

Hellenistic Bookhands

Edited by
Guglielmo Cavallo
and Herwig Maehler

DE GRUYTER

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PREFACE

The development and typology of Greek bookhands in the Hellenistic age, from the later fourth century BC up to and including the Augustan era, has never been explored in a monograph. The 96 Greek papyri assembled in this handbook, mostly from Egypt but also from Herculaneum, have been selected to document the different types of scripts that were used during this period in copying works of Greek literature. The aim is twofold: (1) to establish their relative (and, wherever possible, absolute) chronological sequence, and (2) to distinguish and characterize their stylistic features. We hope that *Hellenistic Bookhands* will become a useful tool for scholars who are interested in the dating and stylistic classification of the remains of Greek books written in the Hellenistic and Augustan era and preserved on papyrus, i.e. mainly for those working in Greek papyrology and palaeography, but also for non-specialist classical scholars..

In terms of methodology, this handbook is similar to the one we produced in 1987 (*Greek Bookhands of the Early Byzantine Period*). The selection criteria which we have employed were either (a) that the texts be stylistically significant (i.e., provide clear examples of particular stages in the stylistic development of the scripts), or (b) that they illustrate securely dated or datable texts, or both. On the basis of this selection, we have grouped together those specimens that appear stylistically related, with a view to identifying and describing the different types of script, and simultaneously to establishing their chronology. The selection of the texts was made jointly by the two editors, while the definition of groups of stylistically related hands was done by Cavallo, with assistance from Edoardo Crisci, Paola Degni and Filippo Ronconi. Cavallo also wrote the general stylistic commentaries at the end of each group, while Maehler provided most of the bibliographical information on each text and a large part of the descriptions of individual hands. We present the main results of our investigation in the Introduction (pp. 1-24), which will also try to identify some of the social and cultural factors that have determined the development of different types of Greek literary scripts, or "bookhands," during the Hellenistic and Augustan era. Over many years, during the prolonged gestation period of this book, we have consulted each other and exchanged our views and ideas at every stage. *Hellenistic Bookhands* is the result of our close collaboration and should be seen as the joint effort of both editors.

The arrangement of the papyri is by groups of stylistically related hands. As the evolution of Greek bookhands was not a linear process, different types of handwriting ('scripts') often co-existed for at least part of the duration of their use, so that these groups may partially overlap in time. Their sequence is, however, roughly chronological, and within each group the papyri are also arranged chronologically. We hope that in this way the changes that occurred at various stages in the stylistic development of the different scripts can be more easily verified. We have included a number of letters and documentary papyri

written not in rapid cursive but in more formal, semi-documentary hands, because they often not only carry exact dates, thus providing chronological points of reference for comparable bookhands, but also often illustrate how bookhands and documentary hands can influence each other. In a very general way, the ideal for both remained the column of text and the letter forms of the stone inscription; bookhands follow this model more closely and may in turn serve as models for documentary hands, but features of accelerated writing developed by scribes of documents often 'contaminate' bookhands, especially the less formal ones, making it easier to assign dates to them.

The selection of papyri may also, we hope, illustrate how certain editorial conventions in the presentation of the texts became standardized; *paragraphos* and *coronis* first appear in Timotheos' *Persians* and again in texts of lyric poetry set out in stanzas in the later 3rd century, the colometry of choral lyric poetry is first found in the early 2nd century, accents and other lectional signs become common from the middle of the 2nd century, when indications of the activities of the Alexandrian scholars also begin to leave traces in the papyri. The range of authors represented and the quality of the text editions give us an idea of the high standard of the literary education of the leading class, the Greek intellectual élite of Ptolemaic and Augustan Egypt - and of the very special readers who used the library in the "Villa dei Pisoni" at Herculaneum.

In the descriptions of the papyri we have cited the first edition and/or a later standard edition, as well as the usual databases such as MP and LDAB. Papyrus editions are cited in accordance with the *Checklist of Editions of Greek . . . Papyri and Ostraca*.¹ Images of papyri in several collections are now accessible on the Web:

P.Ianda	http://digibib.ub.uni-giessen.de/cgi-bin/populo/pap.pl
P.Heid.	http://www.rzuser.uni-heidelberg.de/~gv0/Papyri
P.Köln	http://www.uni-koeln.de/phil-fak/ifa/NRWakademie/papyrologie
P.Oxy.	www.papyrology.ox.ac.uk
P.Sorb., P.Magd.	http://www.papyrologie.paris4.sorbonne.fr/photos

P.Col., P.Tebt. and P.Yale may be accessed at APIS (Advanced Papyrological Information System): <http://www.columbia.edu/cu/lweb/projects/digital/apis>.

The measurements refer to height x width. Even though of most papyri only a limited section is illustrated, many of the images have had to be reduced in size; the percentage of their reduction is stated below or next to the image. We have not latinized Greek personal names, except those which are in common use in their Latin form (Plato, Sophocles, Thucydides).

Many colleagues in Europe and the United States have generously helped us in producing this book by providing photographs or digital images, and the permission to publish them, free of charge. For this we are particularly indebted to Guillemette Andreu-Lanoë (Paris, Louvre: **44**, **52**, **55**, **57**, **94**), Franca Arduini and Rosario Pintaudi (Firenze,

¹ Web address: <http://scriptorium.lib.duke.edu/papyrus/texts/clist.html>

Biblioteca Medicea Laurenziana: **15** , **22** , **25** , **60** , **61** , **63** , **87**), Alain Blanchard (Paris, Sorbonne: **5** , **26** , **27** , **29** , **53**), Raffaella Cribiore (New York, Columbia University: **40**), Robert Daniel (Köln: **8** , **18** , **42** , **43** , **80**), Didier Devauchelle (Lille: **49** , **50**), Maria Serena Funghi (Pisa: **1** , **9**), Claudio Gallazzi (Milano: **28** , **39**), Jean Germain (Louvain-la-Neuve: **24**), Mario Giancaspro (Biblioteca Nazionale di Napoli: **65** , **83** , **92** , **93**), Nikolaos Gonis (London/Oxford: **41**), Andrea Jördens (Heidelberg: **12** , **48** , **77**), Heikki Koskenniemi (Turku: **47**), Roger T. Macfarlane (Brigham Young University, Provo/Utah: **65** , **83** , **92** , **93**), Alain Martin (Bruxelles: **32** , **67**), Dirk Obbink (Oxford) and the Egypt Exploration Society (London: **45** , **71** , **79** , **82** , **86**), Günter Poethke (Berlin: **19** , **73** , **78**), Cornelia Römer (Wien: **23** , **37**), Olaf Schneider (Gießen: **74**), Hans-Walter Stork (Hamburg: **4** , **14** , **20** , **31** , **34** , **38**), Kyriakos Tsantsanoglou (Thessaloniki: **1**), Willem M. van Haarlem (Amsterdam: **89**). Moreover, Claudio Gallazzi has kindly given us permission to include the upper part of text and image of the still unpublished document **39**, ahead of its publication in P.Mil.Vogl. Others have answered our inquiries and supplied information on individual pieces (Colin Austin, Laurent Capron, Jean Gascoü, Alberto Nodar, Günter Poethke). It is a great pleasure to thank them all very warmly, and it is good to know that the old *amicitia papyrologorum* is still alive and well.

We gratefully acknowledge a grant from the British Academy, which has enabled us to pay the exorbitant fees which some large institutions in the UK, notably the British Library in London, the Bodleian Library in Oxford and the John Rylands University Library in Manchester, now charge for their photographs, and their even higher fees for permission to publish them. Without the Academy's support, this book could not have been published.

Finally, we would like to express our gratitude to Dr Elisabeth Schuhmann who, while she was Reader for Classical Studies at the K. G. Saur Verlag (München and Leipzig), courageously accepted this book for publication and then, after the K. G. Saur Verlag had been incorporated into the Walter de Gruyter GmbH (Berlin and New York), saw the book through the press with great skill and unfailing enthusiasm.

Guglielmo Cavallo, Roma
Herwig Maehler, Wien

April 2008

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ABBREVIATIONS AND BIBLIOGRAPHY

1. ABBREVIATIONS

<i>ABV</i>	J.D.Beazley, <i>Attic Black-figure Vase Painters</i> , Oxford 1956
<i>AJA</i>	<i>American Journal of Archaeology</i>
<i>AnPap</i>	<i>Analecta Papyrologica</i>
<i>AntK</i>	<i>Antike Kunst</i>
<i>APF</i>	<i>Archiv für Papyrusforschung und verwandte Gebiete</i>
<i>ARV²</i>	J.D.Beazley, <i>Attic Red-figure Vase Painters</i> , 2nd ed. Oxford 1963
<i>BerL</i>	<i>Berichtigungsliste der griechischen Papyrusurkunden aus Ägypten</i>
<i>BICS</i>	<i>Bulletin of the Institute of Classical Studies</i> , London
<i>BIFAO</i>	<i>Bulletin de l'Institut Français d'Archéologie Orientale</i> , Le Caire
<i>BKT</i>	<i>Berliner Klassiker-Texte</i>
<i>CE</i>	<i>Chronique d'Égypte</i>
<i>CGFP</i>	C.Austin (ed.), <i>Comicorum Graecorum Fragmenta in papyris reperta</i> , Berlin & New York 1973
<i>C.Ord.Ptol.</i>	M.-Th.Lenger, <i>Corpus des ordonnances des Ptolémées</i> , 2nd ed. Bruxelles 1980
<i>C.Ptol.Sklav.</i>	R.Scholl (ed.), <i>Corpus der ptolemäischen Sklaventexte I-III</i> , Stuttgart 1990
<i>CP</i>	<i>Classical Philology</i>
<i>CPF</i>	<i>Corpus dei Papiri Filosofici</i>
<i>CRIPeL</i>	<i>Cahier de Recherche de l'Institut de Papyrologie et d'Égyptologie de Lille</i>
<i>CronErc</i>	<i>Cronache Ercolanesi</i>
ed., eds.	editor, edition, editors
<i>Ét. de Pap.</i>	<i>Études de Papyrologie</i>
<i>GLH</i>	C.H.Roberts, <i>Greek Literary Hands, 350 BC - AD 400</i> , Oxford 1956
<i>GMAW²</i>	E.G.Turner, <i>Greek Manuscripts of the Ancient World</i> , 2nd ed. revised by P.J.Parsons, London 1987 (<i>BICS Supplement</i> 46)
<i>GRBS</i>	<i>Greek, Roman and Byzantine Studies</i>
<i>HPLS</i>	<i>History and Philosophy of the Life Sciences</i>
<i>JEA</i>	<i>Journal of Egyptian Archaeology</i>
<i>JHS</i>	<i>Journal of Hellenic Studies</i>
<i>JJP</i>	<i>Journal of Juristic Papyrology</i>
<i>JTS</i>	<i>Journal of Theological Studies</i>
<i>LDAB</i>	Leuven Databank of Ancient Books

M.Chr.	L.Mitteis & U.Wilcken, <i>Grundzüge und Chrestomathie der Papyruskunde</i> , II <i>Juristischer Teil</i> , 2. Hälfte: <i>Chrestomathie</i> , Leipzig 1912
MH	<i>Museum Helveticum</i>
MP	Base de données Mertens-Pack 3, Centre de documentation de papyrologie littéraire (CEDOPAL), Liège
MPER	<i>Mitteilungen aus der Papyrussammlung der Österreichischen Nationalbibliothek</i>
Mus.Phil.Lond.	<i>Museum Philologum Londiniense</i>
NGG	<i>Nachrichten der Gesellschaft der Wissenschaften zu Göttingen</i>
Pal.Soc.	Palaeographical Society, Facsimiles
Pap.Lup.	<i>Papyrologica Lupiensia</i>
Para	J.D.Beazley, <i>Paralipomena</i> , 2nd ed. Oxford 1971
PCG	<i>Poetae Comici Graeci</i>
QUCC	<i>Quaderni Urbinati di Cultura Classica</i>
REG	<i>Revue des Études Grecs</i>
Rev.Ég.Anc.	<i>Revue de l'Égypte Ancienne</i>
RFIC	<i>Rivista di Filologia e d'Istruzione Classica</i>
S&C	<i>Scrittura e Civiltà</i>
SB	<i>Sammelbuch der griechischen Papyrusurkunden aus Ägypten</i>
SCO	<i>Studi Classici e Orientali</i>
SH	H.Lloyd-Jones & P.J.Parsons (eds.), <i>Supplementum Hellenisticum</i> , Berlin & New York 1983
SitzBer.	Sitzungsberichte
TrGF	<i>Tragicorum Graecorum Fragmenta</i>
VBP	<i>Veröffentlichungen aus den badischen Papyrussammlungen</i>
W.Chr.	L.Mitteis & U.Wilcken, <i>Grundzüge und Chrestomathie der Papyruskunde</i> , I <i>Historischer Teil</i> , 2. Hälfte: <i>Chrestomathie</i> , Leipzig 1912
WS	<i>Wiener Studien</i>
ZPE	<i>Zeitschrift für Papyrologie und Epigraphik</i>

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- Allen-Sutton-West = List of papyri of the *Iliad* in M.L.West's Teubner edition of the *Iliad* (*Homerus, Ilias*, Stuttgart & Leipzig 1998), pp. XXXVIII-LVIII
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² Only abbreviated titles are listed.

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INTRODUCTION

Greek alphabetic writing

Leaving aside the syllabic writing systems of the second millennium known as "Linear A" and "Linear B", we begin our brief survey of Greek alphabetic writing with Herodotos' statement (V 58) that the Greeks took it over from the Phoenicians when these came to Boeotia with their leader, Kadmos, bringing with them those "Phoenician letters" (Φοινικῆα γράμματα), an alphabetic system of writing, "which the Hellenes", Herodotos says, "as I believe, had hitherto not known." The main point of Herodotos' statement is obviously correct, because the close similarity in the letter forms of the earliest specimens of *Greek* writing in the 8th century to those of *Phoenician* inscriptions puts it beyond any doubt that this script was derived, or perhaps imported, from Phoenicia. It is equally clear from this statement that Herodotos did not know when this had happened and how, for his reference to Kadmos indicates that in his view the event took place in an indeterminate early prehistoric or rather mythical time. It also shows that he knew nothing of the Cretan and Mycenaean scripts of the 2nd millennium which we call Linear B - presumably because in his day all Linear B tablets had been safely buried in the ground for many centuries, ever since the palaces of Pylos, Knossos, Mallia, Phaistos and Ayia Triada were destroyed, so thoroughly that even the memory of those early writing systems was no longer alive in Herodotos' time.

The well-known jug from the Dipylon cemetery in Athens,¹ which can be dated to between 750 and 725 by its geometric decoration, illustrates the close resemblance of its Greek letter forms to their Phoenician equivalents or antecedents, as does the inscription on a bronze statuette, now in Boston, dedicated at Thebes by a man called Mantiklos in ca. 700 BC.² The inscription on the shoulder of the Dipylon jug is particularly interesting as it defines it as a prize in a dancing competition: HOS NYN OPXESTON ΠΑΝΤΟΝ ΑΤΑΛΟΤΑΤΑ ΠΑΙΖΕΙ ΤΟΤΟΔΕΚ . . ΜΙΝ ("who now dances most elegantly of all, is to receive this", or something like this - the last two words are not clear). Now, a prize can hardly have been an old, second-hand jug, but was probably a new one, so we can assume that the inscription, a hexameter plus three words, is contemporary, and therefore contemporary also with Homer.

The sherds with inscriptions in the Corinthian alphabet were found among geometric pottery of the 8th century in the potters' quarter in Corinth.³ Although they are more or less contemporary with the Dipylon jug, they show a much more regular script which placed the letters evenly between parallel lines. They seem to be a list of names:]ΚΕΑΣ : ΑΝΓΑΠΙΟΣ | [?]ΑΥΦΙΟΣ : ΣΟΚΛΕΣ : | . . . ΙΔΑΣ : ΑΜΥΝΤΑΣ | ΤΟΙ ΜΑΛΕΦΟ : ΚΑΙ . [. The Corinthian potter who inscribed them on a large mug (*skyphos*) was evidently a skilled scribe: the letters are vertical, of roughly equal size (4 mm high) and very regular. So here, in the late 8th century, we are already confronted with a problem which one finds also with Hellenistic book rolls, i.e. that within the same period and the same type of script there may be huge differences in quality, in the mastery of writing. One must not confuse these differences in quality with stages in the development of a script. In other words, unskilled, primitive-looking hands are not necessarily

¹ L.H.Jeffery, *The Local Scripts of Archaic Greece*, 2nd ed. revised by A.W.Johnston (Oxford 1991) 68 and pl. 1,1.

² Jeffery, *loc.cit.* 69 and pl. 7,1.

³ Published by Agnes Newhall Stillwell, *AJA* 37 (1933) 605-610; Jeffery, *loc.cit.* 116 and pl. 18, 1a-b.

older than their more professional-looking counterparts. It is noteworthy that the names are separated by double dots (on *scriptio continua* and word division, see below, pp. 18-19).

A third specimen of writing from this early period is the inscription on the famous Nestor cup from Ischia (Pithekoussai),⁴ in the Chalkidian alphabet: NESTOPOS : Ε[ιμ] : ΕΥΠΙΟΤ[οv] : ΠΟΤΕΡΙΟ[ν] , ("I am Nestor's cup, good for drinking"), followed by two hexameters:

HOS Δ Α[ν] ΤΟΔΕ Π[ι]ΣΙ : ΠΟΤΕΡΙ[ο] : ΑΥΤΙΚΑ ΚΕΝΟΝ

ΗΜΕΡ[ος α]ΡΕΣΕΙ : ΚΑΛΛΙΣΤΕ[φ]ΑΝΟ : ΑΦΡΟΔΙΤΕΣ

("Whoever drinks from this cup, at once longing will seize him for lovely-crowned Aphrodite"). Assuming that Nestor was not the owner who had bought the cup, but the potter who had made it, the promised aphrodisiac effect might have been its selling point and the two hexameters its advertisement. Be that as it may, what interests us here is the script, which is remarkably regular, obviously that of a skilled scribe, and the dots between words or word-groups. In the first line (in prose), they separate words, just like they do in the Corinthian sherds; but in the two hexameters they stand only between word-groups, indicating caesurae, that is both the main and the secondary caesura in each line.

When we try to imagine what the script may have looked like which Archilochos and Sappho used to write down their poems, the inscriptions inscribed or incised on pottery are of limited use, because the incision technique influences the letter forms; a stylus, or knife, is not a reed pen. But there are, in the 6th century, very many vases, Corinthian first and later Attic, with inscriptions *painted* in colour, and these are more likely to give a good idea of what contemporary bookhands may have looked like.⁵ Three particularly handsome specimens from Athens may illustrate what appears to be the standard Attic script of



Fig. 1

⁴ Jeffery, *loc.cit.* 235 and pl. 47,1.

⁵ Jeffery, *loc.cit.* 63: "The letter forms used by the vase painter will almost certainly be considerably more developed than those cut by a contemporary mason."

the 6th century. The first is the famous François vase in Florence of ca. 570-60 BC;⁶ the section shown here (fig. 1) is part of the top register of side A, illustrating the Calydonian boar hunt, where the hunters as well as their dogs are named (hunters: ΑΡΙΣΤΑΝΔΡΟΣ, ΘΟΡΑΞ, ΑΝΤΑΝΔΡΟΣ, ΕΥΘΥΜΑΧΟΣ, ΜΕΛΑΝΙΟΝ, ΑΤΑΛΛΑΝΥΤΕ; dogs: ΛΑΒΡΟΣ, ΜΕΘΕΪΟΝ). The second is a fragment of a large cup

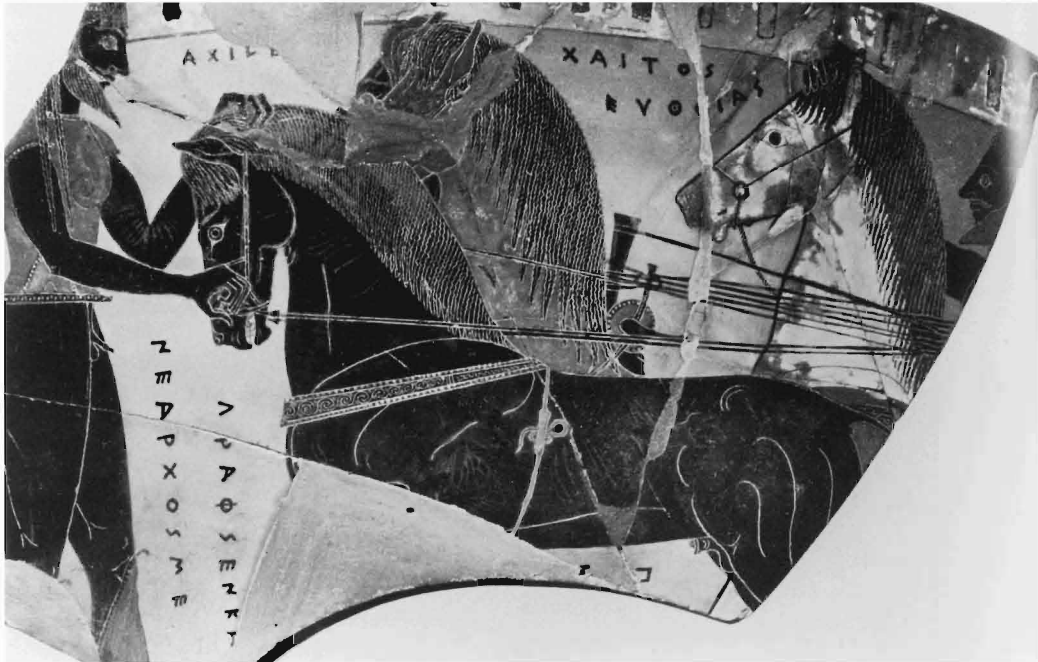


Fig. 2

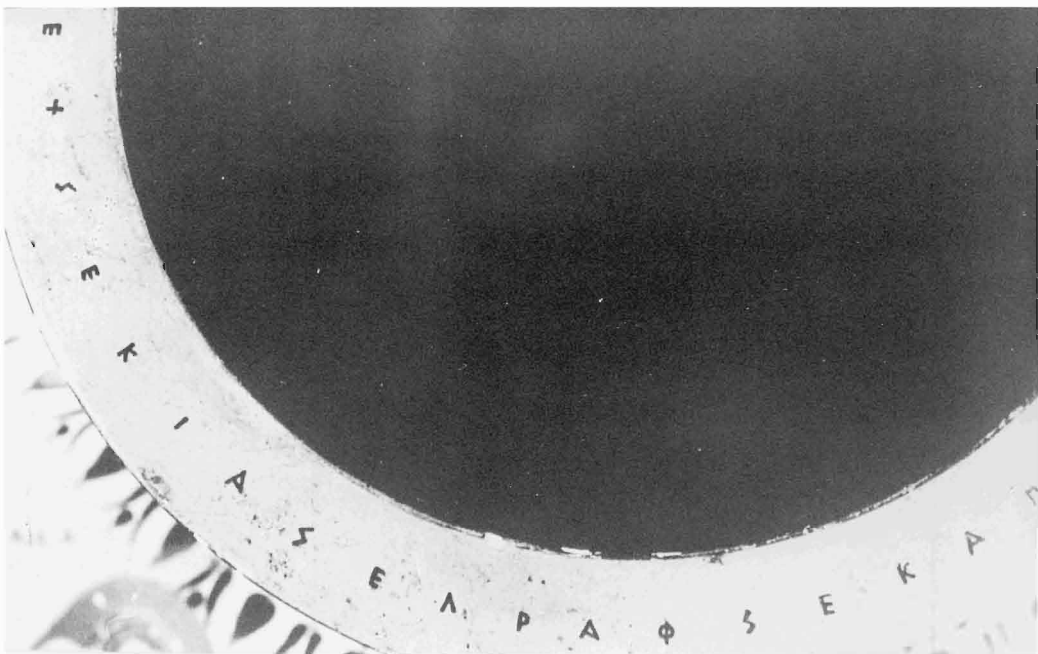


Fig. 3

⁶ Florence, Archaeol.Museum inv. 4209; Beazley, *ABV* 76.1; E.Simon, *Die griechischen Vasen* (München 21981) 69-77 and ill. 51-57.

