies lower than the accented syllable of the following word. In following the pitch-accent contour, the melody of this inscription resembles that of such other hymns as the Delphic (2nd cent. BC), those by Mesomedes (2nd cent. AD), the Seikilos inscription (1st cent. AD), the Oslo papyrus (1st–2nd cent. AD), *POxy* 2436 (1st–2nd cent. AD), the Michigan papyrus (2nd cent. AD), the Berlin paian (2nd–3rd cent. AD), and *POxy* 1786 (3rd–4th cent. AD).<sup>15</sup>

That the line of music might end on the ‘borrowed’ note has a striking parallel in the very dramatically and melodically rendered *Αἴαν* at the phrase end of the second line of the (roughly contemporary) Berlin tragic fragment (17). And to the melisma *ZΘ* jumping the entire length of a tetrachord from ‘standing’ *mesē* (*Z*) to ‘standing’ *nētē synēmmenōn* (*Θ*), one might compare the unaccented ultima of  $\epsilon[\nu]<\delta>\acute{\omicron}[\mu]\nu\chi\omicron\nu$  in line 2a of *POslo* 1413 (*mesē* to *nētē synēmmenōn*), the accented antepenult of  $\chi\omicron\rho\epsilon\acute{\upsilon}\sigma\alpha\tau\epsilon$  in line 2 of *POxy* 2436 (*nētē synēmmenōn* [= *paranētē diezeugmenōn*] to *mesē*), and several other loci. To this inscription’s intraverbal tetrachordal movement (systemic modulation) from *E* (*tritē synēmmenōn*) to *N* (*lichanos mesōn*) above *-ov*, one might compare those in line 17 of the first Delphic hymn ( $\tau\omega\text{-}\acute{\omega}\nu$ : *tritē hyperbolaiōn* to *nētē synēmmenōn*) and in line 1 of the Zenon papyrus ( $\sigma\omicron\iota\ \tau\acute{\alpha}\delta\prime\ \acute{\epsilon}\text{-}$ : *tritē synēmmenōn* to *lichanos mesōn* to *tritē synēmmenōn*).

The reason for the presence of just one line of musical notation is not clear and the phenomenon is unparalleled. One cannot assume that all subsequent lines were to be sung to the same sequence of notes, and the notes above the first line do not seem to be establishing a *tropos* from which a musician could improvise the rest of the hymn; they are not in scalar order, some notes seem to be repeated, and there is no parallel for such a theoretical scale at the introduction of a piece of ancient Greek sung poetry.<sup>16</sup> It is puzzling as well that this exhortation for the worshippers to ‘sing’ might be the only musically notated word in the hymn, since very few of the worshippers would be able to read the music and those present frequently would certainly have memorized the phrase.

Despite all the perplexities and uncertainties found in reading, analyzing, and transcribing this brief piece of third-century votive poetry, what does become clear is that from the third-century renaissance of interest in hygienic cults at Epidaurus there may now have been

found at least one example of an inscribed, musically notated hymn to Apollo and other deities. We may now have three votive musical inscriptions ranging in date from the second century BC to the third century AD and a musical epitaph from the first or second century AD. The range of date for these four stone inscriptions suggests to us that the practice of cutting musical notation into stone can no longer be assigned only to several flukes recovered one century ago. While all the discoveries of new musical fragments since the 1890s had been in the area of papyrology,<sup>17</sup> there is now at least hope that further excavation in religious sanctuaries might turn up more musically notated offerings more complete and more reliably copied than this extremely fragmentary hexameter, Hyperionian chromatic curiosity.<sup>18</sup>

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<sup>17</sup> *PBerlin* in 1918, *POxy* 1786 in 1922, *PZenon* 59533 in 1931, *POslo* in 1955, *POxy* 2436 in 1959, *PMich* 2858 in 1965, *PLeiden* inv. 510 in 1973, and *POxy* 3161 and 3162 in 1976.

<sup>18</sup> I would like to thank Profs Thomas J. Mathiesen of Brigham Young University and Michael W. Haslam of UCLA for their careful reading of this paper and subsequent criticisms and suggestions. I am grateful as well to M. Mitsos and Alcibiades N. Oikonomides for calling the inscription to my attention.

### Alexander’s brothers?

Our knowledge of the early life of Alexander the Great is based upon very slender literary evidence. Arrian devotes only a few sentences to the years prior to Alexander’s campaigns. Plutarch’s coverage of Alexander’s youth is also very condensed, and both he and Arrian rely almost exclusively upon pro-Alexander sources such as Ptolemy and Aristoboulos. The books of Curtius which deal with the early years of Alexander have been lost, and Diodorus’ coverage is as usual very scanty. Justin’s epitome of Trogus is among our longest and most comprehensive accounts, but it is often rhetorically unreliable and careless with details. Yet apart from occasional flashbacks and allusions in these sources and a few fragments of other historians, this evidence—heavily biased, meager, and unreliable as it is—comprises all we know concerning the first twenty years of Alexander’s life.

Naturally facts are difficult to establish when all our extant sources are so unsatisfactory, and grotesque distortions are relatively easy to produce. Earlier this century, W. W. Tarn managed to create a pristine-pure Alexander the Just by explaining away all contrary evidence as hostile propaganda fabricated by Alexander’s enemies to blacken his name.<sup>1</sup>

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<sup>1</sup> The extreme nature of Tarn’s views is well-demonstrated by a passage relating to the topic of this paper. In his *Alexander the Great: sources and studies* ii (Cambridge 1948) 260–2, he acquits Alexander of the murder of his brother Karanos by ‘debunking’ Karanos’ existence,

<sup>13</sup> Eitrem–Amundsen–Winnington-Ingram (n. 12) 62, line 7 over  $\text{-}\acute{\delta}\acute{\alpha}\mu\epsilon\iota\alpha$ .

<sup>14</sup> For the contour over an uncircumflexed diphthong, cf. *POxy* 1786.3 ( $\acute{\upsilon}\mu\nu\omicron\upsilon\acute{\nu}\tau\omega\nu$ ).

<sup>15</sup> For the most part the pitch sung to the accented syllable stands higher than the pitches used on the previous, unaccented syllables of the same word. The rules for accentual corresponsion as outlined in Pöhlmann 140 need re-examination. Cf. *POxy* 1786.5 ( $\acute{\alpha}\mu\eta\nu$ ) and *POxy* 3161. 8–9.

<sup>16</sup> Several pieces from the *Anonymus Bellermanni* (Pöhlmann nos 8, 9, 11) are in ascending scalar order, but these ‘exercises’ with instrumental notation are not attached to any text.