(*kantharos*) of the potter and painter Nearchos of c. 560 BC (fig. 2).⁷ The third is a neck amphora in Berlin with the signature of the potter and painter Exekias (fig. 3), dated to c. 540 BC.:⁸ ΕΓΡΑΦΣΕ ΚΑΠΟΕΣΕ ΜΕ. This hand is perfectly regular, with equal spaces between the letters, really professional.

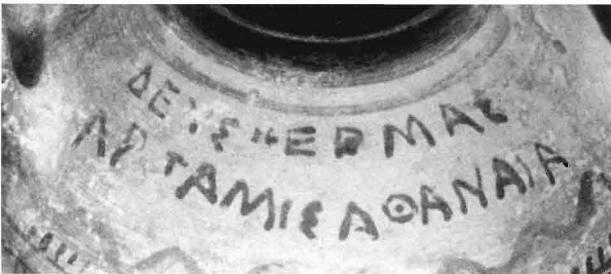


Fig. 4



Fig. 5

Two examples of painted inscriptions on pottery of the fifth century from other parts of Greece show very similar letter forms: an amphora from Rhodos (fig. 4),⁹ and a cup from Boiotia (fig. 5)¹⁰. Taken together with the Attic specimens, they seem to suggest that apart from some minor regional variations, there was, in the 6th and 5th centuries, a kind of graphic κοινή, of standard Greek script which did not change or evolve much during this period. Two questions might be asked at this point: (1) Why did it remain so static over a long period? What was the graphic ideal that determined the letter forms?, and (2) was this the *only* Greek script that existed at that time? Was it used not only for book rolls, and laws and official decrees inscribed on stone, but also for private contracts and correspondence ?

The first question is easy to answer: the letter forms of this standard Greek script are essent-

⁷ Athens, Nat.Museum, inv. Akrop. 611; Beazley, *ABV* 82.1; Simon, *loc.cit.* 80 and ill. 64; K.Schefold, *Götter- und Heldensagen der Griechen in der spätarchaischen Kunst* (München 1978) 197 ill. 269.

⁸ Berlin, Antikemuseum F 1720; Beazley, *ABV* 143.1;

⁹ New York, Metr.Mus. 06.1116; Jeffery, *loc.cit.* 357 and pl. 68,30; R.Wachter, *Non-Attic Greek Vase Inscriptions* (Oxford 2001) 222f. (DOH 3); c. 450 BC ?

¹⁰ Athens, Nat.Museum inv. 9716; Jeffery, *loc.cit.* 95 and pl. 10,20; Wachter, *loc.cit.* 20 (BOI 14); c. 420 BC.

ially those of contemporary inscriptions on stone. The epigraphic ideal was a script that contained the letters, as far as possible, between two parallel lines, as is evident already in 6th century inscriptions, such as, e.g., the epitaph of Phrasikleia, a marble pillar capital with the earliest Attic *stoichedon* inscription (c. 540 BC).¹¹ Moreover, by the beginning of the 5th century one can see most of the narrow letters, such as E, S, P, becoming broader: see, e.g., the *boustrophedon* inscription from the Eleusinion,¹² a tendency which by the end of the fifth century produces a script that tries to inscribe all letters (except *iota*) into a square, while also arranging them *στοιχηδόν*, aligned vertically, as in the decree in honour of Oiniades (fig. 6).¹³

The second question is more complex; it would be too easy to use the *argumentum e silentio*, i.e. the fact that no other types of Greek writing, such as cursive for example, have physically survived. To assess whether it would have been at all likely, one needs to consider the changing relation between oral and written documentation in the 5th and 4th centuries, especially in Athens, which Rosalind Thomas has examined in her two books, *Oral Tradition and Written Record in Classical Athens* (1989) and *Literacy and Orality in Ancient Greece* (1992). She points out that although commercial written contracts are first mentioned in Athens at the beginning of the 4th century, oral agreement and witnesses were always felt to be the important part of the contract, while the written document simply served to record it.¹⁴ As far as the law is concerned, "evidence did not have to be presented in court in writing until the fourth century: the early orators Antiphon, Andokides, Lysias and Isokrates have nothing of written testimony".¹⁵ In the light of this situation, and

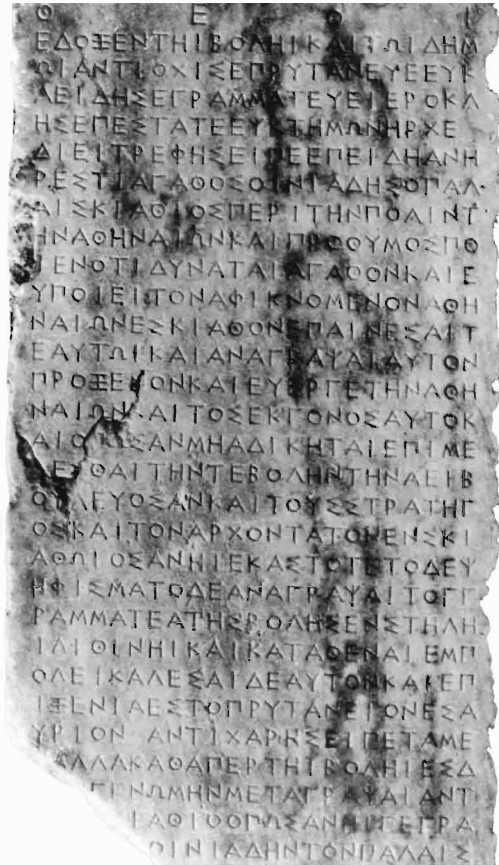


Fig. 6

considering the Athenians' reluctance to substitute written contracts for oral agreements in front of witnesses, it seems unlikely that there was a need, in either commercial or legal contexts, for large amounts of text to be written rapidly. It therefore seems safe to assume that the apparent absence of any type of joined-up writing or cursive is due not to coincidence, but to lack of demand.

¹¹ IG I² 1014; Jeffery, *loc.cit.* 73 and pl. 3,29.

¹² Agora Mus. I 4721 + 5318; Jeffery, *loc.cit.* 75-78 and pl. 4,44; *eadem*, 'Boustrophedon inscriptions' no. 67 pp. 93-106 and pl. 30-31; c. 500-480.

¹³ IG I² 118 (408/7 BC); Seider III 1, p. 61 fig. 23.

¹⁴ R.Thomas, *Oral Tradition* 41.

¹⁵ *Oral Tradition* 43.

This may seem surprising in view of the immense volume of Greek literature that was produced in the sixth and fifth centuries BC, and Attic prose literature written in the fourth. Schubart thought that not only literature but also other forms of communication in the Greek city-states and their social and commercial exchanges ought to have generated some forms of documentary script as well as of bookhand; he found it hard to convince himself that the oldest extant Greek texts on papyrus from the last part of the fourth century show no trace of either.¹⁶ He reluctantly conceded that the fully-fledged documentary and literary scripts which appear towards the middle of the third century resemble those oldest specimens of Greek writing on papyrus sufficiently to let us see them as descendants of the latter by way of a "natural development".¹⁷

Hellenistic Bookhands

When we speak of *Hellenistic Bookhands*, or more precisely of bookhands of the Hellenistic period, we need to clarify, first of all, what we mean by these terms, *Bookhands* and *Hellenistic*. The collection of Greek texts and images presented here contains not only specimens of scripts employed for copying literary texts onto book rolls, but to a large extent also specimens of documentary scripts. (By "script" we mean a particular *type* of stylized handwriting; by "hand" we mean the personal handwriting of a particular scribe.)

We have done this for two reasons: (1) In terms of methodology it seems appropriate to study scripts in all their diverse manifestations, whatever the content they convey - be it a literary work, an official or private document, or a simple private message. (2) Documents - as far as they carry an explicit date or can be dated by other information in their texts - can offer extremely useful reference points for assigning, by way of stylistic comparison, likely dates to literary texts that normally do not contain any date or other chronological reference at all.

We have used the term *Hellenistic* in a slightly wider sense than usual, covering the period from the middle of the fourth century BC to about the middle of the first century AD. This has seemed more appropriate to us than the traditional term *Ptolemaic*, not only because certain typical features of writing styles continue for some decades after the end of the Ptolemaic kingdom, but above all because texts written in Greek during this period have been found also in places outside Egypt, such as Derveni in Macedonia, Qumran in Palestine, or Herculaneum in Italy. The papyri from Herculaneum, in particular, can contribute to the reconstruction of a typology of scripts that is *Hellenistic* rather than *Ptolemaic*: those that contain works of Philodemus of Gadara - even if they were written in Italy from the first century onwards and in any case before AD 79, the date of the eruption of Vesuvius that destroyed Herculaneum - were written by the hands of scribes trained in the Greek East. Among them we find copies of the works of Epicureans of the first generations, and older than the first century AD, which were probably copied in some area of the Hellenistic world and later brought to Italy.

The term *Bookhand* also needs clarification. It means essentially, of course, the kinds of script in which literary texts were copied, but the distinction between literary and documentary scripts is evidently not a clear-cut one: (1) Before the second half of the third century BC, there are great differences in scribal

¹⁶ Schubart, *Gr.Pal.* 101.

¹⁷ *Gr.Pal.* 102: "eine natürliche Entwicklung daraus."

competence, but not in the typology of letter forms. Clear stylistic differences between literary and documentary scripts do not emerge before the last quarter of the third century (compare **34** and **35**). (2) Documents or letters may be written in informal literary scripts (see, e.g., **19** and **22**), even after the third century (**36**); conversely, literary texts may be copied in informal or in semi-documentary hands (as in **30** and **33**). Yet these are exceptions rather than the rule, and for the sake of simplicity we have defined as "bookhand" those scripts that keep the letters separate and bilinear, i.e. confined between notional upper and lower parallel lines, generally with the exception of *phi* and *psi*, slowly written in the attempt to emulate the regularity seen in most stone inscriptions.

The oldest surviving Greek books

The oldest surviving literary papyri in Greek are Timotheos' dithyramb *The Persians* and the Derveni papyrus (**1**). The Timotheos papyrus (**2**) was found close to a sarcophagus in the cemetery of Abu Sir, some 6 km north of Memphis. The objects found in this sarcophagus can be dated to the second half of the 4th century, which gives us a *terminus ante quem* for the papyrus, which may well have been written *before* Alexander's arrival in Egypt. The owner of this book roll may have been one of those Greeks who lived in the Greek quarter of Memphis, the so-called *Hellenomemphitai*, or he may have been a Greek soldier who had come to Egypt in Alexander's army in 332 BC, perhaps someone who disliked the Persians so much that he wanted to relish, even in Hades, the poem describing Xerxes' defeat at Salamis. At any rate, it was evidently not written by a skilled and professional scribe: the lyric verses are written like prose and in very long lines of unequal length (without alignment of the right margin), and most of the individual letters fall far short of the epigraphic ideal of regularity, i.e. of letter forms of equal height and width; O and Θ are much smaller than the rest, Ω is just half as high as Β, Ρ and Ξ, and generally most letters show discrepancies in their execution.

It makes an interesting comparison with the only other literary Greek papyrus of the 4th century, the Derveni papyrus in Saloniki (**1**). It is a carbonised roll, found in 1962 in a tomb at Derveni, c. 10 km north of Saloniki. Pottery and coins recovered from the two neighbouring tombs point to a date between 330 and 300 BC, which may be the date of the papyrus also. Only the top part of the roll is preserved, up to 8.5 cm high, with letters only 2 mm high. They are very regular, obviously written by a skilled scribe: A like those on the François vase, E in three strokes (vertical and baseline in *one* stroke), with the 'epigraphic' Z as well as most other letters, even Θ, attempting to reach the same height, only O is still slightly smaller. Compared with the irregular letter forms of the Timotheos papyrus, the Derveni papyrus appears almost like an inscription on stone. The regular intervals between its letters recall *στοιχηδόν* inscriptions when you observe how the letters are arranged above or below one another (although it is not really *στοιχηδόν*).

The gap in quality between the two scripts, i.e. the significantly better control of letter forms in the Derveni papyrus, does not mean that it was written significantly later (Turner was inclined to date it around 275 BC, Seider preferred the second half of the 4th century, rightly, we think).

This date can be confirmed by two non-literary papyri from Saqqara. One is the order of Peukestas (**3**) barring access to the priest's living quarters. This Peukestas may well have been one of the two Macedonian officers whom Alexander left in charge of Egypt when he proceeded to Mesopotamia in the

spring of 331 (the name is not common). If so, this notice (which may have been nailed to a gate: see the holes in the top margin) was probably written around 330. Ω, E and Σ correspond to the letter forms in the Derveni papyrus, but the sizes of letters are as irregular as those of the Timotheos papyrus, especially the small O and Θ.

The other is the imprecation of Artemisia, daughter of Amasis.¹⁸ She invokes Oserapis, cursing her daughter's father. Oserapis is the Egyptian Usir-Hapi (the dead Apis bull), not Sarapis - so it seems likely that this curse was written before the introduction of Sarapis by king Ptolemy I. The letters are clumsy, but they try to imitate those of the stone inscriptions. There is, however, one innovation: the sickle-shaped, or lunar, *sigma*, occasionally written almost as a right angle (∠), which is clearly derived from the *sigmas* of the Timotheos Papyrus (Ξ).

Both the Peukestas notice and the Artemisia curse are documentary texts, not books - and yet, their hands show no trace whatsoever of rapid documentary writing or cursive, nor does the hand of the well-known marriage contract from Elephantine of 310 BC (see Schubart, *PGB* pl. 2). The same is true of a Greek ostrakon found at Idalion in Cyprus and dated to the end of the 4th century,¹⁹ with letter forms very similar to those of the Elephantine contract, so this type of script was used not only in Egypt but also in other parts of the Greek world. This must mean that by 300 BC, no form of cursive writing had yet been developed, so that letters and documents as well as poetry were written in the same type of script, with regular, unconnected and unabbreviated letter forms modelled on those of stone inscriptions, which Schubart called "Schulschrift" because he assumed that this was the standard script that was taught in schools all over the Greek-speaking world.²⁰

The scripts of the two oldest groups of Greek papyri dating from the last decades of the fourth century and the first decades of the third (1 - 5 and 6 - 9), still show archaic features, most evident in the angular forms of the letters *epsilon* (E), *sigma* (Σ) and *omega* (Ω) which in this time are used without significant differences in inscriptions as well as in literary (1 and 2) and documentary (3) papyri. Some signs of evolution are visible already in certain specimens; in 2, for instance, the *omega* begins to anticipate its later shape with the double curve (ω), and in 4, 6, 7, 8 and 9 of the beginning of the third century, both *sigma* and *epsilon* appear in their half-moon ("lunate") form. In these early stages we do not observe an evolution of a Greek bookhand as such, but rather a random evolution of individual letters - one here, one there. It is not before the middle of the third century BC that a script emerges which is free from those archaic features shared with that of the stone inscriptions, such as the "epigraphic" Ω and the angular E and Σ. This evolution was, however, a fairly slow process. Archaic features are found as late as the middle of the third century (5, 10, 11). It is only then that we can see the appearance of a proper literary script that is consistently distinct from the "epigraphic" one - at any rate, this is what the evidence from the Egyptian *chōra* suggests.

¹⁸ P.Vindob. G 1; Norsa, *Scr.lett.*, pl. 1; Schubart, *Gr.Pal.* 99-100 fig. 65.

¹⁹ Cyprus Museum, inv. T.54/308; see O.Masson, 'Les fouilles américaines à Idalion (1971-1980) et leurs résultats épigraphiques', *Kadmos* 31 (1992) 116 pl. 1.1.

²⁰ *Gr.Pal.* 13. Of the hand of the Artemisia papyrus (see n. 18), Schubart says that it represents essentially the basic letter forms taught in schools, *Gr.Pal.* 99.

Book production and literary scripts

What could have been the reasons for this? The foundation of the royal library at Alexandria by Ptolemy I, who "brought together the Museum",²¹ must have generated a very intense copying activity, resulting in a vastly increased production of books, that is of literary texts copied on papyrus rolls.²² The sheer quantity of texts that had to be copied must almost automatically have forced the scribes to develop not only ways of accelerated writing, but also graphically standardized and refined letter forms and editorial conventions. It seems likely that those distinctly calligraphic scripts which we see in **16**, **17** (both found at Hermupolis) and **20** (provenance unknown) were first developed in Alexandria, possibly as early as the second quarter of the third century.

This type of hand is represented in many literary papyri of the third century BC. What hands like those of **16**, **17** and **20** have most conspicuously in common is their attempt to contain the letters as far as possible between the notional parallel lines (exceeded both ways by *phi* and *psi*, the lower line often by *rho*, *tau* and *ypsilon*), the slight curvature of the verticals of some letters (such as *eta*, *kappa*, *my*, *pi*), and the small serifs (very small in **16** and **17**, more prominent in **20**) at the extremities of the feet (e.g. of *pi*, *rho* or *tau*) or the arms of *ypsilon* or *chi*. Turner suspected "that the *raison d'être* of Schubart's so-called 'decorated' style (*Zierstil*) is that scribes delighted to define their two parallels by emphasizing the serifs on the feet of vertical strokes and by making little return-strokes or rounded blobs as finials on the tips of their verticals" (*GMAW*² p. 3), but insisted that this phenomenon alone does not constitute a 'style' in its own right. It can be seen in different types of script from the late fourth century BC to the third century AD (*GMAW*² p. 21).

Most of the features in literary papyri pointed out just now recur in hands of the Zenon archive in the mid-third century, both in the two London papyri with tetrameters of Archilochos and with lines from Euripides' *Hippolytos* which were found together with Zenon documents²³ and in documentary hands such as **19** and **22**.

It is, of course, evident that not all types of literary scripts show the same high degree of formal perfection. There are indeed some specimens which appear to have been written slowly and yet with little formal care (**12**, **13**, **18**, **19**, **24**). While the letter forms sometimes aim at an uniformly square pattern (**21**, **22**), the majority of the scripts that may be assigned to the time of Ptolemy II Philadelphus show some degree of contrast - sometimes more conspicuous, sometimes less - between broader and narrower letter forms. This contrast seems to be characteristic of bookhands up to the end of the third century BC, even though it appears lessened in some specimens (**25**, **27**, **28**, **29**, **30**, **31**), and especially those written around the turn of the third to the second century (**32**, **50**, **54**). In certain cases we can see how slight the differences between documentary and literary hands can be (**28**, **33**, **34**, **35**); in some of the latter we may find cursive letter forms or ligatures (**28**, **33**) more commonly seen in documents.

²¹ Plut. *Mor.* 1095D Πτολεμαῖος ὁ πρῶτος συναγαγὼν τὸ μουσεῖον.

²² On the foundation of the royal library and the library in the Serapeum, see Pfeiffer, *History* 98-102.

²³ Brit.Library inv. 2652A verso: Archilochos fr. 106 West: MP 0130; LDAB 333; P.Lond.Lit. 54 pl.4a; Brit.Library inv. 2652B: Euripides: MP 0397; LDAB 1035; P.Lond.Lit. 73 pl. 4b; *GLH* 3a.

From the middle of the third century, book hands and documentary cursive hands (such as 31 and 34) part company and go their separate ways, but never so far apart that they could not be influenced by one another. Towards the end of the third century the tendency to decorate the extremities of letters with little hooks or serifs becomes more pronounced, especially with little hooks pointing left at the ends of the descenders of P, T and sometimes N. They become even more prominent in bookhands of the second century (42, 43, 45, 46, 49, 50, 54), occasionally also in documents (47).

Particularly interesting is the school book papyrus in Cairo known as "Livre d'écolier", published by Guéraud and Jouguet.²⁴ As it begins with letters and syllables and then continues with exercises in syllable division, as training for reading books written in *scriptio continua*, without word-division, it was

intended as a teaching guide to reading and also to writing. Therefore its script (fig. 7: lines 115-125) is likely to have been the standard script taught in schools. Its main features are (1) that the letters tend to be unconnected (there are few ligatures: TH in KAKICTH line 4, TΩΓ in the last line, NΩN in the last word - ligatures seem to become more frequent in the last line; in letters and documents, too, scribes often write more cursively towards the end as they run out of patience. - (2) Letters tend to be of the same height and width, except for O, ω and C; the script is basically bi-

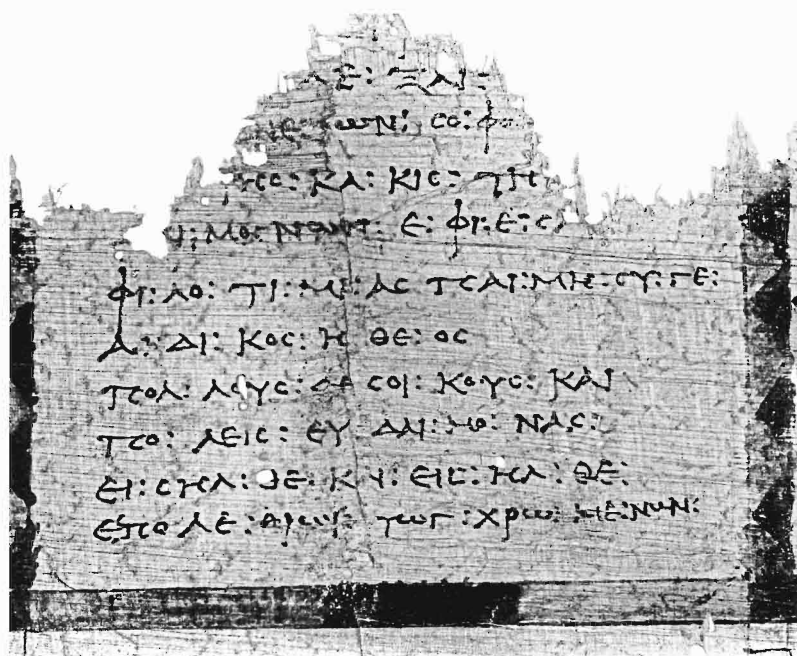


Fig. 7

linear, keeping between the imaginary parallel lines exceeded only by the verticals of Φ, Ψ, and the descenders of T, Υ and P.

This type of script seems to have been the norm for schools and for books in general. It evidently continues to emulate stone inscriptions. It remains difficult to date, except where the scribe speeds up the pace and so allows cursive forms to creep in, such as ligatures and also the slightly curved strokes of Π, Η, Κ and the occasional tiny hooks at the ends of some verticals. Interestingly, T is made in different ways: usually with a strong crossbar, as in most hands of the Zenon archive, with the vertical descending from its right-hand end; twice, however, (in line 4 and in TΩΓ in the last line), the crossbar turns downwards and its second part is attached to the curve: this is the forerunner to the split, V-shaped T which becomes common from the second century onwards.

²⁴ P.Cairo JE 65445, ed. O.Guéraud & P.Jouguet, *Un livre d'écolier*, Cairo 1938; MP 2642; LDAB 1054; Criamore no. 379 with bibliography.

The large majority of the bookhands show very plain forms without any decorative elements. Towards the end of the third century, however, we can see the first examples of ornamental or 'decorated' scripts. Some scribes now adorn their vertical strokes with small serifs at either end, sometimes also the ends of oblique strokes like those of K and Y. These serifs, which may be either quite small (25) or more prominent (26), anticipate the ornamental scripts of the second and first centuries BC.

The emergence of Greek cursive

Between the late third and the early second century, Greek bookhands do not undergo any radical transformations. Nevertheless, some noteworthy new elements come into play in this time. First and foremost, it is the emergence of Greek cursive which had implications for the development of bookhands. The development of letter forms and ligatures which constitute Greek cursive was a lengthy process.²⁵ Within this process, which was essentially a process of emancipation from the rigid letter forms of epigraphic majuscule, one can distinguish two phases: (1) the emergence, driven by the need to write rapidly, of abbreviated letter forms, and (2) the connection of letters through ligatures in the attempt to further accelerate writing by keeping the pen on the papyrus for as long as possible. Phase 2, writing *currente calamo*, connecting the letters without lifting the pen, is what one might call cursive writing in the proper sense.

The beginnings of its first phase can already be seen in P.Eleph. 3 of 282 BC (PGB 4a; fig. 8), where most letters appear drastically simplified in comparison to P.Eleph. 1 (PGB 2) and written in one movement, without lifting the pen; the only letters traced in more than one movement are ε, κ, ξ, π,

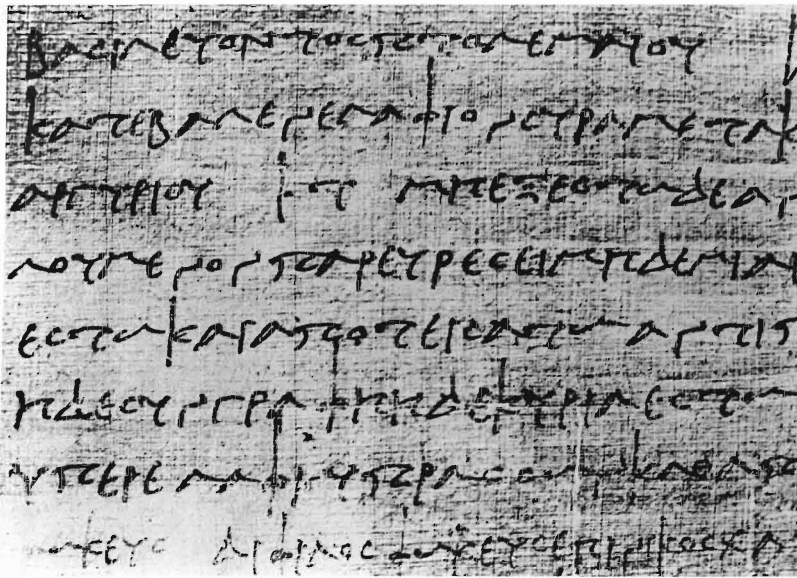


Fig. 8

φ and χ. Few letters are linked, e.g. AP (ἀργυρίου 1. 3, παρῦρεσει 1. 4, perhaps MA: Πτολεμαίου 1. 1); some letters extend horizontally (μ, ω).

The signs of accelerated writing are evident, but there is no coherent system of interconnecting the letters. This script can still be

found among the hands of the Zenon archive, about one generation later.²⁶ Among the various scripts of the archive, at least four main groups can be distinguished: (1) hands that use abbreviated letter forms,

²⁵ Degni, *Corsiva* 24.

²⁶ Also outside the Zenon archive: e.g. P.Hamb. II 187 (14) of 246 BC.

writing rapidly but with few ligatures; (2) fully stylized chancery hands, most of which were written in Alexandria; (3) hands modelled on these; (4) hands that write careful, unconnected majuscules.

Group 1: e.g., PSI IV 382 (fig. 9), a letter of Pais to Zenon, written with a brush, shows essentially the same letter forms, some of them even more abbreviated ($N = \rho$); ligatures are more frequent (ωN , AN , AM , HN , ΛO , etc.). Very similar are PSI V 533 (fig. 10), VI 570 and 572 (*Zenon* pl. 60), and IV 405 (*Zenon* pl. 18); also, interestingly, P.Cair.Zen. 3, a deed of sale drawn up in Palestine in 259 BC (fig. 11). Greek writing in Egypt and in Ptolemaic Palestine apparently developed along very similar lines.²⁷

These relatively "archaic" hands contrast sharply with the highly stylized hands from the royal chancery at Alexandria (group 2). Most of them were written in the name of the *dioiketes* Apollonios (PSI

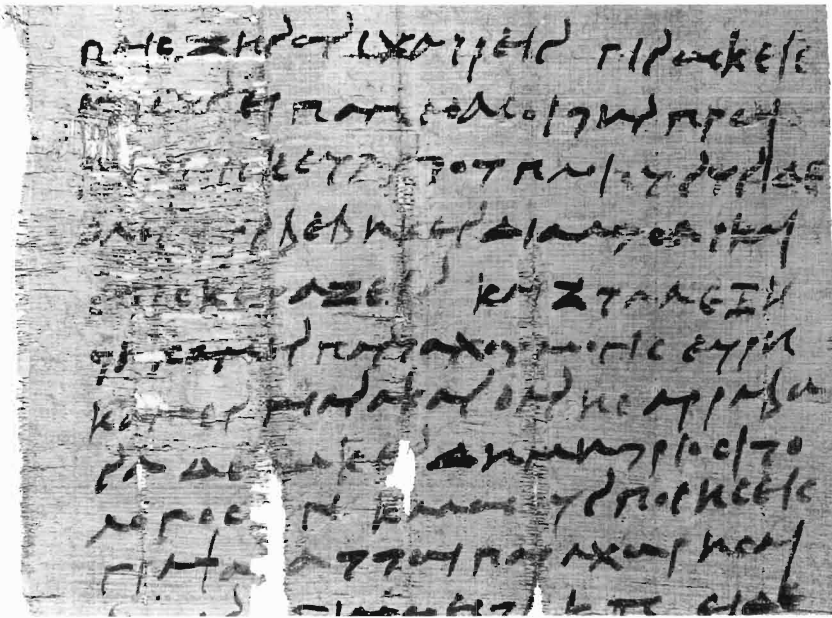


Fig. 9

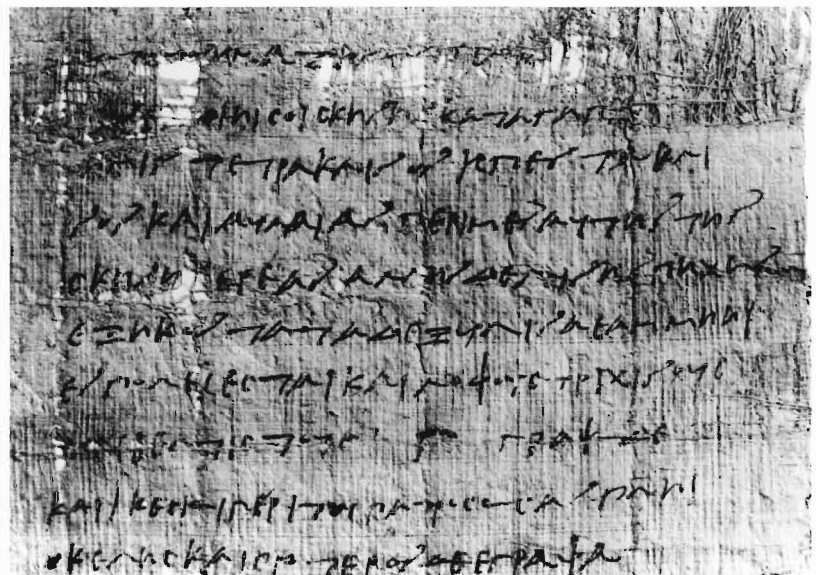


Fig. 10

²⁷ Cf. E.Crisci, *Scrivere greco fuori d'Egitto* 35 and 175.

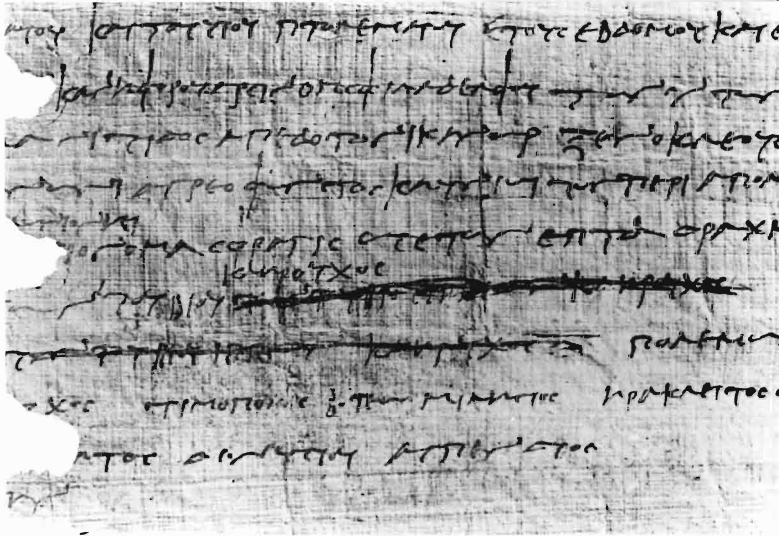


Fig. 11

V 514: fig. 12),²⁸ some others in the name of subordinate officials connected to the royal court.²⁹ This script is so uniform that one cannot tell whether these letters were written by one or more scribes. It is characterized by a strong tendency to extend the existing upper horizontal strokes (of Γ, Ζ, Η, Ξ, Π and above all Τ) or to create new ones by flattening the second oblique strokes of Α, Δ, Λ, the middle part of Μ and the cross-bar of Ψ), and to interconnect those upper horizontals wherever possible; most letters are

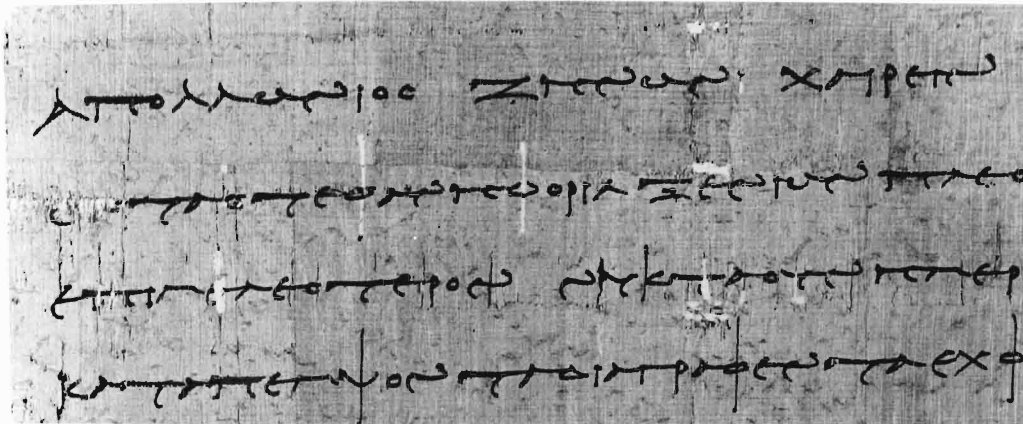


Fig. 12

wider than high. This creates the impression that most letters (except Φ and Ψ) are aligned to an imaginary upper horizontal line. The result is a beautiful calligraphic script of perfect regularity, immediately recognizable as official and authoritative, far removed from the epigraphic letter forms of the 4th century, but also from the bookhands of the first half of the 3rd century. It can be understood as a deliberate and consistent stylization of the more advanced, rapid scripts of group 1, such as P.Cair.Zen. 3 (fig. 12). It seems a reasonable hypothesis that it was created by scribes in the royal chancery at Alexandria.

²⁸ Norsa, *Scr.doc.* 1; *Scrivere libri* no. 100 pl. 89; PSI IV 322 (*Zenon* pl. 2); 325 (*Scrivere libri* no. 93 pl. 82, etc.

²⁹ E.g., Deinon: PSI IV 376 + P.Cair.Zen. III 415; P.Cair.Zen. V 853; P.Ryl. IV 565; P.Hib. I 44; Menes: PSI V 505 (*Zenon* pl. 37); Damis: PSI IV 367 (*Scrivere libri* no. 102, pl. 91; Metrodoros: PSI VI 633 (*Zenon* pl. 93).

The impact which the Alexandrian chancery script had can be seen in the hands of group 3: most clearly in Zenon's correspondence, especially in letters addressed to Zenon,³⁰ but also in the petition to the King (*enteuxis*) PSI IV 389 of 243 BC (*Zenon* pl. 14), and even in PSI VI 616, a report drawn up probably in Alexandria: its letter forms are essentially those of the chancery script, although they were evidently written very rapidly.³¹ The influence of this script is still visible in some of the petitions of 221 BC,³² in the contemporary P.Heid. VI 363 (pl. 4), in UPZ I 112,³³ etc.

Apart from the three groups discussed so far, which all belong to the more advanced stage of the first phase in the development of cursive, there are numerous letters and petitions which are carefully written in regular, unconnected majuscules (group 4). In some of these, the letter forms betray the influence of the chancery script of group 2,³⁴ in others, such as BGU 1993 (**19**), less so or not at all.³⁵

In the second half of the third century the tendency to link letters to one another by extending their horizontal elements as much as possible becomes progressively more prominent. This tendency is clearly driven by the need to write fast, without lifting the pen. This is already apparent in some hands of the Zenon archive; ligatures become more frequent after the middle of the third century (**31**, dated 241; **34**, of 221-214). Some of these interconnected letter combinations are genuine ligatures in which two or more letters coalesce into a graphic unity ($\epsilon\bar{\iota}$, $\omega\bar{N}$, $\epsilon\bar{C}$, $C\bar{\iota}$, $\epsilon\bar{\omega}C$, etc.); some, however, are short horizontal dashes which link the tops of letters but are not themselves organic parts of these letters (inorganic or "pseudo"-ligatures: e.g. $H\bar{N}$, $\Upsilon\bar{N}$). On the other hand, the majority of letters in these documentary scripts still remain unconnected. Specimens of fully-fledged *cursive* writing, i.e. documentary hands which consistently and systematically link the letters *currente calamo*, only appear around the turn of the third to the second century. Hands like those of P.Heid. VI 363 (pl. 4), BGU III 1007 (Schubart, *PGB* 4c), **34** and **37** are still in the first phase of cursive writing, where small groups of letters are interconnected by ligatures, whereas those of P.Heid. VI 370 (pl. 11), P.Laur. III/155³⁶ and PSI XIII 1310³⁷ clearly show phase 2, as do those of UPZ I 2,³⁸ and others discussed by Schubart, *Gr.Pal.* 33-36, P.Köln VIII 341-347, etc.

Features common to literary and documentary scripts

The development of abbreviated letter forms, ligatures and other ways of accelerated writing had an impact on both documentary and contemporary bookhands, which were, conversely, often imitated by documentary hands. On the one hand, elements of cursive writing now make their appearance in some less formal bookhands such as **24** and **30**, even in those that were evidently written slowly and carefully; on the

³⁰ See, e.g., PSI IV 341 (*Scrivere libri* pl. 87), V 502 (Norsa, *Scr.doc.* pl. 3), 513 (*Scrivere libri* pl. 88), VI 585 (*Zenon* pl. 66), 594 (*Zenon* pl. 70), etc.

³¹ On this hand, see G.Messeri in *Scrivere libri* p. 175 (no. 96, pl. 85; also *Zenon* pp. 76sq., pl. 81).

³² See P.Ent. 74 pl. 10; 85 pl.12.

³³ Cf. Seider III 1, p. 323sq.

³⁴ E.g., PSI V 483 (*Zenon* pl. 24); 496 (*Zenon* pl. 32); VI 592, from Alexandria (*Zenon* pl. 69).




³⁵ E.g., PSI IV 378 (*Zenon* pl. 12); 383 (*Scrivere libri* no. 104 pl. 93); 399 (*Zenon* pl. 16); V 516 (*Zenon* pl. 39); VI 632 (*Zenon* pl. 92); P.Cair.Zen. I 60.

³⁶ *SB* XX 14579; *Scrivere libri* no. 106, pl. 95.

³⁷ *Scrivere libri* no. 107, pl. 96.

³⁸ P.Lond. 24, Facs. I pl. 18.

other hand we find a substantial number of documents written in careful and essentially literary hands, presumably either because the scribe wanted to give his writing a more formal and dignified appearance, or possibly because he was more used to writing literary rather than documentary texts. One might even ask whether some professional scribes in the 3rd century were trained in both literary and documentary scripts. The fact that literary texts found together with documents of the Zenon archive³⁹ strongly resemble those stylistically might suggest this. Yet despite these points of contact and numerous examples of reciprocal influence, it is from this time onwards that literary scripts and mature cursive begin to go their separate ways and develop their own specific styles.

Letter forms shared by bookhands and careful non-cursive documentary hands include *alpha* with first and second stroke linked by a loop ( in **36**); this form of *alpha* continues to appear in both literary and documentary hands of the later second century (**45, 46, 48, 51**) and as late as the first century (**96**; further examples are quoted in the description of **48**). Other letters that "borrow" forms from cursive or at least from accelerated documentary scripts are *epsilon* with top bow bending back to the beginning of the middle bar ( in **45** and **60**) and *my* with its middle strokes forming a very shallow cup ( in **44, 48, 57**). In this category of forms introduced from accelerated documentary scripts we should include also ligatures of *epsilon* + *iota*, *epsilon* + *sigma*, *sigma* + *tau*, *omega* + *iota*, *tau* + *omega* (**44, 61, 62, 63**). The *tau* with split crossbar, the forerunner of the V-shaped *tau* in documentary cursive, does not seem to occur in bookhands before the early second century and can therefore serve as a useful dating criterion.

On the whole, bookhands and slowly written, careful documentary hands (as distinct from fully developed cursive) do not diverge significantly, other than in their higher or lesser degree of scribal competence or care. Not surprisingly, certain features in some bookhands of the early second century, such as the small *omikron* and the flat and high *omega* in **36** and (though less conspicuous) in **40** and **54**, recall letter forms of the preceding century. These features gradually disappear, while in the course of the second century bookhands display a different stylistic orientation with increasing confidence.

The second century

The salient feature of this new style is its balanced regularity. The older pattern which was characterized by contrasting broad and narrow letters, and often also by tall and small letters high in the line, is generally abandoned. The new pattern which now emerges shows a marked tendency to inscribe all letters, as far as possible (i.e. except *iota*, *rho*, *phi* and *psi*) into a square. This tendency is particularly evident in markedly calligraphic hands (**46, 52, 55, 56** and, to a lesser extent, **58**). On the other hand, though less frequently, one finds an oblong pattern (**43, 44**). The scribes seem to have had a preference for either the square or the oblong pattern, without mixing the two. Other characteristic features of second-century bookhands are the slight curvatures of most upright and diagonal strokes, and the frequent use of serifs at the ends of strokes (**38, 40, 41, 45, 46, 47, 50, 56, 58, 60**).

Contemporary documentary scripts diversify: apart from fully-fledged cursives, in which towards the end of the 2nd century letters tend to appear so ruthlessly abbreviated as to become quite hard to decipher,⁴⁰ we find several variants of a more formal script. It is characterized by a balance between

³⁹ See p. 9, note 23.

⁴⁰ See, e.g., P.Tebt. I 5 col. 9 (pl. 3); an extreme example is P.Tebt. I 47 of 113 BC (pl. 7); on ostraca: *PGB* pl. 8.

horizontal and vertical strokes. As in the 3rd century, letters are still largely aligned to the upper horizontal line and often interconnected at the top, but their vertical strokes are equally conspicuous: very long in Φ and Ψ , often also in H (𐀨), K and sometimes B, and P, T, Υ have long descenders. This script appears in official documents, such as petitions to the King, to the strategos or to other officials, such as 48,⁴¹ or in notices intended for public display,⁴² but also in official documents and letters.⁴³ Other hands are modelled on bookhands (39, 43, 47, 51, 57), while conversely, some literary texts are written in the more formal documentary script.⁴⁴

The first centuries BC and AD

Bookhands of the first century BC and the first half of the subsequent century continue to show the coexistence of older with more recent characteristics. The latter gradually prevail and eventually become dominant. In their calligraphic forms, the letters now tend to appear strictly bilinear and inscribed into a square, with very few exceptions (80, 89), and the curvature in the strokes becomes stronger. This style of writing might be called the *square/round style* (69, 72, 73, 74, 77). Calligraphic forms, executed in varying degrees of rigidity, can be found in both documentary and literary hands; they can be quite plain (66, 69, 96), but most frequently they appear elaborate and decorated with ornamental serifs (65, 67, 68, 70, 71, 72, 73, 74, 75, 76, 80, 82, 83, 84) which can be quite conspicuous (73, 74, 83). Among these scripts, some of which appear highly stylized (70, 72, 74, 76), one can distinguish a very particular style which has been labelled the *epsilon-theta style* after the salient feature of these two letters (and sometimes of ξ) which is the contraction of their middle bars to a dot or to a small hook (78, 79, 84).

It is noteworthy that in this period, the later first century BC and the early first century AD, we find increasing numbers of literary texts written in a rather careless manner (68, 71, 77, 86, 87, 91, 94). This may be due to a further increase in the demand for books and hence in book production, which one would expect to have led to faster and less painstaking ways of copying. It is no coincidence that these hands have certain features in common with some informal or careless documentary hands (59, 81, 85, 90).

The picture of the literary scripts of the Hellenistic and early Roman period can be complemented by the evidence of the bookhands from Herculaneum (65, 83, 92, 93). These diverge little from their Graeco-Egyptian counterparts; they seem to have developed along very similar lines. The general similarity of Greek scripts from Egypt and from southern Italy may be due to intensified cultural exchanges as a result of the more intense political and economic relations between the Romans and the Hellenistic world during this period. To mention just one small detail, the shape of the *alpha* with its first and second strokes linked by a loop (𐀀): attested already in the second century (36, 45, 46), it is found also in the following century in both Herculanean (93) and in contemporary Graeco-Egyptian bookhands

⁴¹ E.g., UPZI 10 of 160 BC (P.Lond.Facs. I 20) and UPZ I 2 of 163 BC (P.Lond.Facs. I 18; Schubart, *Gr.Pal.* 35 fig. 12); P.Köln VII 313 pl. 14-15 (copy of a royal decree of 186 BC).

⁴² P.Köln VIII 348 pl. 16.

⁴³ E.g., P.Tebt. I 10 (pl. 5); BGU VI 1248 (PGB 6ab); 1249 (Schubart, *Gr.Pal.* 36 fig. 13); more cursive: 1252 (Schubart, *Gr.Pal.* 35 fig. 11). Similar scripts are found as far away as Bactria: cf. W.Clarysse & D.J.Thompson, 'Two Greek texts on skin from Hellenistic Bactria', *ZPE* 159 (2007) 273-279.

⁴⁴ E.g., P.Amh. II 10 pl.2 (Astydamas ?, *TrGF* I p. 203; MP 0169, LDAB 425) and the anthologies P.Berol. 9772 (PGB 6c; MP 1568, LDAB 3753), P.Tebt. I 1 & 2 (MP 1606-7, LDAB 6894-5).

(95, 96). It may be an indication both of stylistic continuity over time and of the existence of a *koiné* of Greek literary scripts across the Mediterranean world.

Conclusions

In conclusion, four points can be made: (1) The distinction between bookhands and documentary or cursive hands does not emerge before the middle of the 3rd century BC. From the evidence of the earlier centuries it appears that there was only ONE standard script, in regular, upright and unconnected letters like those on Attic vases of the 6th century. Why did cursive writing, with letters connected by ligatures so that the pen "runs" on (hence the term "cursive"), not develop much earlier? We suspect, simply because there was not so much need for fast writing. In a Greek *polis* of the sixth or fifth century, it was easy to meet, to communicate and to do business orally, face to face, so that the volume of written transactions remained fairly limited (this would be in keeping with the evidence collected by Rosalind Thomas). However, that changed radically in the Ptolemaic and Seleucid kingdoms: both had to operate with large, centralized bureaucracies, which inevitably created a huge amount of written records, lists and correspondence. After all, writing had first been invented and developed in the large and highly centralized territorial states of Mesopotamia and Pharaonic Egypt, for administrative purposes, not to record poetry.

(2) Greek bookhands remain conservative. Throughout the Hellenistic period and well into the 2nd century AD, they continue to be modelled on the letter forms and the layout of stone inscriptions. The ideal shape is the letter inscribed into a square: *either* as a circle or part of a circle, such as O, E, X, Θ, *or* as a triangle: A, Δ, Λ, Υ, T, *or* as squares: Π, H, M, N, Ξ, Z. In its ideal form, this script is timeless; it is only when scribes fail to suppress their fast-writing habits that cursive elements creep in, abbreviated forms and ligatures, and also mannerisms such as decorative serifs. It is mainly these cursive features that make it possible to date literary hands.

(3) In the Hellenistic period, there is hardly any differentiation between types of literary hands, apart perhaps from a 'serifed' type in the 2nd century and the so-called *epsilon-theta* style in the first. Hellenistic bookhands are still ultimately inspired by square epigraphic letter forms. It is not until the Roman period that different and clearly distinguishable styles of Greek bookhands emerge. And finally,

(4) The epigraphic model also explains why Greek bookhands - apart from very few exceptions - did not use word division. Very early on one finds words or word-groups separated by dots, as we saw on a Corinthian sherd and the Nestor cup, and in some early Ptolemaic documents sentences are sometimes separated by spaces. But elegant, professional book rolls of the Hellenistic period are written in *scriptio continua*, and prose works are written in lines of equal length which often have to split words at the end in order to create regularly aligned columns of writing. To obviate the inconveniences created by the lack of word-division, a complex system of accents, hyphens and other lectional signs was invented. This is an amazing case of aesthetics prevailing over expediency, paralleled only by Arabic calligraphy and few other scripts. The printed page of modern books in the western world is still modelled on the block-like, rectangular column of a Hellenistic book-roll, word-division being the only modern concession.

Layout

There is no evidence to show how literary texts might have been arranged in papyrus rolls of the sixth or fifth century BC. Pictures of bookrolls on Attic vases⁴⁵ prove that papyrus rolls were common in Athens, but even where they show bits of the text they are no reliable guide as to its layout. One would expect epic poetry to be set out in hexameters: the two hexameters on the Nestor cup⁴⁶ are so arranged, as are the hexameters quoted in the Derveni papyrus (1).⁴⁷ In texts of drama, the lines presumably coincided with trimeters and tetrameters, as they do in **10**, **11** and **18**, but we have no evidence for the presentation of lyric poetry or of prose texts before the fourth century. In the Berlin Timotheos (2), the poem is laid out in long lines of uneven length without any regard for the metre, and so are the dithyramb **12**, the lyric passages in the Strasbourg anthology (13),⁴⁸ and even the Sapphic stanzas in the Florentine ostrakon of the second century BC,⁴⁹ which is, however, a very special case: it was penned by an extremely careless scribe⁵⁰ who apparently wanted to squeeze as much text as possible into the limited space of the ostrakon. The same is true of the *skolia* from Elephantine (6) in lyric metres, whereas the one in elegiacs is written in distichs of alternating hexameters and pentameters, as is the Berlin Tyrtaios (16). But we cannot be sure that lyric passages were so arranged also in earlier times. It is conceivable that in rolls from which actors and chorus singers rehearsed for public performances of dithyrambs and tragedies, the structure of lyric passages was somehow indicated in order to facilitate the memorizing of the text - but this is only a guess. Whatever the practice in earlier times might have been, the absence of any metrical structure in the layout of the earliest surviving papyrus texts of choral lyric poetry seems to confirm the assumption that the colometry of these texts is due to Aristophanes of Byzantion (c. 258-180 BC). At any rate, the earliest papyri which show choral lyric poetry set out in triads (strophe, antistrophe and epode) are known from the second century BC (45 and 50). In lyric poetry composed in sequences of stichic verse, such as the extended hipponactean of 8, the oldest papyrus of Sappho, verse and line coincide, as they do in hexameters, trimeters, etc. By contrast, lyric poetry in Aeolic metres seems to have been laid out in stanzas separated by paragraphoi even before the time of Aristophanes of Byzantion, as P.Mil.Vogl. I 7, datable to the late third/early second century, suggests.⁵¹

Prose texts are written in lines of approximately equal length. The lines of the Derveni papyrus (1) are of roughly the same length as its hexameter quotations. The Plato papyri 7 and 9 have lines of 20-26 letters (7) and 17-19 letters (9), the Thukydides papyrus (20) has lines between 18 and 20 letters long.

⁴⁵ H.R.Immerwahr, 'Book rolls on Attic vases', in: *Classical, Medieval, and Renaissance Studies in Honor of B.L.Ullman* (Roma 1964) I 17-48; *idem*, 'More book rolls on Attic vases', *AntK* 16 (1973) 143-147 and pl. 31.

⁴⁶ Jeffery, *Local Scripts* 235f. and pl. 47, 1.

⁴⁷ P.Berol. 11793 (MP 1943; LDAB 6924; *SH* 990), a Hellenistic hymn to Demeter in dactylic distichs (hexameters alternating with tetrameters) breaks the hexameters in the fifth foot but marks the end of each distich by paragraphos.

⁴⁸ Other examples are P.Berol. 13428 (P.Schubart 17 = MP 1921; LDAB 1042); P.Tebt. III 1, 691 (MP 1942; LDAB 6939).

⁴⁹ PSI XIII 1300 (MP 1439; LDAB 3904; Norsa, *Scr.litt.* pl. 5b. The scribe did, however, leave a blank space at the end of each stanza.

⁵⁰ Not a schoolboy, as Page rightly observed, *Sappho and Alcaeus* 35 n. 1.

⁵¹ MP 1898; LDAB 174; Page, *PMG* 920; see A.Malnati in M.Capasso (ed.), *Papiri letterari greci e latini* (*Pap.Lup.* 1, 1992) 321-323. On the Alexandrian editions of Sappho see G.Liberman in G.Bastianini & A.Casanova (eds.), *I papiri di Saffo e di Alceo* (Firenze 2007) 41-65.

Later prose papyri either have fairly short lines, mostly 16-20 lines long (**46**, **55**, **65**, **67**, **91**), rarely less (**82**: 12-16 letters), or lines of ± 30 letters (**52**, **61**, **71**, **76**, **86**, **92**). The later practice of writing texts of oratory in very narrow columns is not found in Hellenistic papyri. In the oldest prose texts, the alignment of the right margins is not very strict; from the second century onwards, they are generally more carefully aligned (**46**), sometimes with the help of line-fillers (**52**, **67**). There is no evidence of ruling in papyri, but very rarely scribes mark out the horizontal spacing of lines by a vertical series of dots or small strokes at line-beginnings, as in **9**.⁵² Without this device, scribes sometimes tend to begin their lines progressively further to the left ("Maas's Law": **27**, **46**, **61**; cf. P.Sorb. inv. 2272b = Turner, *GMAW*² 40). Johnson (*Bookrolls* 91-93) suspects that where this occurs in bookrolls of the first and second centuries AD it may be the result not of carelessness or of the writing position with the papyrus resting on the left knee, but of deliberate choice by the scribe for aesthetic reasons. As far as Hellenistic books are concerned, this seems highly unlikely: see above, p. 17 under (4).

In the Hellenistic period, literary texts are written without word division (*scriptio continua*). The only gaps which we often see in the compact sequences of letters are short blank spaces separating sentences.⁵³ How difficult the reading of literary texts was made by the lack of word division is amply illustrated by the *Livre d'écolier* (above, p. 10 n. 24) and the numerous syllabification exercises in the school texts.⁵⁴ After all, the Greek word for "reading", ἀναγιγνώσκειν, means exactly what the reader had to do with a continuous row of letters: to "recognize" the words. What devices were developed from the second century BC onwards in order to make this task easier will be discussed in the next section (Aids to the reader). Unquestionably, the division of words, or at least of word groups, would have made "recognizing" words infinitely easier. In view of the fact that some of the earliest surviving specimens of Greek alphabetic writing, such as the sherds found among geometric pottery of the 8th century in the potters' quarter at Corinth (above p. 1, n. 3), as well as inscriptions,⁵⁵ divide words by double or (more often) triple dots, and that in the marriage contract from Elephantine of 310 BC words are separated by spaces (almost consistently in the first four lines, less so further on)⁵⁶ strongly suggests that the practice of writing without separating the words was a choice made deliberately.

Aids to the reader

Blank spaces between sentences in prose texts have already been mentioned. They can also separate verse quotations from prose context (**30**), or lemma from comment in the *hypomnema*, as in **49**, in **74**, where lemmata are also set out in *ekthesis*, and in **94**, where they are marked by paragraphos and divided from comment by blank space and high stop (col. II 12). Pauses in the sense can also be indicated by various

⁵² See Turner, *GMAW*² p. 4 with n.7. Further examples of these dots are listed and discussed by Johnson, *Bookrolls* 93-99.

⁵³ In the Florentine ostrakon of Sappho (above, n.49), blank spaces are visible at the ends of stanzas 1 and 2.

⁵⁴ Criore, nos. 78-97.

⁵⁵ Jeffery, *Local Scripts* 67; Attica: pl. 3, 18, 20, 21, 25; pl. 4, 31, 34 (all 6th cent.); 44 (c. 500-480); Euboea: pl. 5, 9A; Aigina: pl. 16, 4; Ozolian Lokris: pl. 15, 4 (earlier 5th century).

⁵⁶ Word division in documentary texts: **36**; **48**; P.Cair.Zen. II 122 (private letter, 181 BC); P.Oxy. II 291 (AD 25-26); P.Oxy. II 292 (AD 25). Word division occurs occasionally in school texts: see, e.g., P.Ryl. III 486 pl. 6 (late I AD), where the spelling mistakes and the violation of Hermann's Bridge in line 9 suggest that it was intended for school use.

forms of punctuation, i.e. stops (στυγμαί). Although in some of the oldest surviving papyri, a double dot (*dicolon*) and occasionally a triple dot can have this function,⁵⁷ *dicola* are commonly used only in texts of drama, where they indicate change of speaker in mid-verse (**4**, **18** B col. II 3, **58**, **69**, **78**), usually combined with paragraphos (not in **58**). Occasionally, the *dicolon* is used in a different context or for a different purpose: in **50** (Stesichoros) at end of antistrophe (v. 217), in **75** (anapaests) to mark sentence-end. Other forms of punctuation are the middle and high stops, which are occasionally found in texts of the 2nd century (**45**) but become more common later, e.g. in **68**, **69**, **84**, **89**,⁵⁸ etc. It is possible that Aristophanes of Byzantion introduced punctuation, but the evidence is slender.⁵⁹

Like the various forms of punctuation, the paragraphos too serves a variety of purposes. In texts of dramatic dialogue it marks the alternation of speakers (**18**, **40**, **56**, likewise in **30**). It has the same function in the earliest papyri of Plato (**7** and **9**) where the change of speaker in mid-line is additionally marked by a horizontal dash, in analogy to the *dicolon* in texts of drama. The paragraphos is sometimes an oblique stroke (**89**).⁶⁰ In prose texts (**35**, **41**, **46**, **80**),⁶¹ in collections of elegies (**28**), and exceptionally even in a private letter (**57**) it marks the end of a section. In texts of choral lyric poetry, it marks the ends of strophe and antistrophe, whereas the end of the epode (i.e., of the triad) is indicated by a coronis.⁶²

In texts of poetry, *scriptio plena* is frequent in **2** (Timotheos), but rare already in the third century (e.g. in **10** line 6: τε ου for θ' ου), though still relatively frequent in some texts of the 2nd century (**44**). By contrast, unmarked elision becomes increasingly common. Elision marks are not found before the second century (**45** Ibykos); they remain extremely rare throughout the Hellenistic period, but from the first century AD onwards they appear even in prose texts (**86** Demosthenes).

Accents, like punctuation, are thought to have been introduced by Aristophanes of Byzantion, but here, too, the evidence is slight.⁶³ It is not until the second century and later that accents, like elision marks, quantity marks and rough (˘) breathings (**40** Euripides, **45** Ibykos; first century: **84** Pindar; first century BC or AD: *GMAW*² 15 Alkman) become more frequent. Not surprisingly, we find these lectional signs employed almost exclusively in texts written in unfamiliar dialects and metres, such as choral lyric, whereas they are almost completely absent from Hellenistic copies of other poets, but this begins to change in the first century AD (**89**). The accentuation in **45** is particularly instructive; the accents on ορειχαλκωι in col. III (see the plate in *GMAW*² 20), split between lines 42 and 43 (ὀρεῖ | χάλκωι), evidently warn the reader that this is one compound word,⁶⁴ whereas the acute on μοιούτε in col. I 10 tells him not to read this as

⁵⁷ *Dicola*: e.g. Artemisia papyrus (Norsa, *Scr.lett.* pl. 1b); P.Hibeh I 13 (also triple dot in line 9); before figures: P.Saqqara inv. 71/2 GP 9 (*GMAW*² 88); in a letter, also with paragraphos: **55**.

⁵⁸ Stops at verse end, as also, e.g., in P.Lond. 1873 + P.Ryl. III 540 (MP 643; LDAB 1380), AD I.

⁵⁹ In Schol. HQ on *Od.* XIII 96, he is blamed for a wrong punctuation in *Od.* I 72 (after θυγάτηρ).

⁶⁰ It signals the end of direct speech also in , e.g., P.Tebt. I 4 (MP 0632; LDAB 2335; *GMAW*² 12; II BC) and in the roll of *Iliad* IV MP 0717 + 0723 (LDAB 1453; AD I/II), for which see W.Lameere, *Aperçus de paléographie homérique* 65-92 and pl. 2; M.Wittek, *Album de paléographie grecque* pl. 3.

⁶¹ In **65** col. II,6 it may mark the end of a sentence, while the end of the section is indicated merely by a blank space; the paragraphos is misplaced in col. III,3.

⁶² On the coronis, see G.M.Stephen, 'The Coronis', *Scriptorium* 13 (1959) 4; W.Fischer-Bossert, 'Die Koronis im Berliner Timotheospapyrus', *APF* 51 (2005) 191-195.

⁶³ Schol. (P) on *Od.* VII 317 Ἀριστοφάνης περισπᾶ τὸ εἰδῆς, cf. Pfeiffer, *History* I 180.

⁶⁴ See Ar. Byz. fr. 413 (p. 162 Slater): ὀρείχαλκος· Ἀριστοφάνης ὁ γραμματικὸς σεσημείωται τοῦτο.

μοίου τε. In cases like this one, therefore, their purpose is clearly to help the reader divide the words correctly. But the combination of these lectional signs with those indicating the metrical structure (paragraphos after strophe and antistrophe, paragraphos with coronis after triad, and the trema on εἶδει in col. I,5 measuring the word -υυ) seems to suggest that their main function was to facilitate the correct oral presentation of these verses by well-trained readers who wanted to recite them, as far as possible (in the absence of any musical notation that might once have accompanied them) in the manner and rhythm intended by the poet. If this is correct, the customers for whom such books were produced belonged to the educated Greek-speaking élite of the country.

The spacing of letters often shows that punctuation has been added by a second hand; the same can be assumed where the ink of stops, accents or other signs is lighter or darker, or their pen-strokes are thinner or broader. The hand which added them may be contemporary with the scribe of the text, or younger by a few or by many years - we usually have no way of telling how long the interval between them was. Even less can we tell who the person was who added these lectional signs - the bookseller, or the customer who bought the book-roll, or a reader? Even where we can be confident that the scribe himself had been responsible for them, we often cannot guess from what source he derived them: from his own general knowledge of Greek accentuation (occasionally, one also finds a wrong accent), or did he copy them from his exemplar, or from a commentary (*hypomnema*)? How did a reader or annotator know what the correct Doric accentuation in a text of Ibykos, Alkman or Pindar was? And why did readers of Homer apparently not need these aids, at any rate not before the first century AD when accentuated copies of Homer begin to proliferate (89)?

This may reflect changes in the methods and levels of literary education from Ptolemaic to Roman Egypt. According to Plato, Homer had traditionally been considered "the first teacher and leader" and the "educator" of all Greeks (πρῶτος διδάσκαλος τε καὶ ἡγεμῶν, *Rep.* X 595b, cf. 606e), and his privileged position in teaching is confirmed by the *Livre d'écolier* which introduces the students to a passage from book V of the *Odyssey* soon after they have mastered the syllabification exercises. Moreover, the extraordinary number of texts of the *Odyssey* and particularly of the first books of the *Iliad* attested by the papyri from Ptolemaic and Roman Egypt suggests that anyone who had been educated in a Greek school must have been exposed to reading and probably also to memorising and reciting passages of Homer. They knew how to "recognize" (ἀναγιγνώσκειν) the words in Homeric texts. Under the Ptolemies, Greek schools did not cater for non-Greek pupils, i.e. for children who were not native Greek speakers: the language was taken for granted, teaching Greek did not become part of the curriculum until the first century AD.⁶⁵

Indicators of scholarly activity

Where accents, breathings, punctuation, paragraphos, coronis, or quantity marks appear in texts (almost exclusively of poetry), they are likely to reflect some degree of scholarly attention. Where these 'aids to the

⁶⁵ See H.Maehler, 'Die griechische Schule im ptolemäischen Ägypten', in: P.Van 't Dack, P. van Dessel, W. van Gucht (eds.), *Egypt in the Hellenistic World* (Leuven 1983 = *Studia Hellenistica* 27) 200-201, reprinted in C.Láda & C.Römer (eds.), *Schrift, Text und Bild* (München-Leipzig 2006) 187-196. On Homer in schools, see R.Criore, 'A Homeric writing exercise and reading Homer in school', *Tyche* 9 (1994) 1-8.

reader' are used to clarify word division, or to avoid misunderstandings, they may ultimately go back to some early commentary (*hypomnema*). There are other, more telling indicators of scholarly activity; we occasionally find reference marks in the margin to the left of the column, such as the *chi* (χ), which may signal to the reader that he will find some information in a separate *hypomnema* on the line or passage so marked, as in the Louvre Alkman (*GMAW*² 16) or in the Lille Stesichoros (50 line 302, not shown). It seems never to occur in papyri of Homer, where the *diple* (\triangleright) is used instead.⁶⁶ Both signs "seem to mark a meaning that needed a commentary to make it precise. Their presence in a text suggests either that the papyrus was being marked by a reader who had access to a commentary (or was making one for himself); or else that it was a copy of a text so marked . . . Critical marks of this kind, used scrupulously, are one of the strongest and best indications that the texts in question were scholars' copies".⁶⁷

A good, if somewhat puzzling, illustration of the use of *diple* and *obelos* in papyri of Homer is 73 of *Iliad* XVIII, where lines 603, 604, 608a, b, c, d are marked by *diplai*, 606a by *obelos*, 608a by *obelos* as well as *diple*, and 607 by a dot. Of these signs, the *diplai* against 603 and 604 may both refer to a *hypomnema*, as 604 is so marked also in Ven. A where there is a scholion that refers to both verses.⁶⁸ Alternatively, the one against 604 might refer to a note on a textual variant which may be reflected by Athenaios 181C.⁶⁹ The *obelos* against 606a marks the unmetrical line as spurious; it is not otherwise attested. The dot against 607 cannot have its usual Aristarchean function here, i.e. to signal doubts about the line's authenticity (the line is essential); it may simply mark the beginning of a new section.⁷⁰ The *diplai* against 608a-d may refer to a discussion of the relationship of these lines with Ps.Hesiod, *Scutum* 207ff. from where they have been interpolated (*obeloi* should have been prefixed to all of them, not only to 608a). "It looks as if the signs were originally inserted, whether in this papyrus or in an ancestor, by someone who collated his copy with a Vulgate text provided with marginal signs according to the conventional system; where this offered no guidance he used his discretion".⁷¹

A particularly instructive Homeric papyrus with scholarly annotation is P.Tebt. I 4 (2nd cent. BC) of *Iliad* II 95-210,⁷² which contains *obeloi* (—) to indicate spurious verses (133, 197), *antisigma* (∩) apparently to mark v. 204 as being out of place, *asterisc* + *obelos* (※—) against v. 164 (?) to indicate that it had been wrongly inserted from another passage, oblique strokes at vv. 147, 198 and 207 to mark the beginnings of sections, and a *diple periestigmene* (\triangleright :) at v. 156 to call attention to a different reading by Zenodotos; there is also a stichometric figure ($\bar{B} = 200$) midway between vv. 200 and 201.

⁶⁶ Turner, *Gr.Pap.* 115-118; McNamee, *Sigla* 15-22. A good example is P.Ryl. I 51 (I BC) of *Iliad* XXIV (MP 1016; LDAB 2289), where vv. 367, 383 and 394 are marked by *diplé*, as they are in Ven. A and accompanied by scholia.

⁶⁷ Turner, *Gr.Pap.* 117f.

⁶⁸ Schol. A: ὅτι πρὸς τὸ σημαινόμενον ἀπήντηκεν, "ὄμιλος" (603) τερπόμενοι.

⁶⁹ Athenaios claims that Aristarchos read a line here, μετὰ δέ σφιν ἐμέλπετο θεῖος ἀοιδὸς | φορμίζων (*Od.* IV 17-18), which he cut out and inserted in the *Odyssey*. S.West assumes that "Athenaeus found the line in a wild text of Σ, . . . knew that it was absent from the contemporary Vulgate, and falsely inferred that it was authentic and had been excised by Aristarchus," *The Ptolemaic Papyri of Homer* 134. See H.Erbse, *Scholia graeca in Homeri Iliadem* IV p. 569, who concludes "non liquet num haec quaestio in scholiis tractata sit."

⁷⁰ So West, *loc.cit.* 133.

⁷¹ West, *loc.cit.* 133.

⁷² MP 0632; LDAB 2335; *GMAW*² 12.

Critical signs are found here and there in literary papyri from the second century BC onwards. Their function is often less clear than in papyri of Homer. In **56** there is an *antisigma* with dot (◌̇) and an "inverted" *diple* (<, διπλῆ ἔσω νενεκυῖα) against lines 1 and 3 respectively of col. III (see P.Tebt. III 1, pl. 1). The first is thought to draw attention, at least in Homeric papyri, to a verse being misplaced,⁷³ but whether this is the case here we cannot tell; the meaning of the second, according to Hephaestion,⁷⁴ in texts of drama was to mark the transition from strophe to antistrophe if they were ἀμοιβαῖα, i.e. sung by alternating singers; this may have been the case in **56** col. III, although it cannot be verified. In **84**, apart from paragraphos at the ends of strophe and antistrophe, coronis at the end of each triad, and a stichometric Γ (= line 300) against col. IV 6, there is also a *diple* against col. I 17: a reference to a comment on λιπότεκνος? Even in prose texts a *diple* may have this function: in **82**, it marks line 8 of col. II, probably referring the reader to a note on the unusual epithet φαλαίμιος ("whale-like") of the - otherwise unknown - Diognetos mentioned there.

The clearest evidence of scholarly activity is, of course, the existence of a commentary (*hypomnema*). The earliest Greek commentary, parts of which have physically survived, is the Derveni papyrus (**1**); evidently, therefore, the commentary was not an innovation of Ptolemaic Alexandria. Whether **49**, of the early 2nd century BC, reflects Alexandrian scholarship and editorial practice, is questionable; its *lemmata* have preserved sixty lines of Kallimachos' *Lock of Berenike*, in sections (*lemmata*), set out in *ekthesis* of c. 3 letters to the left, each followed by comments in prose. The commentary, however, does not have real scholarly ambitions; it limits itself to historical and linguistic explanations, or to simple paraphrases. Its most noteworthy feature is that it does not refer to Homer or to any other of the "classical" poets, but to a Hellenistic poem whose author had died not more than two generations before this copy was made. Its layout is unique; if we compare it to the very learned and detailed Homeric *hypomnemata* of the first century BC, P.Oxy. VIII 1086 (MP 1173, LDAB 2287; *GMAW*² 58) and 1087 (MP 1186, LDAB 2264), we notice that the former does not set out its *lemmata* in *ekthesis*; most of these consist of one hexameter, few of more, while the latter has much shorter *lemmata*, which are in *ekthesis* only where they begin a line; where they stand within a line, the following line projects slightly into the left margin. The purpose of setting out *lemmata* in *ekthesis* was to facilitate finding the relevant line in a text copy of Homer.⁷⁵ While P.Oxy. VIII 1086 and 1087 leave few lines without comment, P.Ianda 2 (**74**) is extremely selective, offering comments only on lines 677, 688, 712, 730 and 754 of *Iliad* XI and quoting XVIII 219.

The kind of scholarly erudition displayed in P.Oxy. 1087 is also apparent in **94**, the learned commentary on the epigram *The Oyster* (*SH* 984), which quotes Sophocles and Diphilos and gives an extremely clever explanation of the riddle. On the epigram, Parsons wrote: "Such an accomplished jeu d'esprit would naturally, if not necessarily, be ascribed to the Alexandrian heyday".⁷⁶ The same can be said of the commentary.

⁷³ See McNamee, *Sigla* 14-15 and n.31.

⁷⁴ Hephaestion, π. σημείων p. 74 Consbr. ἐὰν . . . ἡ στροφή ἐξ ἀμοιβαίων τυγχάνῃ συγκεκλιμένη, οὐκ ἔξαρκεῖ . . . ἡ παράγραφος ἐπιφερομένης ἄλλης στροφῆς . . . ἀλλὰ κείται καὶ ἡ ἔσω νενεκυῖα διπλῆ· τοῦτο δὲ ἐὰν ἀντίστροφος ἐπιφέρεται. See McNamee, *Sigla* 16 n. 37.

⁷⁵ See H.van Thiel, 'Die Lemmata der Iliasscholien', *ZPE* 79 (1989) 24.

⁷⁶ P.J.Parsons, 'The Oyster', *ZPE* 24 (1977) 12.

Summing up, we can see that the almost total lack of editorial interventions on the texts (aids to the reader, lectional signs, punctuation etc.) in bookrolls of the third century BC contrasts with their relative abundance from the later second century onwards, particularly in texts of choral lyric poetry (45 Ibykos, 84 Pindar). We may assume that throughout the third and second centuries the readers of Greek books in Egypt were generally well educated and firmly rooted in the Greek cultural tradition. What is new in the second century is that the achievements of Alexandrian scholars, in particular of Aristophanes of Byzantion (colometry, accentuation, punctuation, etc.) begin to be reflected in the copies of poetic texts that circulated in the Egyptian provinces. Not surprisingly, the need for annotation was felt most strongly in texts of unfamiliar dialects and metres, such as choral lyric poetry. Yet annotations of a different kind, pointing e.g. to discussions on the authenticity of verses in commentaries, now begin to appear in texts of Homer. They seem to suggest that even in the provincial capitals of Egypt, readers took an interest in such matters. Moreover, the commentary on Kallimachos' *Lock of Berenike* shows that their interests now included near-contemporary poetry. The readers of 94, the commentary on the epigram *The Oyster*, were evidently part of the Greek intellectual élite of the country. Throughout the three centuries of Ptolemaic rule in Egypt, despite the increasing ethnic mix of the population as a result of intermarriage, Greek books continued to be produced only for those who regarded themselves as Ἕλληνες.

Texts and Plates

1. P. Thessaloniki (Archaeological Museum): The Derveni papyrus, found in 1962 at Derveni, 11 km NW of Thessaloniki, cf. S.G.Kapsomenos, *Gnomon* 35 (1963) 222-3; M.S.Funghi, *Corpus dei Papiri Filosofici* III (Firenze 1995) 565-85. Editions: R.Janko, 'The Derveni papyrus: an interim text', *ZPE* 141 (2002), 1-62; G.Betegh, *The Derveni Papyrus* (Cambridge 2004) 4-55 (text and translation), 56-62 (discovery and description); Th.Kouremenos - G.M.Parassoglou - K.Tsantsanoglou, *The Derveni Papyrus (Studi e testi per il Corpus dei Papiri Filosofici greci e latini* 13, Firenze 2006). Maximum surviving height of the roll: 8.5 cm. IV² BC. MP 2465.1; LDAB 7049. Cf. E.Crisci, 'I più antichi libri greci', *S&C* 23 (1999) 35-38. Image: *GMAW²* 51; Crisci, *Scrivere greco fuori d'Egitto* pl. 1; B.Legras, *Lire en Égypte* p. 52; Kouremenos-Parassoglou-Tsantsanoglou, pll. 1 - 30.

Described by E.G.Turner, *GMAW²* p. 92: "Small, square, upright capitals, generally bilinear, the work of a skilled scribe, using a finely-cut pen. Each letter is made separately, and the layout gives the illusion of a stoichedon inscription (it is not in fact stoichedon). A, bold square E (upright and base often in one movement), Z in form Γ , Θ with central dot, K in 2 movements, M in 3 or 4 (high and rounded), second leg of N raised (\mathcal{N}), $\Xi = \mathbb{X}$, Σ (4 movements, but often in one sequence, the same ductus but not the same effect as Σ in Timotheus), epigraphic Ω in one movement. No punctuation, but paragraphi precede and follow hexameter quotations."

Col. XXIV, 4-8: τουτο το επος δοξειεν αν τις αλλωσ ερησθαι οτι
 5 ην υπερβαλη μαλλον τα εοντα φαινεται η πριν
 υπερβαλλειν ο δε ου τουτο λεγει φαινειν αυτην
 ει γαρ τουτο ελεγε ουκ αν πολλοις εφη φαινειν αυτην
 αλλα πασιν αμα τοις τε την γην εργαζομενοις

2. P.Berol. 9875 ed. U. von Wilamowitz-Moellendorff, *Timotheos, Die Perser*, Leipzig 1903: Timotheos, Persians; 18.5 x 111 cm. Abusir (Busiris), IV² BC. MP 1537; LDAB 4123. Discovery: L.Borchardt, 'Ausgrabungen der Deutschen Orient-Gesellschaft bei Abusir im Winter 1901/2', *Mitteilungen der D.O.G.* 14 (1902) 1-59. Editions: Page, *PMG* 791; J.D.Hordern, *The Fragments of Timotheus*, Oxford 2002, 62-73; see also P. van Minnen, *APF* 43 (1997) 246-260; E.Crisci, 'I più antichi libri greci', *S&C* 23 (1999) 40-43. Image: U. von Wilamowitz-Moellendorff, *Der Timotheos-Papyrus* (Lichtdruckausgabe), Leipzig 1903; Schubart, *PGB* no. 1; Norsa, *Scr.lett.* pl. 1a; Roberts, *GLH* no. 1; Seider II p. 37 no. 2; Crisci, *Scrivere greco fuori d'Egitto* pl. 2; B.Legras, *Lire en Égypte* p. 54.

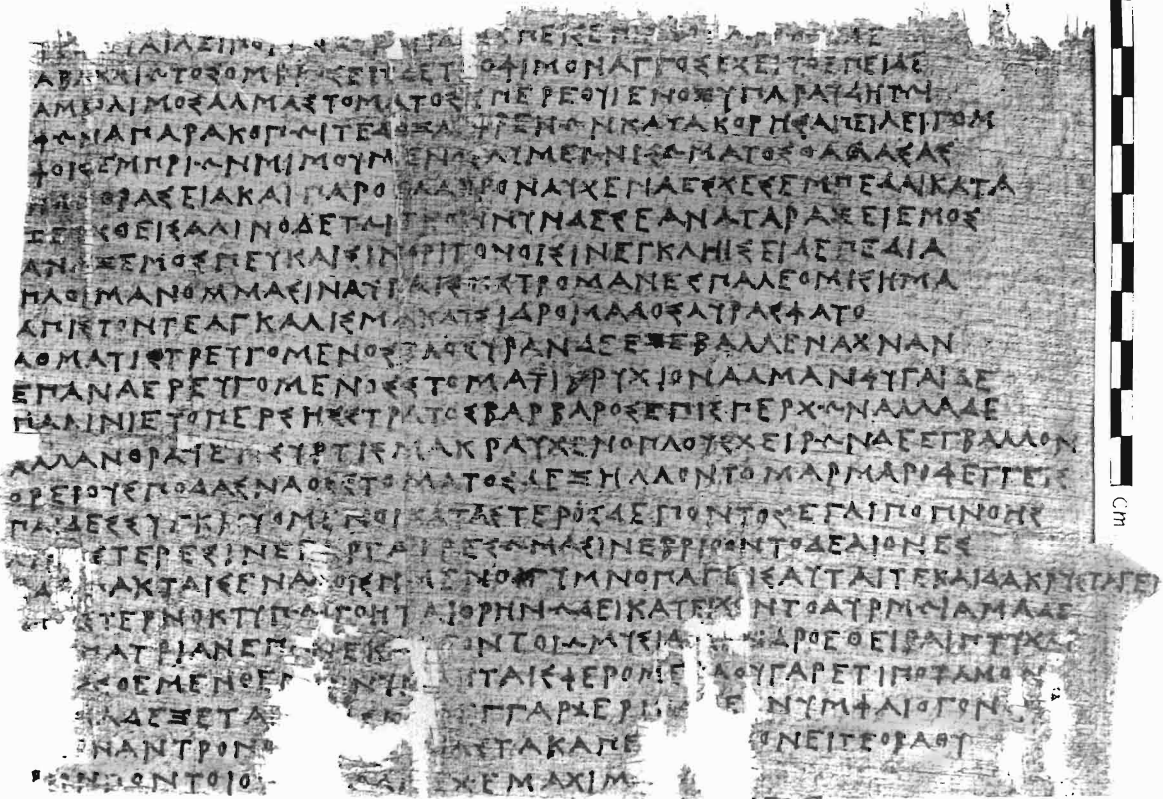
The hand is of the 'epigraphic' type, like that of 1, but far less accomplished. Letters are generally large (c. 4 mm high) but of uneven size (Θ and O are much smaller), and B, I, P, Υ Φ descend below the notional baseline; A is in 3 movements, rectangular E is in 4, as are M and Σ (the latter in one sequence, compressing the middle strokes), Ξ is in 3 parallel lines, the second leg of Π is shorter and slightly curved, Φ has its circle shaped like a flat Δ , Ω is 'epigraphic' but in one sequence and flat. On the coronis see W.Fischer-Bossert, *APF* 51 (2005) 191-195 + pll. 14-15.

Col. III 2-5 (vv. 62-71):

αβακχιωτος ομβρος εις δε τροφιμον αγγος εχειτο επει δε
 αμβολιμος αλμα στοματος υπερεθνιεν οξυπαραυδητωι
 φωνα παρακοπωι τε δοξαι φρειων κατακορης απειλει γομ
 φοις εμπριων μιμουμενος λυμεωνι σωματος θα[[θ]]λασας



1
130%

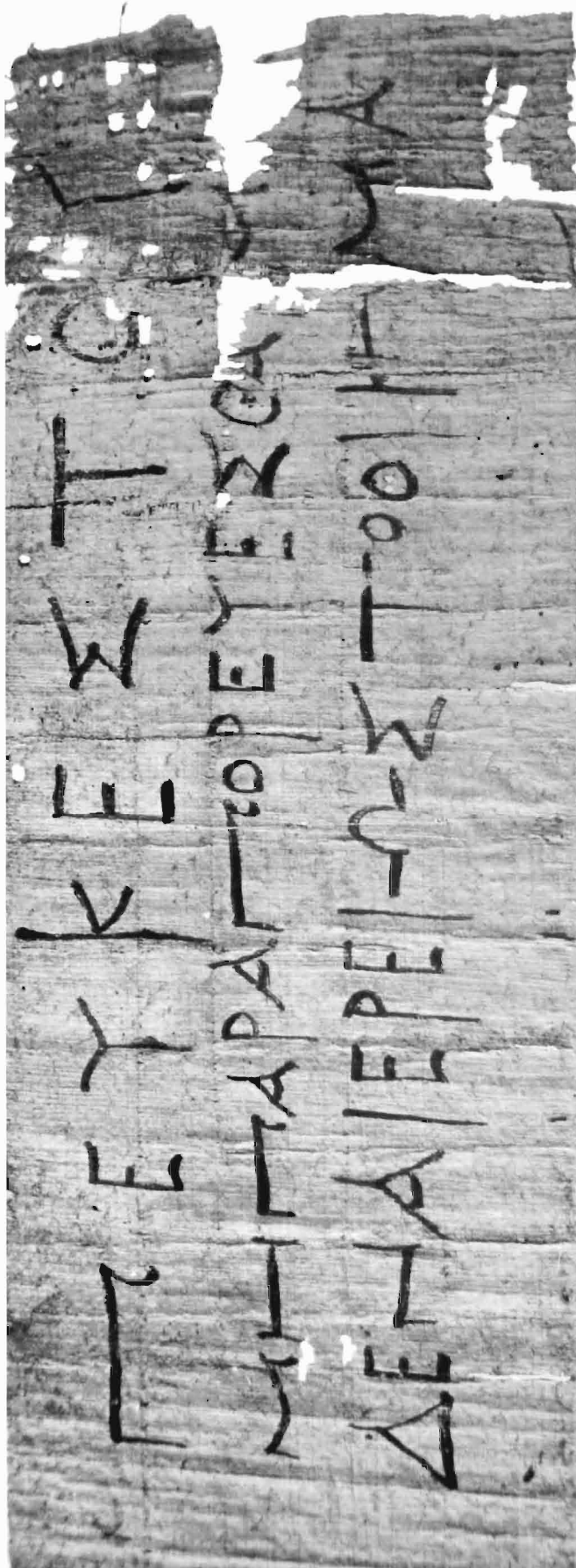


2
65%

3. P.Saqqara inv. 1972 GP3, ed. E.G.Turner, *JEA* 60 (1974) 239-242 = *SB* XIV 11942: Order of a military commander; 13,4 x 35,8 cm. Found in 1972-3 in the Sacred Animal Necropolis at Saqqara/Memphis, c. 331 BC. *GMAW*² 79 with bibl.; E.Crisci, 'I più antichi libri greci', *S&C* 23 (1999) 38-39. Image: *JEA* 60 (1974) pl. LV; *GMAW*² 79; *S&C* 23 (1999) pl. 2; B.Legras, *Lire en Égypte* p. 64. Written with a rush across the fibres (*transversa charta*). The large script, and the four holes along the top edge of its right-hand half, suggest that this notice was put up in a public place. Peukestas was one of the two commanders whom Alexander left behind in Egypt when he resumed his campaign against Darius in 331 BC (Arrian III 5.5); this notice can therefore be dated to that year or not long after.

Described by E.G.Turner, *JEA* 60 (1974) 239: "Unevenness of size between letters, and they are irregularly placed in relation to each other. Indeed, the same letter varies in size. The first E is 2.0 cm high, the second 2.6 cm. H M Π are usually broad and shallow, A Δ E I K P Υ are tall, E is rectangular, Σ has four movements (epigraphists would call it '4-barred'), Ω is epigraphic; the cross-bar of A is sometimes straight, sometimes formed of two strokes angled in relation to each other; the two obliques of both A and Δ are produced vertically after uniting; Θ is round with a central dot, Y a shallow cup above a long vertical; the two obliques of K are short in relation to the very high vertical to the centre of which they cling."

Ⓜ Π Ε Υ Κ Ε Σ Τ Ο Υ
 ΜΗ ΠΑΡΑΠΟΡΕΥΕΣΘΑΙ ΜΗ
 ΔΕΝΑ ΙΕΡΕΙΩΣ ΤΟ ΟΙΚΗΜΑ



3
68 %

4. P.Hamb. II 120 (inv. 656) ed. B.Snell: Menander, *Kekryphalos* ?; 12 x 10 cm. Cartonage, provenance unknown; IIIⁱⁿ BC. MP 1643; LDAB 2731. *PCG* VIII 1089 with bibl.; E.Crisci, 'I più antichi libri greci', *S&C* 23 (1999) 47f.; T.Gammacurta, *Papyrologica scaenica* (Alessandria 2006) 111-119. M.Gronewald, *ZPE* 92 (1992) 85-90 gives the text with new supplements and translation. Image: P.Hamb. II pl. 2; *S&C* 23 (1999) pl. 8a.

The hand is very similar to that of P.Hibeh I 6 (Pack² 1666); it also resembles that of **1**, although it is less strictly bilinear: I, P, T, Υ and the vertical of K descend well below the notional baseline; Θ, Ο, the 'epigraphic' Ω and sometimes the 'lunate' sigma (C) are only slightly smaller than average; the cross-bar of A is often bowed (Α), E is angular in 4 movements, the middle strokes of M form a flat curve, the lower short arm of K is almost horizontal, verticals tend to thicken at the extremities; colon marks change of speaker.

(Παρμ.) x-υ-]ν α[λ]λα Μορχιων ιδου : χνχ
 x-υ εν]ταυθ ιματια και χρυσια
 x-υ-x]νων εχω νυν Δορκιωι
 x-υ-x τ]αυτα θειντες ενεχυρα
 5 x-υ-] δυνησθε δραχμας χιλιας
 x-υ-x] Ηρακλεις : αποδωσετε
 οταν τυχη] τε ταυτα μοι καλωσ τ εχηι
 εαν δε τουτο] μη δυνηι συμβαλλομαι
 εις την εκει]νης ταυτ εγω σωτηριαν

5. P.Lille I 17 ed. P.Jouguet: Letter to Aristarchos and his sister Mikkale from their father. 19 x 11 cm. Cartonage, from Ghorân mummy 201; III^{med} BC. The text is written across the fibres (↓), on the verso is the address: A[ρ]ι[σ]τ[α]ρχοι. The addressee, Aristarchos, is known also from P.Lille 12-16, all of which were derived from the same mummy; of these, P.Lille 12-15 are dated between 250 and 241. So, notwithstanding the very archaic appearance of the script, this letter may be contemporary. If so, Aristarchos's father had preserved a style of writing that was in use a generation earlier. Image: P.Lille I pl. 6.

E square, Θ with middle bar reduced to a dot, K with long downstroke and lower arm almost horizontal, Ξ in three horizontal lines (Αλεξανδρεαν 1. 8), Ω much like that in **2**.

<p>Ηρας Αρισταρχοι τωι υγι και Μικκαληι τη θυγατρι χαι ρειν απεσταλ[κ]α σοι Φιλωνα φεροντα επιστολην περι σιτα 5 ρ[ι]ου οκτω αρταβων ων κατα</p>	<p>λινπαιει Γοργονιωι τη θυ γατρι μου καταπλει γαρ εις Αλεξανδρεαν^{Φιλων} καλωσ ουν αν ποιησαις δουσ αυτωι συν 10 βολον τον (the rest is unintelligible).</p>
--	--

1-5

The Derveni Papyrus (**1**) and P.Berol. 9875 (**2**) are the oldest extant examples of Greek bookhands. In both, the letter forms show a uniform pattern of stiff and square shapes, with strict separation of letters. *Alpha* is in three strokes, the middle stroke being more or less horizontal; *epsilon* is in four strokes; *zeta* is rendered in its epigraphical form with vertical middle stroke; *theta* has its middle stroke reduced to a dot; *my* is in four strokes, with the middle ones at an angle; *sigma* is in four strokes forming three acute angles of varying width (in **2** the two outer elements spread outwards, while the inner ones are much reduced); *omega* is rendered in its archaic form with wide middle arc in **1**, and with middle arc reduced but with longer horizontal strokes in **2**, where it shows a design that seems to anticipate the form with double "handle" (Ω) which was to become standard from the 3rd century BC. The apparent differences in some of the letter forms of these two hands, notably Σ and Ω , are due to the different levels of execution - extremely elegant in **1**, more clumsy and uneven in **2**.

Documents, too, follow the model of this script, as the rigid and angular hand of **3** (P.Saqqara 1972 GP3) shows; the letters *epsilon*, *sigma* and *omega*, in particular, resemble those of **1** and **2** in shape and execution. It also shows signs of stylization, such as the marked contrast between very broad letters (*eta*, *my*, *ny*, *pi*) and narrow ones; some curved strokes, and letters of particular forms such as the slightly concave middle bar of *alpha* and the long vertical of *kappa*.

4 (P.Hamb. II 120) exemplifies the Greek bookhand of the first quarter of the 3rd century BC. This too follows the model of the Derveni papyrus and the Berlin Timotheos both in its general character and in some particular letter forms (*alpha*, *epsilon*, *theta*, *omega* among others). One interesting innovation concerns the letter *sigma*, which is no longer made in four strokes but in its simpler and more rapidly drawn 'half-moon' or 'lunar' shape. This seems to have found its way into bookhands from the more simplified designs of documentary scripts, such as that of P.Eleph. 1 of 310 BC and the Artemisia papyrus in Vienna (UPZ 1), although occasionally the 'lunar' *sigma* is found much earlier on Attic vases, e.g. on a lekythos in Munich of c. 440 BC (ARV² 997.155; Para 438; E.Simon, *Griechische Vasen* 137; colour plates XLIV-XLV). Essentially the same features recur in contemporary bookhands such as those of P.Hibeh I 6, P.Hibeh I 84, P.Hibeh I 4 + P.Grenf. II 1 (GMAW² 52), all of which are datable to around 280 BC at the latest. On these hands see E.Crisci, 'I più antichi libri greci', *S&C* 23 (1999) 29-62.

A late example of this type of hand is **5** (P.Lille 17), a letter written between 250/249 and 242/241. The squarish letter forms, their stiff and angular shapes, the *epsilons* in four strokes and *omega* with middle arc are features of a rather antiquated script which by that time had gone out of use.

6. P.Berol. 13270; ed. U. von Wilamowitz-Moellendorff, *BKT* V pp. 56-63: Drinking songs (*skolia*). 25 x 33 cm. Elephantine, c. 300-280 BC; this papyrus was used to wrap a group of sealed documents (P.Eleph. 1-4), the latest of which is dated 284/3 BC.; MP 1924; LDAB 6927; Page, *GLP* 86 and 103; B.Bravo, *Pannychis e simposio*, Pisa-Roma 1997, 43-99 (with bibliography); E.Crisci, 'I più antichi libri greci', *S&C* 23 (1999) 58f. Image: *BKT* V pl. 8; Schubart, *PGB* 3; Seider II 2, pl. 2.

A large and fairly skilled hand; most letters are similar to those of 4, but € and C are round and narrow; the middle element of Z is upright (⊥), that of Ξ is reduced to a dot (⊖), the diagonal and second upright of N are sometimes fused into a rising curve (l. 13 -μενος, l. 15 -μενους); Ω essentially as in 1, 2 and 4, but flat and high in the line, and sometimes ending in a downward curve (Ϝ, as in l. 13 τελεω). The 1st hand wrote as far as πλεξομεν (l. 5), the 2nd, smaller, hand continued down to και οκ in l. 17, then the 1st hand wrote from ωπτειν to the end, cf. U.Wilcken, *APF* 7 (1924) 66.

Lines 12-17: χαιρετε συμποται ανδρες ομ[ηλικες €]ξ αγαθου γαρ
 αρξαμενος τελεω του λογον [€]ις αγ[αθο]ν
 χρη δ οταν εις τοιουτο συνελθωμεν φιλοι ανδρες
 15πραγμα γελαν παιζειν χρησαμενους αρετη
 ηδεσθαι τε συνοντας εκ αλληλους τε φ[λ]υαρειν
 και σκωπτειν τοιαυτα οια γελωτα φερειν
 η δε σπουδη επεσθω ακουωμεν [τε λ]εγοντων
 €μ μερει ηδ αρετη συμποσιου πελεται
 20του δε ποταρχουντος [[τος]] πειθωμεθα ταυτα γαρ €στιν
 €ργ ανδρων αγαθων ευλογιαν τε φερειν



6
56%

7. P.Petrie 5-8 (Brit.Lib. inv. 488) ed. J.P.Mahaffy: Plato, *Phaidon* 67e-69a, 79c-81d, 82a-84b. Height of roll 21.5 cm; 18 columns, 22 lines/col. Gurob (cartonnage), IIIrd BC. MP 1388; LDAB 3835; P.Lond.Lit. 145; A.Carlini in *Studi su codici e papiri filosofici* (Firenze 1992) 147-159; C.Strachon, *ibid.*, 163-167; *CPF* I 1***80 Plato 40; E.G.Turner, *Ptol.Bookhands* 30 (Group D); E.Crisci, 'I più antichi libri greci', *S&C* 23 (1999) 50f. Image: Pal. Soc., ser. 2, II 161.; Schubart, *Gr.Pal.*, Abb. 67; *S&C* 23 (1999) pl. 9b; *CPF* IV 2, pl. 233-236.

A very small, upright, regular and highly skilled hand, marked by contrast between narrow (€ , Θ , Ο,ϸ) and broad (Η , Μ , Ν , Π , Ω) letters; Ι , Ρ , Υ , Φ have very long descenders; € is mostly rounded but sometimes angular in 3 movements (as in επιθυμουν col. III 5), Β narrow and tall, Κ with long vertical and short arms, Ω flat and high but sometimes reminiscent of Ω in 6 (l. 17 σκωπτειν, γελωτα); change of speaker marked by paragraphi and horizontal dash; generous interlinear spaces.

Fr. N, cols. I + II lines 5-10 (83c5-d8 and 83d10-84a6):

παντ[οc] ανθρωπου αναγ	εις αλλο σω[
ται αμα τε ηcθηναι cφοδρα	μεινη εμφυσεται και εκ [
πηθηναι επι τωι και ηγειcθαι	αμοιρος ειναι της του θειου ..
ου αμ μαλιcτα τουτο παcχει	και καθαρου και μονοειδους
ιcτα δε ειναι τουτ[ο] ουχ ουτωc	cυνουcιαc - αληθεcτατα εφη
ν ταυτα δ[ε] εc[τιν τα] ορατα η ου	λεγειc ο Κεβηc ω Cωκρατεc
εν [τ]ουτωι	τουτων τοιουν ενεκα [
α καταδειται	φιλομαθειc κ ^c μι[
πως δη	ανδρειοι [ο]υχ ων οι π[
η και λυπη	η cυ οει — ου δητα [
ροcηλοι	[ου γ]α[ρ
και προc	ψυχη ανδροc φιλοcοφου κ[
ματοειδη	[ο]υκ αν οιηθειη την μεν φιλοc[
αληθη ε[ι]	χρηται αυτην λυειν λυουc[
α φη εκ γαρ	δοκεινηc αυτη παραδιδοιαι [
ατι και τοιc	ταιc ηδοναιc και λυπαιc αυτη[
εται	παλιν αυ εγκαταδειν και ανη
και ομοτροποc	νυτον εργον πραττειν [

8. P.Köln XI 429 + 430 edd. M.Gronewald & R.W.Daniel: Lyric anthology (Sappho and anonymous poem). Col. II: 17 x 11.5 cm. Cartonnage, provenance unknown. IIIrd BC. MP 1449.01; LDAB 10253. Col. I 12 - II 8 partly overlap with P.Oxy. XV 1787 frs. 1+2 (= Sappho fr. 58 V.). Cf. M.L.West, 'The new Sappho', *ZPE* 151 (2005) 1-9; J.Lundon, 'Il nuovo testo lirico del nuovo papiro di Saffo', in: G.Bastianini & A.Casanova (edd.), *I papiri di Saffo e di Alceo* (Firenze 2007) 149-166. Image: P.Köln XI pl. 40; *ZPE* 154 (2005) 10.

The first hand, which wrote the two poems of Sappho, is characterized by a mixture of older and younger letter forms: E is mostly angular and in 4 movements as in **9**, but sometimes round (€) as in **7** (πεπνηται in col. II 1); Ω has the "double handle" form as in **7**, but once (in ωc νυν, col. I 6) the older form (Ω) as in **9**; K has a long vertical and short arms as in **7**; the cross-bar of A is mostly straight, sometimes curved; the letters are of rather uneven height. The end of the poem is marked by paragraphos and a vaguely bird-like coronis.

The second hand (col. II 9-21) consistently uses the younger forms of ε and ω; it may have added the third poem some time after the first two had been copied. *Dicolon* occurs at least twice in this poem (in lines 3 αφερπω: and 8 ακουω:).

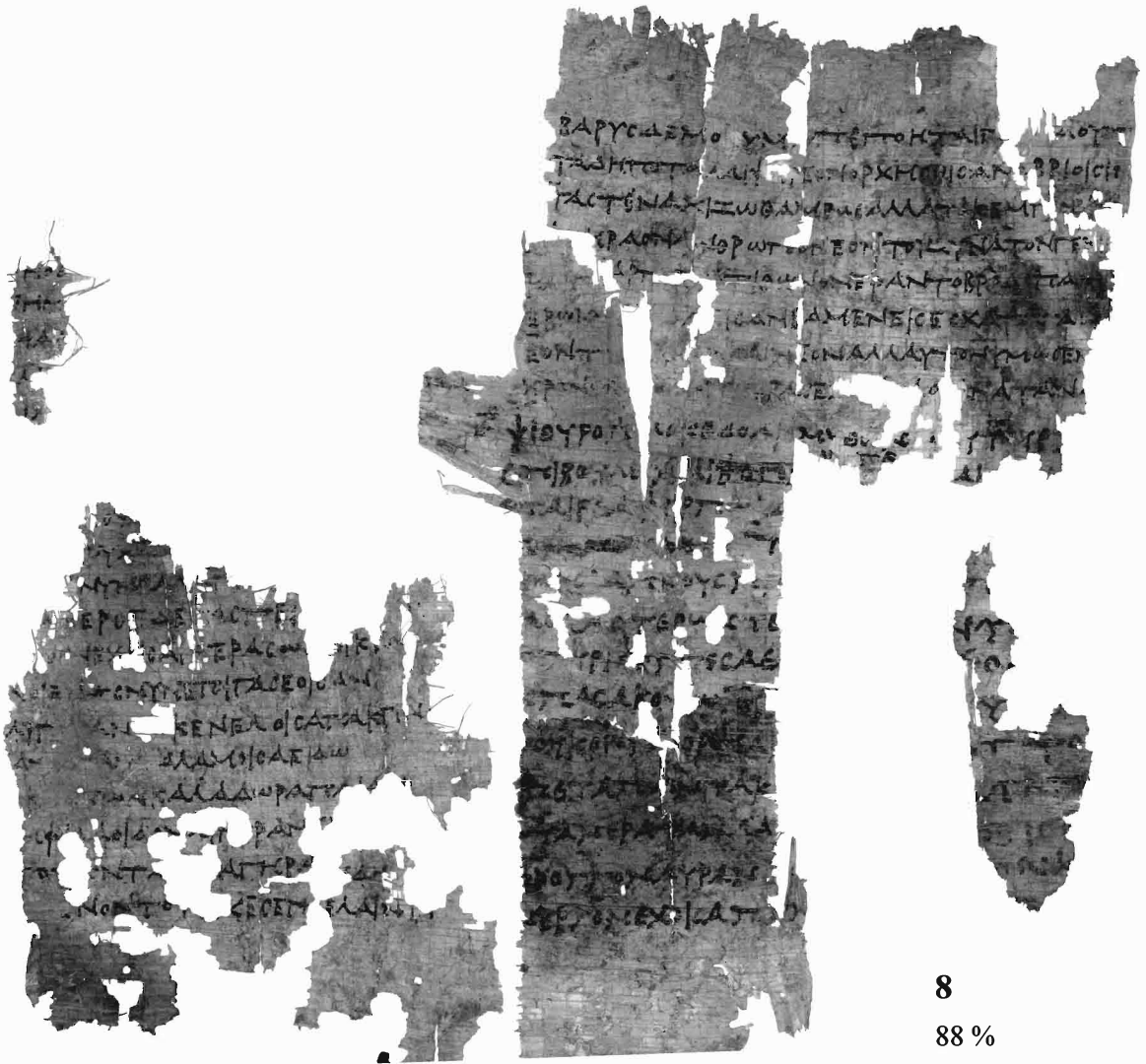
429 Col. I 6-15 (m1):

	] . νυν θαλ[ι]α πα[
	] . νερθε δε γας περ[...]οι
	]οι εχοιcαγ γερασ ως [ε]οικεν
	] . οιεν ως νυν επι γας εοισαν
10	] λιγυραν [α]ι κεν ελοισα πακτιν
	]λυνναν . αλαμοιc αιιδω
	]οκ[ο]λπων καλα δωρα παιδ[ε]c
	]ν φιλαοιδον λιγυραν χε[λυνναν
	]ποτ [ε]οντα [χρο]α γηρα[c] ηδη
15	]εινοντο τριχεc εγ μελαιναν

Col. II 1-11: βαρυc δε μ ο [θ]υμοc πεπνηται γονα δ [ο]ν φε[ροιcι
τα δη ποτα λαιψηρ εον ορχηcθ ιcα νεβριοιcι
τα στεναχιζω θαμεωc αλλα τι κεμ ποειην
αγηραον αιθρωπον εοντ ου δυνατον γεν[εcθαι
5 και γαρ π[ο]τα Τιθωνον εφαντο βροδοπαχυν [Αυων
ερωι δ . . αφειcαν βαμεν ειc εcχατα γας φ[εροιcα]ν
εοντα [κ]αλον και νεον αλλ αυτον υμωc εμ[αρφε
2 χρονωι πολιοι γηραc εχ[ο]ντ αθαναταν ακοιτιν

430 (m2)

	ψιθυροπλοκε δολιε μυθων αυτουργ[
10	επιβουλε παι [[βοτο .]]. γε[] ακ[
	εταιρε αφερπω: δ[



8

88 %

9. P.Petrie II 50 (Bodl. Gr.class.d.22-23 (frgs. B + C, ed. J.P.Mahaffy, *P.Petrie II* pp. 165-175) + Dublin, TC F8A (fr. A, ed. J.G.Smyly, *Hermathena* 10 (1899) 407-8): Plato, *Laches* 189d-192a. Gurob, cartonnage; IIIrd BC. The roll had c. 61 columns, length c. 4,90 m. MP 1409; LDAB 3836; F.Pontani, 'Per la tradizione antica del *Lachete* di Platone: P.Petrie II 50 e P.Oxy. 228', *SCO* 45 (1995) 117-126 (re-edition of the text, with bibl.); *CPF* I 1***80 Plato 23; E.Crisci, 'I più antichi libri greci', *S&C* 23 (1999) 52-54. Image: P.Petrie II pl.17-18; *S&C* 23 (1999) pll. 11-12; *CPF* IV 2, pll. 237-238.

Small, upright hand of a skilled scribe, who wrote with a fine pen. Letter forms are very close to those of P.Hib. 6, on which see Turner, *Ptol.Bookhands* 26; they are also generally similar to those of 7, except that E is angular in 4 movements, C is well rounded, descenders of K, P, Υ, Φ are shorter than those in 7, and Ω is similar to Ω in 1-5. Dots or small downwards strokes are absorbed into the first letter of each line.

Fr. B col. I 1-10: α[ρ ο]υν ημιν τουτο γε υ (Laches 190b7-c2):

παρχ[ε]ιν δε[ι] το ειδειναι
τι ποτ εστ[ι]ν αρετη ει
γαρ που μηδε αρετην
5 ειδειμεν το παραπαν
ο τι ποτε τυγχανει ον
τιν αν τροπον τουτου
ξυμβουλοι γενοιμ[ε]θ αν
οτωλουν οπως αυτο καλ
10 λις]τα αν κτησα[ι]το ου



6-9

6 (P.Berol. 13270) exemplifies a style of writing which is characterized by angular shapes and marked contrasts between narrow letters (*beta, epsilon, theta, omikron, rho, sigma*) and broad ones (*eta, my, ny, pi, omega*). Letters reaching below the notional baseline are *beta, iota, rho* and *ypsilon*; verticals extending beyond both the notional baseline and the upper parallel line are those of *kappa, phi* and *psi*. Small ornamental serifs, sometimes barely hinted at, appear at the ends of verticals in some letters, e.g. *kappa, pi, rho, tau*. Letter forms and shapes retain an archaic manner, even though the fluent *ductus* produces, in some letters, a simplified design: *epsilon* appears nearly always in its new rounded form, drawn in three or in two strokes, rarely (e.g. in ΗΔΕCΘΑΙ line 16) in its squarish form in four strokes; *sigma* is 'lunar'; *omega* resembles that of the Berlin Timotheos (**2**) with its central arc reduced to a small angle, except that the left horizontal is here a short descending diagonal or even a curve (↘), a form which foreshadows the later 'double-handle' form (ω). One also notes *eta* sometimes with curved right stroke (Η, e.g. ΗΔΕCΠΟΥΔΗ line 18, ΗΔΑΡΕTH line 19), *kappa* with long vertical and short arms, *xi* consisting of two horizontal strokes with a dot in the middle (Ξ: Ε]ΞΑΓΑΘΟΥ line 12, ΑΡΞΑΜΕΝΟC line 13). There are occasional 'cursive' features, such as *ny* with the diagonal and right upstroke drawn in one movement, sometimes with slanting upstroke (Ν : ΧΡΗCΑΜΕΝΟΥC line 15, ΠΟΤΑΡΧΟΥΝΤΟC and ΕCΤΙΝ line 20), which anticipates the form of N in hands of the Zenon archive. This papyrus was found at Elephantine with documents dated between 310 and 285/4 BC; its date is likely to be within the first two decades of the third century BC.

The same style, characterized by the contrast between stiff and squarish strokes and more fluid and rounded ones, is apparent also in the contemporary hands of the Plato papyri **7** (P.Petrie I 5-8) and **9** (P.Petrie II 50). Both were written by very skilled scribes; their letter forms show many similarities but also some differences: the hand of the *Laches* roll gives a more homogeneous impression with some more traditional elements, such as the square *epsilon* in four strokes and *omega* with central arc. In the hand of the *Phaidon* roll, by contrast, one can see more fluid shapes and simplified design: *omega* is nearly always ω or ω, very rarely in its archaic form (ω); *epsilon* is sometimes square and in three strokes, sometimes narrow and rounded; *tau* and *omega* are contiguous (Tω) in **7** col. I,6 TωI and **9** οΥTωC. Other papyri written in this type of hand, and therefore to be dated not later than c. 280 BC, are P.Herc. 1413; P.Tebt. III 694; P.Mil.Vogl. III 123.

The first hand of the Sappho papyrus (**8**) is more informal than **7** and **9**, but otherwise shows close affinities with the hands of both the Plato papyri: *epsilon* is mostly angular in 4 strokes, yet sometimes round and narrow (ε); *omega*, by contrast, appears in its more recent form (ω), only once in its older form (Ω). The second hand belongs to a somewhat later stage in the development of this type of bookhand.

10. P.Petrie II 49(c) (Brit.Lib. 590) ed. J.P.Mahaffy, identified by F.Petersen, *Hermes* 49 (1914) 156-8, 623-26: Euripides, *Hypsipyle* 830-850. 18.7 x 7.8 cm; 21 lines/col. Gurob (cartonnage), III^{med} BC. MP 0439; LDAB 1038; P.Lond.Lit. 74; *TrGF* V 2, fr. 757, vv. 830-850; W.E.H.Cockle, *Euripides, Hypsipyle* (Rome 1987) 135-6. Image: Cockle, *Euripides, Hypsipyle* pl. X.

Small to medium-sized hand; the letters are somewhat irregular in size, shape and spacing, and marked by strong contrast between small letters (€ Θ Ο C), narrow ones (B, P), and broad ones (A, Δ, Z, Λ, M); the cross-bar of A is often curved, that of Θ is reduced to a dot; the vertical of K is tall, the arms mostly short; the inner strokes of M form a shallow bow, the outer ones bend outwards; the second and third strokes of N are often raised; the second uprights of H and Π are shorter than the first ones and strongly curved; the central bar of Ξ is a dot, its bottom line is convex; Ω looks like an abbreviated variant of the *omegas* in 6 (Ω), half-way between the 'epigraphic' Ω and the new ω.

Lines 7-21: (ΓΨ.) ουτω δοκ]ει μ ω [π]οτιι αποκτεινε]ιν υ-

(vv. 836-845)]εχρηη παιδα διαμαθε]ιν τοδε

ειγα]c αμειβη δ ουθεν ω ταλαιν εγ[ω

v.840 10 ωc το]υ θανειμ μ[ειν ου]νεκ ου μετα cτ[εινω
ει δε] κ[τ]αινειν το τεκνον ουκ ορθω]c δοκω

||| ||| ||| υ]|||

πληη ο]υ τεκουσαν ταλλα[.] . [

στεργ]ουc εφερβον ωλενμ εμο[ι

v.845 15 ω πρ]ωρα και λευκαιον εξ αλμ[ηc υδωρ
Αργ]ου δ ιω παιδ ωc απολλυ]μαι κακωc

11. P.Hibeh I 2 (Oxford, Bodl. Gr.class.f.78) edd. B.P.Grenfell & A.S.Hunt: Ps.Epicharm, Fr. 245 a-f (fr. a: 9 x 9.2 cm). Cartonnage, c. 280-240 BC. MP 0364; LDAB 837; *CGFP* 87; *PCG* I pp. 143f.

Skilled, regular hand marked by the contrast between narrow (B, € , Θ , Ο , C) and broad (A, Δ, H, M, N, Π, ω) letters.

Most letter forms resemble those of 7, but A is very broad with bowed cross-bar, O is smaller than average, I, Φ and the vertical of K are tall, P and Y have long descenders, ω is flat.

Fr. 245 a:

- - - - -
]cτι προς το[

]ω δυστε . [. . .] ι[

]εcτι χρηcτ . [.] . [. .] ευ[

5 εικαλυπτεται το φαυλον[
ειc το cυντυχειν αηδηc εcτιν ο[
ευτροποc ανθρωποικι δαιμων π[

] . οι και ορθωc βραβευcαι διαβε[

]νουc εξηπατηκεν αδικοc . [

] . . εcικι ποιηρα περι ποιηρω[ν

10] . . [. .] . . [.] νικ ετι ν[. . .] ιπ . [

] . π[ο]ληραυδ[

- - - - -

12. P.Heid. 178 (inv. G 1100) ed. G.A.Gerhard, *VBP VI 178*: Timotheos, *Dithyramb* (?). Fr. 1: 17.5 x 12 cm, fr. 2: 19.8 x 20.2 cm. Hibeh, cartonnage, III^{med} BC. P.Grenf. 28a = Brit.Lib. 693 is part of the same manuscript. MP 1538; LDAB 4122; Page, *PMG* 925 (fr. H). Image: *VBP VI Taf. 2*; Seider II 2, pl. 4,7; [http://www.rzuser.uni-heidelberg.de/~gv0/Papyri/VBP VI/178/G 1100](http://www.rzuser.uni-heidelberg.de/~gv0/Papyri/VBP_VI/178/G_1100).

A, M, N, ω are very broad, while Ε Ο C are small and oblong; the second diagonals of A and Λ are curved; the arms of K and the second uprights of H, M and Π are often c-shaped; the circle of Φ is almost like a flat Δ.

Fr. 1, col. II:	πολυπλαινητα δ[	]	ατοπινευστος αυρα [
	απαται δολιμητας[	10	]ηδ υποερειφθη γ .[
	κτονα πηματα δ[		] . επνευσε νεκυοπορ .[
	οδ . με λυγρα κωλυσεν α .[		.. μ]ατερ εμα θανατο[
5	ως ανα κυματα ποιντια[		α]λλ αγε μοι τοδε τ[
	ροις αλαλημενος ηλυ[		]νομοι εννεπεν δα[
	ος . . . νας υφιτυπου π[	15	]αδοχος παρ απα[
	β[. . . .]ε κρατεραυγει γορ[

13. P.Strasb. W.G. 306 ed. W.Crönert, *NGG* 1922, 17-22: Anthology of lyric passages from tragedies; 25 x 36.5 cm; 36 lines/col. Cartonnage, provenance unknown; III^{med} BC (Turner, *Ptol.Bookhands* 29), II¹ (Cavallo, *Calamo* 113), between 250 and 150 (Parsons, *MH* 53, 1996, 107). Col. III 1-25: Euripides, *Medea* 1087-1292; line 25 blank; lines 26-36 and col. IV 1-36: Euripides, *Fabula incerta* (*TrGF V* 2, fr. 953m); MP 0426; LDAB 1051; re-edition with new combination of fragments by M.Fassino, *ZPE* 127 (1999) 1-46 + pl. 2; cf. M.Fassino, 'Avventure del testo di Euripide nei papiri tolemaici', in: L.Battezzato (ed.), *Tradizione testuale e ricezione letteraria antica della tragedia greca*, Amsterdam 2003, 33-56. Image: *ZPE* 127 (1999) pl. 2.

Unskilled, somewhat uneven hand; bilinearity is broken both ways by Ι Κ Φ, downwards by Β Ρ Τ Υ; Β, Ε, Θ, Ο and C are narrow, Α, Γ, Δ and Μ broad, Ν is often rather large, with its second upright slightly raised; ω is flat and often high in the line. The lines are unusually long: 23-24 cm in col. III, see Fassino, *ZPE* 127 (1999) 4, the lyric passages being written like prose, as in **2** and **6**.

Col. IV, 1-10:	ηλθεσ ιω ταλαινα εβασ ινα των προτ[
(fabula incerta)	.. [...]σα λιμενας ταδε σοι μεγαλων δι[
	. [.] . τοσ δομοιοι πελαζει [
	ταλαινα αφρογ γυναι απο μεν ομμ[
5	εγ δε λευκων χερων δυσεγιπτον αιμ[
	τις αν υπερβολα λογων εκπιθοι τα[
	<u>ιαλεμωγ</u> γαρ ουπω γεμοι στεγος κα[
	κυκλωσεται σφε πολυπονωγ[
	μεινους ολομενα δε αυτη .. [
10	συμμαχων γαμουσ δυσ[

14. P.Hamb. II 187 (inv. 627) ed. H. Vocke: Deed of surety, written across the fibres; cf. *BerL* VI 49. 18 x 9,5 cm. Oxyrhynchites, cartonnage, 246 BC. Below the Greek text are two lines of Demotic: "(Agreement ?) of surety concerning Peteusir the Younger, and Pasis for the charge they have to pay" (translation by W. Erichsen).

Unskilled hand, shapes and sizes of letters and spacing of lines not consistent. Small O, narrow ε and C contrast with very broad A and M; vertical of T starts from end of cross-bar; Υ is a rising diagonal with left arm attached near the top; ω is flat and high; letters crowded and sloping near ends of lines 1-4.

Greek text: Θεοδωρος Καλλικρατους Εσπερειτης της

επιγονης ενγυωμαι Πασιν και Πε
 τοσειριν σκυτεας κωμης Θωλθεως
 μονης εις το Γ β L εαν δε σοι
 5 μη παρασχωμαι αυτους απο
 τειω σοι το επικαλουμενον
 εν ημεραις ε κατα τα ανω
 γεγραμμενα
 και συντουν Αμεινεως γνα
 10 φαλλοπωλην

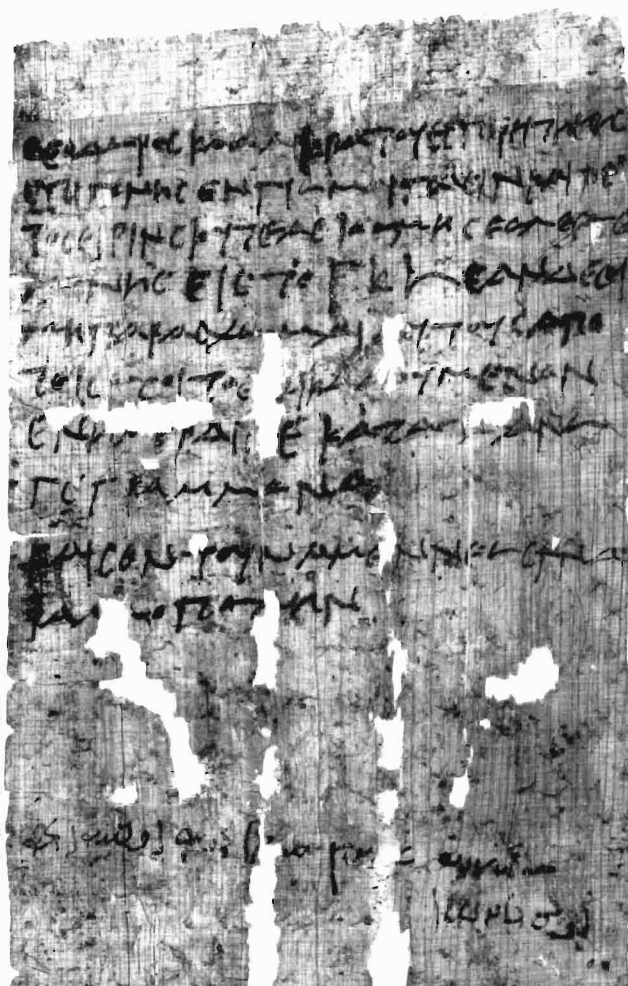
15. PSI IV 391b (Florence, Bibl. Medicea Laurenziana) edd. G. Vitelli *et al.*: Letter to Sostratos, written across the fibres; 7 x 15 cm. Philadelphia; no date, c. 242/1 ? On the verso is the address εις Φιλ]α-δελφειαν (→), and an account (↓). Image: *Zenon*, pl. 15.

Practised hand; letters upright and regularly spaced; O small and high, ε and C narrow, A and M broad, ω flat and high; the horizontals of Z are very close together (↔, l. 4 Ζηνωι).

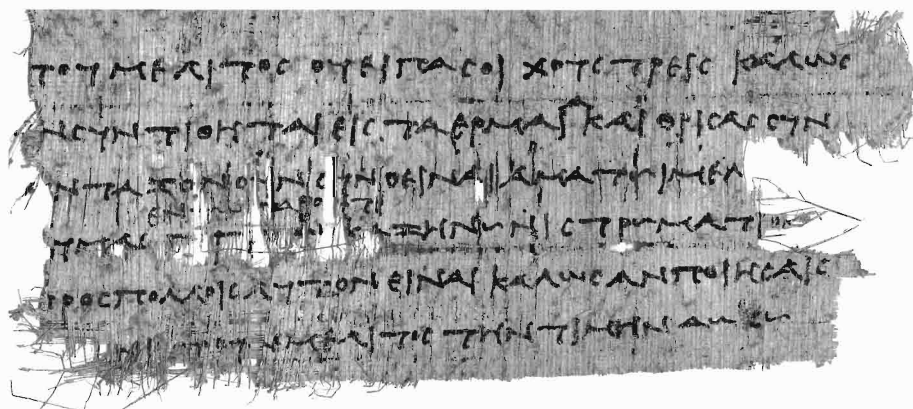
↓]του μελιτος ου ειπα σοι χους τρεις καλωσ
]υ συντιθηται εις τα ερμαι^α και ορισας συν
]υνταξον ουν συνθειναι αμα τωι μελ[ιτι
 εν τωι παροντι
] υμασ γ[ε]γραφηκα Ζηνωι στρωματιοι
 5] προς πολλοις αυτον ειμαι καλωσ ουν ποιησαι
] ... υι, του δε μελιτος την τιμην δωσω

10-15

The hands of **10-13** represent a style of writing that was widely used in the production of Greek books around the middle of the third century BC. The characteristic element of this style is the contrast between narrow letters with a propensity for oval forms (*epsilon*, *theta*, *omikron*, *sigma*) and broad letters (especially *alpha*, *delta*, *eta*, *my*, *ny*, *pi*, *omega*). The overall appearance is one of simplicity and strictness: the design is consistently uniform, ornamental serifs are either absent or barely visible, bilinearity is broken downwards by *beta*, *iota*, *rho*, *tau*, *upsilon*, in both direction by *kappa*, *phi* and *psi*.



14
87 %



15
80 %

Some stylistic features recall bookhands of the first quarter of the century, especially **6** (P.Berol. 13270), yet here the squarish and 'archaic' forms of that period have been abandoned: *epsilon* and *sigma* are always 'lunar', *omega* always in the form of the 'double arc' (ω). The dating of these hands is based on comparison with documentary hands which show similar contrasts between narrow and broad letters and essentially similar letter forms, exemplified by **14** (P.Hamb. 187) of 246/5 BC and letters of the Zenon archive, such as **15** (PSI 391b) and PSI 353 (*Zenon* pl. 15).

16. P.Berol. 11675 edd. W.Schubart & U. von Wilamowitz-Moellendorff, *SitzBer.* Berlin 1918, 728-736 with plate: Tyrtaios, *Elegies*. 3 fragments; shown here is fr. A (14.8 x 13.9 cm); cartonnage, Hermupolis, III^{med} BC. MP 1541; LDAB 4129; Gentili-Prato (edd.), *Poetae elegiaci* I (Leipzig 1979) fr. 10 pp. 34-37; M.L.West (ed.), *Iambi et elegi graeci ante Alexandrum cantati* II (2nd ed., Oxford 1971) fr. 19-23 pp. 180-183. Image: *SitzBer.* Berlin 1918, p. 729.

Medium-sized, regular hand, bilinear except Φ, Ψ and the descenders of P, T, Υ; O and sometimes C are small. The second verticals of H, M, Π are curved; the downstroke of T starts close to the end of its cross-bar; ω is flat and high.

Fr. A, col. II 8-15 (fr. 10A G.-P., vv. 16-23, = fr. 19 West, vv. 8-15):

χωρις Παμφυλοι τε και Υλλειοι ηδ[
ανδροφονους μελιας χερσιν αν[
10]δ αθανατοιςι θεοις επι παντ[
]ατερμ . . ιηι πεισομεθ ηγε[
αλλ ευθυς συμπαντες αλοιησευ[
.]υδρασιν αιχημηταις εγγυθεν ιστ[
δεινος δ αμφοτερων εσται κτυπος[
15 αςπιδας ευκυκλους αςπιςι τυπτ[

17. P.Berol. 9771 edd. W.Schubart & U. von Wilamowitz-Moellendorff, *BKT* V 2, 79-84: Euripides, *Phaethon*. 10.5 x 10 cm. Hermupolis, III^{med} BC. MP 0444; LDAB 1030; *TrGF* V 2, fr. 773,19-53; E.G.Turner, *Ptol.Bookhands* 29 (Group C). Image: W. Schubart, *PGB* pl. 4b; J. Diggle, *Euripides, Phaethon* (Cambridge 1970) pl. 5.

Small, very skilled, regular hand, similar to that of 16. Generally bilinear except Φ and Ψ; O is only slightly smaller than average; thick cross-bars of Ξ, Π, T; the verticals of P, T, Υ descend a little below the baseline, as do B and Ξ; the middle element of Z is almost upright; the verticals of K, M, Π are curved, as are the descending diagonals of A, Δ, Λ; ω is flat and often high in the line. Coronis against line 7; paragraphi and horizontal dashes mark sentence-end.

Lines 11-20 (vv. 37-53 = 63-97 Diggle):

αειραμενοι αχεουσιν[.]τινι αυρ[
ακυμοι πομπαι σιγων[τ]ων ανεμων [
- τε και φιλιας αλοχουο - σινδων δε π[
_ομ πελαζει - τα μ[ε]ν ουν ετερων ετε[
15 κοσμειν - υμεναι[. .]δε αι δεσποσυνω[
]ν αγει και ερ[ω]σ υμ]νειν - δμωσι[
]νημεροι προσι[ο]υσαι μ[. .]λπαι θαρσ[
]τα τε - ει δε τυχα τι τεκτηι - βα[
]επεμψεν οικιοις - οριζεται δε τοδ[
20]ν τελει - το δ[η]π[ο]τ ευχαι[σ εγω] λισσο[
- - - - -

18. P.Köln V 203 (inv. 8000) ed. K.Maresch: New Comedy (Menander ?). 7 fragments; shown here is fr. B (15.5 x 15 cm); 20 lines/col.; cartonnage, provenance unknown. III^{med} BC. MP 1302.91; LDAB 2732; *PCG* VIII 1147. At the left edge of fr. B, the final letters of some lines of the preceding column are visible; a *kollesis* runs through the middle of the column. Change of speaker is marked by paragraphos, in mid-verse also by colon. P.Köln VI 243 and P.Mich. inv. 6950 are part of the same roll, cf. R.Nünlist, *ZPE* 99 (1993) 245-78. Image: P.Köln V pl. 27.

Large, unskilled and uneven hand writing with a thick pen; sizes of letters vary widely: Α Γ Δ Π Τ are mostly broad, sometimes small (see Α in ΚΑΤΑ I. 14, Δ in l. 1, Π in λαμπ- I. 2, etc.); Β is tall and narrow, Ε varies between half-circle and half-oval; Κ with tall upright, C and O small (O often very small); Ρ (with small loop, sometimes open: εταира l. 16), Φ, Ψ and sometimes Τ and Υ with long descenders. The cup of Υ starts from a small hook, as does the cross-bar of Τ; ω is flat and high in the line. There is a close resemblance to the hands of **13** (P.Strasb. 306) and **19**.

Fr. B, col. II 13-20: ουκ οιδ οτι λεγω πλην αρεσκει μοι εφοδ[ρα
το τ αγνοημα τουτ εχει μοι κατα τροπον
15 υπερειπροσωπος εστιν ην εορακ εγω
εν τοις λογοις ηδ(ε)ι εταира τωι τροπωι
αποπληκτος ειναι βουλομαι ταυτην εχ[ων
και συνδιαπλεκων τον επιλοιπον του β[ριου
ουδ αν θεων σωσειεν ουδεις τουτοι
20 τι φη[ις] εν πορνοκοπειν προτηρης ειπε μοι

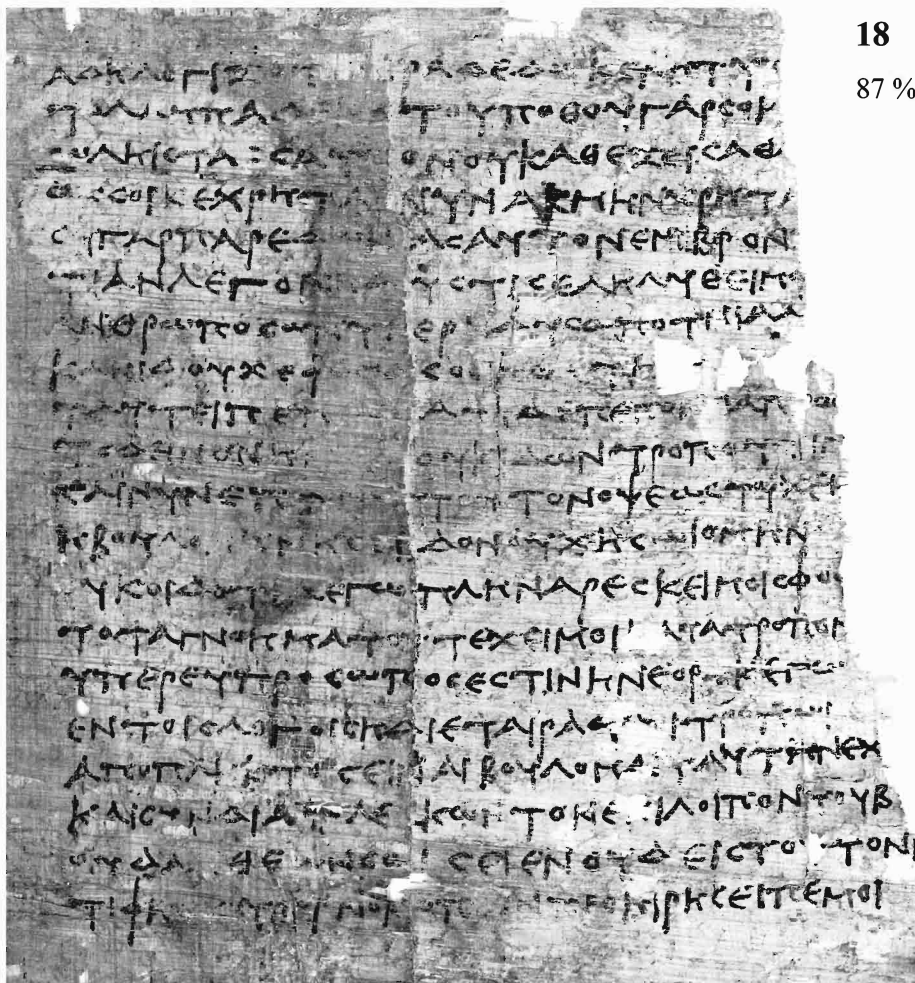
19. P.Berol. 18088 ed. W.Müller, *JJP* 13 (1961) 75f. = SB VIII 9779 = BGU X 1993; *P.Zen.Pestman* 43; *CPtolSklav.* I 72. Petition to Zenon. 12,5 x 11,3 cm; Arsinoites, III^{med} BC. Image: BGU X pl.21.

Fairly large hand, marked by contrast between narrow (Ε, C, Ρ) and broad (Γ, Δ, Ζ, Μ, Π, Τ) letters; Ζ, Π, Τ have thick cross-bars; the middle element of Ζ is upright in line 1 but diagonal in line 11. Many uprights are curved, especially those of Η, Μ, Ν, Π, Τ, Υ; the second leg of Π is shorter; Ο is very small; the second half of ω trails horizontally. The cursive form of Η (ϛ) can be seen in line 11. No ligatures.

Υπομνημα Ζηνωνι	πολιτηι καλωσ αν ουμ
παρα Σωσιτιμου παιδες	ποιησαις γραψας προς τους
αποκεχωρηκα ^{cl} μου δυο	εκει φυλακιτας οπως αν
τυχανουσι δε αναστρε	10 μετα των παρ εμου απεσ
5 φομενοι εν τωι Αρσινοιτηι	ταλμενων συζητησων
νομωι και εν τωι Ηρακλεο	αν[το]ις.

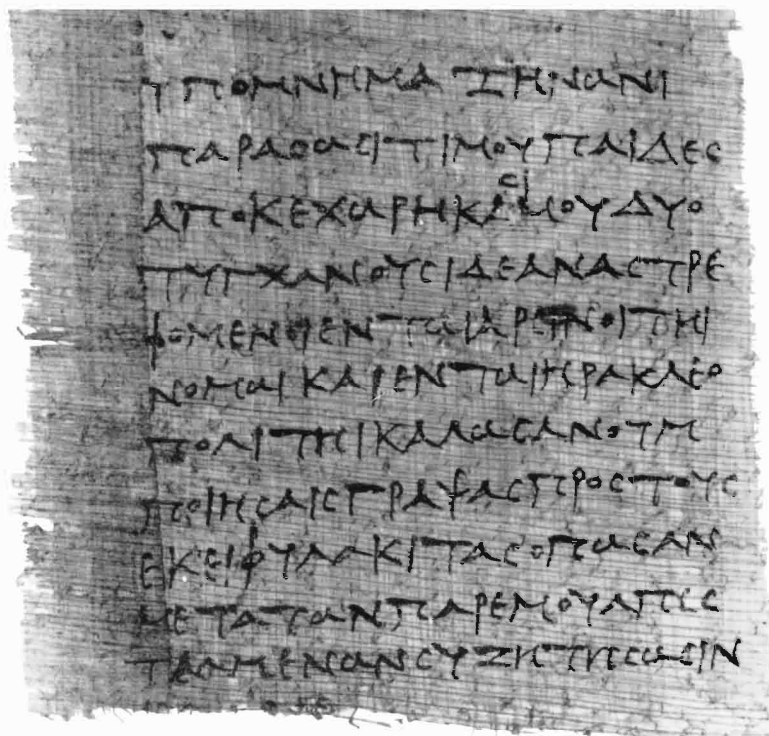
16-19

The style of handwriting used by the scribe of **16** (P.Berol 11675) shows only slight contrast between narrow and broad letters. Letter forms are plain and unaffected. The vertical strokes that cross the notional bilinear parallels upwards and/or downwards (*iota*, *rho*, *ypsilon*, *psi*) do not upset the balance and natural harmony of this script. A certain tendency to simplify the design can be seen for example in *my* with its



18
87 %

middle curve raised above the base-line, or in *tau* with its horizontal stroke slightly curved and linked to the down-stroke without lifting the pen. The use of ornamental serifs is very restrained; they are randomly attached to the ends of some verticals, such as those of *pi*, *rho*, or *tau*; *omega* is mostly small and raised above the baseline. Similar features are evident in the letter forms of 17 (P. Berol. 9771) and also in P. Sorbonne 4 (pl. II), a fragment of *Iliad* XII (MP 0895.2; LDAB 2379), and even in documentary hands of the middle of the third century, such as that of



19 (BGU X 1993) of the Zenon archive. Here, too, the contrast between small and broad letters is noticeable, as are the slightly curved strokes of some letters (*alpha*, *lamda*, *delta* and the verticals of *eta*, *my*, *ny*, *pi*), the flat middle curve of *my* raised above the baseline, as is the *omega* with its second 'arc' tailing off to the right into a flat curve.

19
78 %

20. P.Hamb. II 163 (inv. 646 + 666): Thucydides I 2; fr. a (inv. 646) 9 x 7 cm, fr. b (inv. 666) 4,7 x 11 cm; 33-34 lines/col. Provenance unknown, cartonnage; c. 250 BC (E.G.Turner, *JHS* 76 [1956] 96-98) or III² (Cavallo, *Calamo* 113). MP 1504; LDAB 4117; Turner, *Ptol.Bookhands* 29 (Group C). On the back (↓) is P.Hamb. II 124 (MP 1770, LDAB 7029). Image: *GMAW*² 54.

Fairly small, practised hand, generally bilinear; T and Υ (with jarge cup) descend below the baseline; Ε, Θ, Ο, C are narrow, H, K, N, M, T broad; letters are plain or only slightly serifed, except that the cross-bar of T thickens at both ends. A is slightly higher than average, M is in 4 movements. A blank space marks end of sentence (line 7).

Fr. a, col. I]
]οι
 πανταχου αν ε]πικρατειν
 ου χαλε]πως ανισταντο
 5 και δι] αυτο ουτε μεγαθει
 πολε]ων ιχυον ουτε τη
 αλλη]ι διανοιαι μαλιστα
 δε τ]ης γης η αριστη αι
 τας μεταβ]ολας των οικη
 10 το]ρων ειχεν η τε Θεττα
 λι]α νυν καλουμενη και
 Βοι]ωτια Πελοποννησος
 τε πλην Αρκαδι]ας [κ]αι
] . [

21. P.Cair.Zen. 59535 ed. C.C.Edgar: Hexameter in 2 lines. 8.5 x 6 cm. III^{med} BC. MP 1794; LDAB 6934; Cribiore p. 214 no. 175. Image: P.Cair.Zen. IV pl. 2; *GLH* pl. 4c.

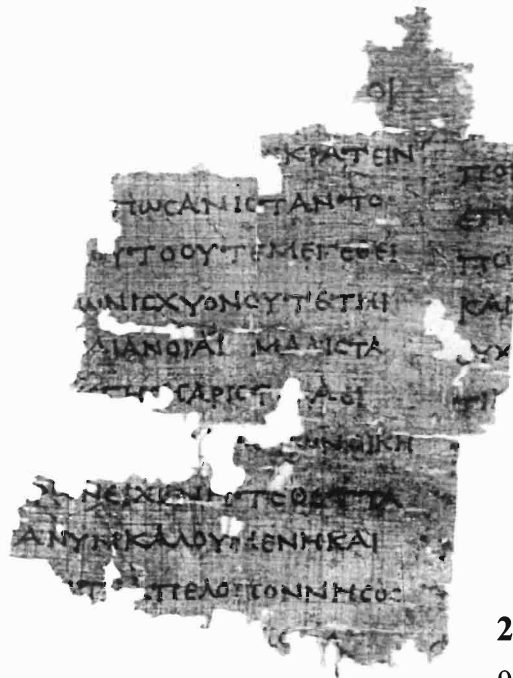
Lines 1-2: small, plain hand, bilinear except O (small) and the descenders of P and Φ (and of I in the last word). Line 3: same hand, condensed, epigraphic letter forms with angular E and Σ in 4 movements.

οσσας ειχ Αχιλειος νη | ασ τοσα ρασματ οφειλεις.
 Below: {A} ΑΝΔΡΕΣ ΔΙΚΑΣΤΑΙ.

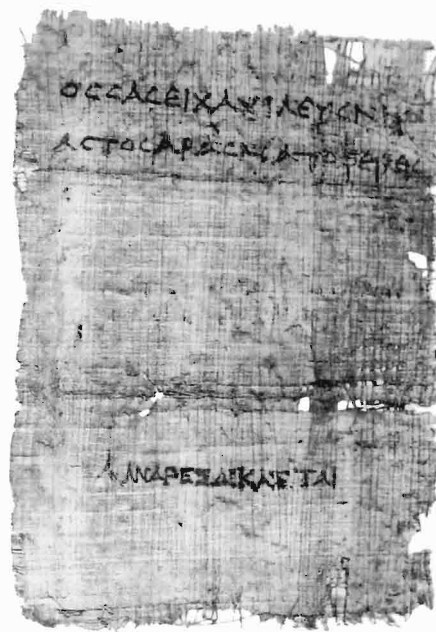
22. PSI VI 651 [Florence, Bibl. Medicea Laurenziana] edd. G.Vitelli *et al.* Letter to Zenon ? 6 x 8,5cm. III^{med} BC. Image: *Zenon*, pl. 98.

Upright, medium-sized hand with no ligatures; bilinearity is evidently aimed at, with even P, Υ and Φ descending only slightly or not at all below the baseline, and only O and ω less tall than average; serifs at the extremities of some letters (Γ, M, N, Π, Τ, Υ).

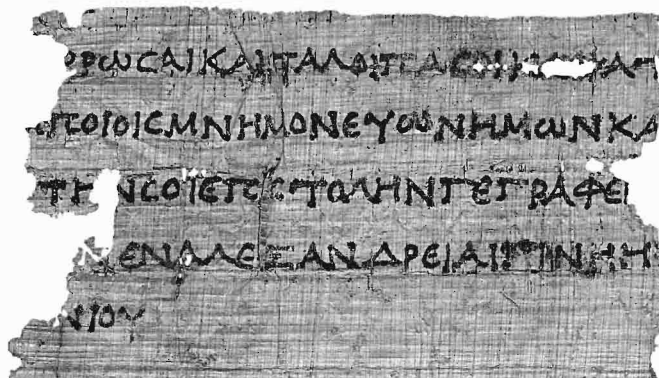
ει ε]ρρωσαι και τα λοιπα σου κατα τ[ροπον
 καλωσ α]ν ποιοις μνημονευων ημων κα[
]την σοι επιστολην γεγραφεν [
]ν εν Αλεξανδρειαι . . νη η[
]νιου *vacat*



20
95 %



21
96 %



22
100 %

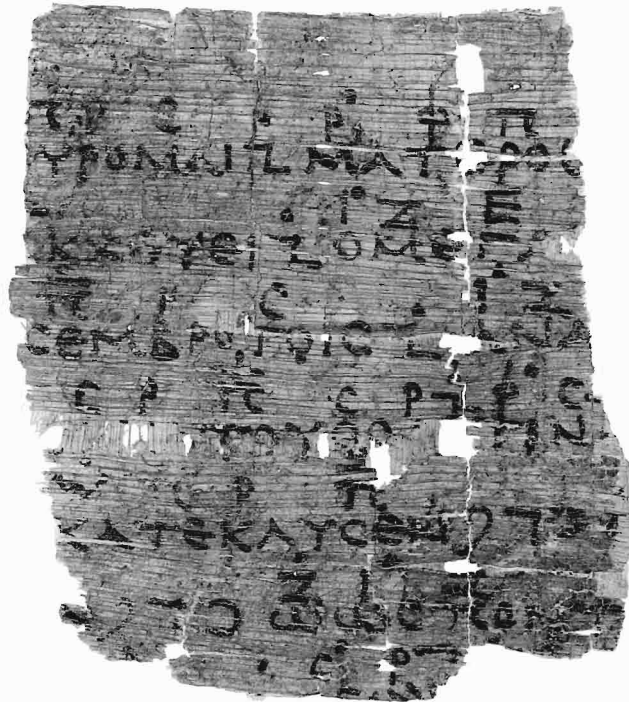
23. P.Vindob. G 2315 = 8029 ed. K.Wessely, *MPER* V (1892) 65-73: Euripides, *Orestes* 338-344 with musical notation. 9.2 x 8 cm; Hermupolis, ± 200 BC; MP 0411; LDAB 1047; E.Pöhlmann & M.L.West, *Documents of Ancient Greek Music* (Oxford 2001) 12-17 with bibl.; L.Prauscello, *ZPE* 141 (2002) 83-102; T.Gammarcurta, *Papyrologica scaenica* (Alessandria 2006) 131-142. Image: Wessely, *Führer* 531 p. 126; *MPER* V p.66; H.Hunger & E.Pöhlmann, *WS* 75 (1962) facing p. 76; *GMAW*² 35; J.Solomon, *GRBS* 18 (1977) facing p. 81; U.Horak, *Antike Welt* 31 (2000) pl. 5; L.Prauscello, *ZPE* 131 (2002) 83; Pöhlmann & West, *Documents of Ancient Greek Music*, frontispiece (colour plate). On the date see E.G.Turner, *JHS* 76 (1956) 95f.

Text and musical notation by the same hand: fairly large, well-rounded, bilinear except large B and some of the descenders of P; M is in 3 or in 4 movements (of its middle strokes, the first is longer than the second); no serifs. In the musical notation, E is angular.

Lines 1-3:] Π̄ P C ρ Φ Π [
] ΥΡΟΜΑΙ ᾿ ΜΑΤΕΡΟC [
] Ζ Ε Δ [
] ΚΧΕΥΕΙ ᾿ Ο ΜΕΓΑ [
] Π̄ P C ρ Ζ [
] C Ε Μ ΒΡΟΤΟΙC ᾿ ΑΝΑ [
]

24. P.Louvain gr. 1r [Pap.Lefort, Louvain-la-Neuve, Université Catholique, P. gr. 1] ed. W.Lameere, *Aperçus de paléographie homérique* 15-53: Homer, *Od.* XXI 1-21 (fr. A: 16.6 x 16.1 cm); 431-434 + XXII 1 (fr. B: 3 x 6 cm). Cartonnage, provenance unknown; III^{med} BC. MP 1145 + 1426.01; LDAB 2370. Allen-Sutton p151; S.West 277-281. (On the verso of fr. B, rotated by 90° →, is [Plato], *Theages* 126d1-4 ; P.Köln VII 307 is part of the same papyrus, see Th.Schmidt, *P.Bingen* 2). Image: (recto) Lameere, *Aperçus* pl. 1 + 5b; Wittek pl. 1; (verso) P.Bingen pl. 1; P.Köln VII pl. 10b; *CPF* IV 2, pl. 101. Fairly large, semi-documentary hand. Letters are uneven in size, shape and spacing, and inconsistent in their execution: Φ with open circle in φονου 1. 4 and φι[1. 6, but closed circle in δαειφρονος 1. 16; cross-bar of T mostly long and straight, yet sometimes curving down at half-way into the vertical, with second half added at the junction (as in τη 1. 1, βησατο 1. 5, etc.); cross-bar of Π straight in]μπεα 1. 6,]ωπη 1. 7, but merging into the second vertical in πολιον 1. 3. Strong tendency to bend both vertical and oblique strokes, especially the second verticals of H and Π, bottom line of Ξ, etc.; hooks at the extremities of some letters (K, Ξ, T); some ligatures, e.g. τη, επι 1. 1, ει in χαλκει 1. 7. - For the practice of adding, at the end of a book-roll, the first line of the subsequent book, see on **69** (P.Merton II 52); cf. J.Bingen, *JEA* 48 (1962) 178.

Fr. A 1-7 (vv. 1-7): τη δ αρ επι φρεσι[] ... [
 κουρη Εικαριοιο· περιφρονι] Π̄ηνελοπε[ριη
 τοξον μνηστηρ[ειν θεμε]ναι πολιον τε ει[δηρον
 εμ μεγαροιc Οδυσει[ος αε]θλια και φονου αρχην
 5 κλιμακα δ υψηλη[ν προ]σεβησατο οιο δομοιο
 ειλετο δε κληιδ [ευκα]μπεα χε[ι]ρσι φι[
 καλην χαλκειη[ν κ]ωπη δ ελεφαντος [επηεν



23
100 %






24
84 %

20-26

The hand of **20** (P.Hamb. 163) is upright and essentially bilinear, except for the tops of *alpha* and *lamda* which tend to rise slightly above the notional upper line, and the downstrokes of *rho*, *tau* and *psilon* which descend slightly below the baseline. Small serifs appear occasionally, e.g. in *alpha*, *eta*, *iota*, *kappa*, *my*, *ny*, *pi*, *tau* and *epsilon*. The size of the letters is more uniform than in earlier hands, and their forms are regular and elegant: *alpha* is in three strokes, with horizontal middle bar; the middle strokes of *my* almost form a right angle; the letters *epsilon*, *theta*, *omikron*, *sigma* and *omega* are well rounded. A date in the middle of the third century BC is suggested by comparison with hands of the Zenon archive, such as those of **21** (P.Cair.Zen. 59535) and particularly **22** (PSI VI 651). The hand of **23** (P.Vindob. G 2315), which has no serifs, also shows smooth, well rounded forms; it should be dated to the same period, as it can also be compared with hands of the Zenon archive, e.g. that of PSI VI 669 [Zenon pl. 104]. Essentially the same type of script, with curved strokes and serifs, though less accomplished and uniform, appears in **24** (P.Louvain P. gr. 1) and in **25** (PSI 136). This latter specimen shows letter forms with rather conspicuous serifs, especially at the bottom ends of verticals, most of which appear gently curved. Noteworthy is the *beta* in κιβδηλος (line 17), where the narrow upper loop and the wider lower loop are drawn in one double downward curve. A date in the last quarter of the third century rests on comparison with documentary hands such as **26** (P.Magd. II 8) of 218 BC, where - beyond differences in individual letter forms - the same stylistic tendency and the same taste for the use of serifs are evident.



27. P.Sorb. inv. 2245 ed. O.Guéraud, *Rev.Ég.Anc.* 1 (1927) 88-130: Homer, *Odyssey* IX-X. Cartonnage from Ghorân, palimpsest over a documentary text. 15 columns, 20-24 lines/col; column height c. 13 cm. III^e BC. MP 1081; LDAB 2378; Allen-Sutton p31. S.West 223-256; A.Blanchard, *Ancient and medieval book materials and techniques* (1993) 15-40; F.Maltomini & C.Pernigotti, *ZPE* 128 (1999) 301-305 [on variant readings]. Image: *Rev.Ég.Anc.* 1 pl.5 (col. XI, vv. 440-459).

Not bilinear: most letters are aligned to the upper notional line; long horizontal strokes of T and Γ emphasize the upper line. C and O are small, M is broad with middle strokes in a shallow curve, B tall and narrow, middle bar of ε often in ligature with the following letter (in 421 ηδ εμοι, it curves down into the first upright of M: ); H with middle stroke rising diagonally from left to right (as in 32, also in P.Heid. VI 379 of 204 BC, pl. 24); ω broad and high. More ligatures and cursive letter forms (e.g., εν = , αυ = ) in the last two lines, such as are common in documentary hands of the middle and the second half of the 3rd century BC. Towards the bottom of the column, line beginnings shift gradually to the left ("Maas's Law"). The last two lines, omitted at first, have been added later.

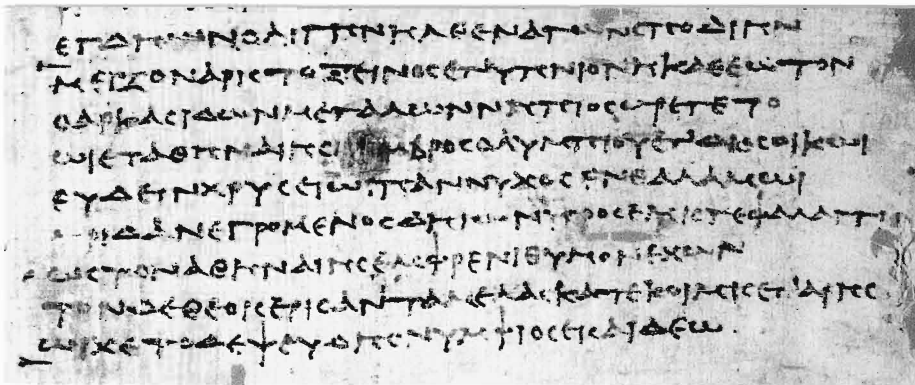
Col. X, *Od.* IX 418-438:

ει τινα που μετ οεσσι λαβοι στειχοντα θυραζε
 ουτω γαρ που μ ηλπεν ενι φρεσι νηπιον ειναι
 420 αυταρ εγω βουλευον οπως οχ αριστα γενηται
 ει τιν εταιροισιν θανατου λυσιν ηδ εμοι αυτωι
 ευροιμην παντας δε δολους και μητιν υφαινον
 ως τε περι ψυχης μεγα γαρ κακον ε[[ν]]γγυθεν ηεν
 ηδε δε μοι κατα θυμον αριστη φαινετο βουλη
 425 αρσενες οιες εησαν ευτρεφεις δαχυμαλλοι
 καλοι τε μμεγαλοι τε ^{ευτρ}[[λοδι]]εφες ιρος εχοντες
 τους ακων συνεεργον ευστρεφεις λυγοισιν
 [[τοις επι Κυκλωψ...]]ευδε πελωρ αθεμιστια ειδως
 σ]υντρεις αιθυμενος· ο μεν εν μεσωι ανδρα φερεσκεν
 430 τω δ αρα επ εκατερθεν ισαν ωιζοντες εταιρους
 τρεις δ αρ εκαστον φωτ οιες φερον αυταρ εγω γε
 αρειος γαρ εην ος υπειροχος ειεν απαντων
 τ]ου κατα νωτα πεσων λασιην υπο γαστερα ^{λυ}ε[[ρει]]σθεις
 κ]ειμην αυταρ χερσιν αωτου θεσπεσιοιο
 435 ν]ωλεμεως στρεψας εχομ[[εμ]] τετληοτι θυμωι
 ω]ς τοτε μεν στεναχοντες εμειναμεν ηω διαν
 η]μος δε ηριγενεια εφαιη ροδοδακτυλος Ηως
 και] τοτ ε[[δ]]πειτα νομονδε εξηλασε πιονα μηλα

28. P.Mil.Vogl. VIII 309 [Milano, Univ. Statale inv. 1295] edd. C.Gallazzi, G.Bastianini, C.Austin: Poseidippos, *Epigrams*. 19.6 x 152.8 cm; Herakleopolites (?), III² BC; MP 1435.01; LDAB 3852; *Posidippi Pellaei quae supersunt omnia* edd. C.Austin & G.Bastianini (Milano 2002). Image: ed.pr.

Small, practised hand, similar to that of 26 but more regular; most letters are aligned to the upper notional line, which is emphasized by the long cross-bars of Γ, Ξ, Π, Τ; verticals of Φ and Ψ very tall; Ο smaller than average, ω flat and high. Few ligatures except ΕΙ and (rarely) ΕC.

Col. V 32-39: μειζον Αριστοξεινος ευπυιον η καθ εω(υ)τον
 (= Pos. 33) ο Αρκας ιδων μεγαλων ιηπιος ωρεγετο
 ωιετ Αθηραις γαμβρος Ολυμπιου εν Διος οικωι
 ευδειν χρυσειω παννυχος εν θαλαμωι
 ηρι δ ανεγρομενος δηιων προσεμιεγε φαλαγγι
 ως τον Αθηραις εμ φρενι θυμον εχων
 τον δε θεοις ερισαντα μελας κατεκοιμισεν Αρης
 ωιχετο δε ψευδης νυμφιος εις Αιδεω



28

135 %

29. P.Sorb. inv. 2303 ed. B.Boyaval, *BIFAO* 65 (1967) 57-69: Homer, *Iliad* XVII 566-578b. 11 x 14 cm. Ghoran, cartonnage; III² BC. MP 0948.2; LDAB 2255; Allen-Sutton-West p501c. Image: *BIFAO* 65 pl. 12; <http://www.papyrologie.paris4.sorbonne.fr/photos/1012303>

Small, practised hand, similar to those of 26 and 27; most letters appear aligned to the upper notional line; broad Α, Δ, Λ; little or no space between letters, but no ligatures except from the cross-bar of Ε.

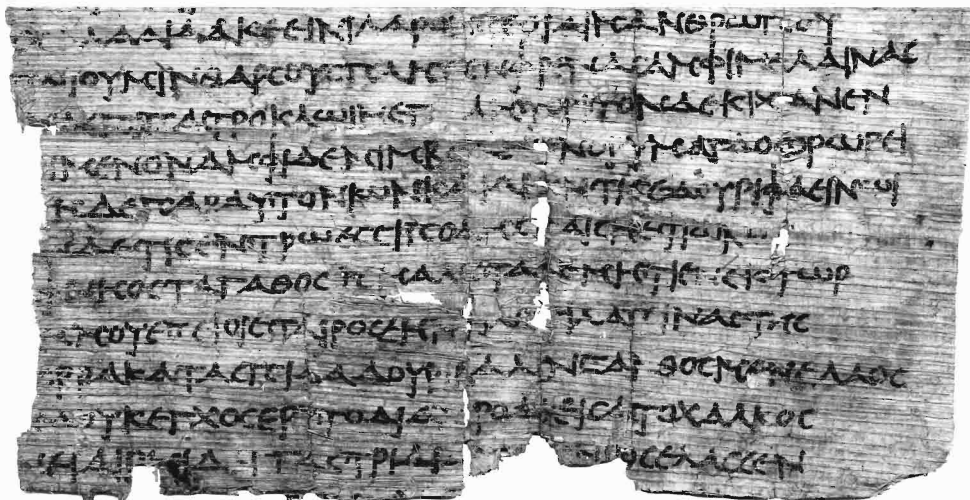
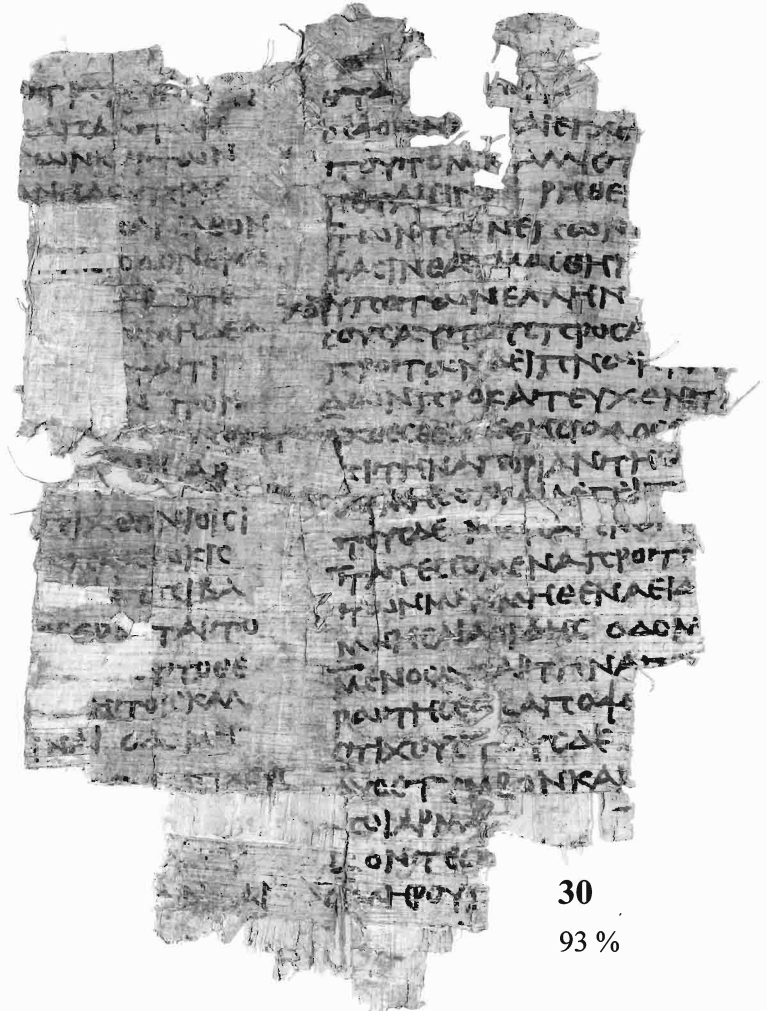
Lines 9-17: τωιου μιν θαρσους πλησεν φρενας αμφιμελαινας
 574 βη] δ επι Πατροκλωι μεγαλητορι τον δε κιχανεν
 574a κε]ιμενον αμφι δε μιμ βελεων ορυμαγδος ορωρει
 574b στ[η δε παρ αυτον ιων και ακοντισε δουρι φαεινωι
 575 η]ν δε τις εν Τρωεσσι Ποδης [π]αις Ηετιωνος
 α]φνης τ αγαθος τε μαλιετα [δ]ε μητιεν Εκτωρ
 δ]ημου επει οι εταιρος εην [φ]ιλο[ε] ειλαπινακτης
 578 τ]ορ ρα κατ ασπιδα δουρι βαλεν ξανθος Μενελαος
 578a η δ ουκ εγχος ερυτο δια[π]ρο δε ειεατο χαλκος
 578b νειαιρηι δ εγ γαστρι δια [ζωστ]ηρος ελασεν

30. P.Petrie I 25 [Brit.Lib. 500] ed. J.P.Mahaffy: *Alkidamas, Certamen Homeri et Hesiodi*. 14.3 x 10 cm. Gurob, cartonnage; III^{ex} BC. MP 0077; LDAB 178; P.Lond.Lit. 191; T.W.Allen (ed.), *Homeri Opera V* p. 225. Image: P.Petrie I.

Small, practised hand, similar to that of **29**, but Α, Δ, Λ less broad than in **29**; second verticals of Η, Ν, Π curved. Little space between lines. Quotations are separated by short blank spaces and marked by paragraphi.

Col. II 12-25:

αχθεσθεις δε ο Ησιοδος ε[
 πι την αποριαν της [
 ωρμησεν και λεγει τ[
 15 τουσδε Μουσα γε μοι [
 τα τ εσσομενα προ τ ε[
 των μεν μηθεν αιιδ[
μησαι αιιδης ο δ Ομ[
 μενος λυσαι την απο[
 20 ρωτησεως αποφε[
στιχους τουσδε [
 Διος τυμβον και[
 ποι αρματ[
 ζοντες .[
 25 Ομηρου [



31. P.Hamb. II 169 (inv. 560) ed. H.Vocke: Letter of Menodoros. 17.5 x 35 cm. Oxyrhynchites, 241 BC.

Large documentary hand, with ligatures becoming frequent from line 4 onwards, especially with cross-bars of € , Θ and C, and the horizontally stretched second elements of A and ω, as well as pseudo-ligatures, i.e. short dashes connecting the tops of H, Π, Υ; N with middle stroke horizontal and second upright raised (𐀎); O small, sometimes only a dot (line 7 παρεχουιν). Pauses in the sense are often marked by blank spaces.

↓ Μηνοδωρος Νικανορι χαιρειν Καλωσ ποιησει[c] γραψαc [[επιστολην]
 εντολ[η]ν τοιc κατα τοπον {τραπον} τραπεζιταιc ειc το ημετερον ονομα
 διδ[ο]ναι ημιν το κατ ανδρα των πεπτωκοτων ειc τα παραγεγραμμενα ημιν
 οφειληματα οπως εχωμεν χραcθαι προς τουc διαλογιcμouc εωc μεν γαρ τ[ο]ν νυν
 5 ουχ υπακουουσιν ουδε υμειc αυτ[ο]ι επιδιδοτε πλεονακιc ηδη γεγραφοτων
 ημων αξιουμεν ουν ce ετι και νυν ηδη γραψαι την εντολην οι γαρ
 ιππειc πλειονα πραγματα παρεχουσιν και καθεστηκαcιν ημαc επ Αμμωνιον
 τον οικονομον ημαc δε ου προσηκον εκτι προσδε[χ]εc[θ]αι πτωματα εαμ μη
 παρ υμων λαβωμεν τον λογο[ν] των πεπτωκοτων η παρα των κατα τοπ[ο]ν
 10 τραπεζιτων ερρωcο Lζ Χοιαχ ιθ

32. P.BruX. II 22 ed. M.Huys [P.BruX. inv. E. 8934 + P.Sorb. inv. 2254 ed. M.Papathomopoulos]: Elegiac invective poem. 15 x 23.5 cm; 24 lines/col. Cartonnage, provenance unknown; III^{ex}/IIIⁱⁿ BC. (P.Sorb.: MP 0461.11; LDAB 1116; SH 970); J.M.Bremer & M.Huys, *ZPE* 92 (1992) 118-120; H.Lloyd-Jones, *ZPE* 101 (1994) 4-7 (further supplements). Image: P.BruX. II.

Medium-sized hand, roughly bilinear but somewhat uneven; A and Δ sometimes rise slightly above the level of the other letters, as do the verticals of Φ and Ψ, while those of P, T, Υ sometimes descend below, though they are usually contained between the two notional parallels. Letters vary in size and execution: O can be round or narrow, of normal height or smaller (e.g. in col. II 18 πολλουc), the middle bar of H can be horizontal or oblique (𐀎, as in 27), the middle element of M can be a flat curve descending from top left to the middle or bottom of the second upright (as in col. I 5 μεγαν, col. II 7 πημα), or a shallow bow in the upper half of the line (as in -πεπταμενοιc col. II 2). T always has a straight cross-bar, P a very small loop. The cross-bars of Γ and T sometimes touch the next letter, but there are no real ligatures. The general appearance of the hand, as well as individual letter forms, recall semi-documentary hands of the reign of Philopator, such as P.Ent. 59 (pl. VI) and 82 (pl. XII); this hand may therefore be up to a century older than the first editors thought.

Col. II 1-7:

μειδηcεν [δ]ε Δικη παρθεινοc αθανα[
 ητε αναπεπ[ι]ταμενοιc ατενεc βλεπε[
 εν δε Διοc Κρ[ο]μιδεω cτηθεcιν εδρια[
 cτιξω δ εν κ[ο]ρυφηι ce μεγαν και αναιδεα λααν
 5 οc τε και ειν Αιδεω κρατοc υπερκρεματα
 Τανταλωι αξυνετου γλωccηc χαριν η μεγ εκεινωι
 πημα και ειν Αιδεω δωμαcιν εκτρεφετο

27-32

The hands of **27-32** all pertain to the same pattern of handwriting. While differences between them are due to higher or lesser degrees of scribal competence and the scribes' personal preferences, the features that they have in common are a mixture of generally smooth and rounded forms with stiff and angular forms, with the occasional intrusion of oval forms, noticeable in *epsilon* and *sigma*, into an essentially consistent pattern; and with ligatures and pseudo-ligatures between letters. The hand of the Poseidippos papyrus (**28**), in particular, has many features in common with documentary hands of the 3rd century BC, such as that of Menodoros' letter (**31**) of 241 BC. They include short horizontal dashes which link two or more letters together, mostly at or near the top; some of these are genuine ligatures (Tω, €I, €CCI), others are inorganic or pseudo-ligatures (III, €I, THN, ΞANΘOC), both of which emphasize the notional upper line (see, for instance, **30** (P.Petrie I 25) col. II 9 σουσαυτουσπρος), while the baseline is much more often crossed by downstrokes not only of *rho*, *iota*, *phi* and *psi*, but also of *tau*, *ypsilon*, *kappa* and even the first downstroke of *ny*. The overall impression is therefore not really one of bilinearity, as the letters align themselves much more with the upper notional line. This may still be due to the influence of documentary hands of the middle of the 3rd century, especially those of the Zenon archive. Letters with simplified design are *epsilon* with its middle stroke sometimes starting from the upper end of the semicircle: **29** (P.Sorb. inv. 2303) lines 9-11 = v. 574 KIXANEN, 574a OPΩPEI, 574b ΦA€INΩI, last line = v. 578b €ΛACCEN; **28** (Poseidippus) V 34 €N ΔIOC OIKΩI, 35 XPYCEIΩI and the second € in €YΔ€IN, 38 Θ€OIC (not in **30**); *eta* with its second vertical curved, sometimes into a semi-circle; *tau* usually made in one movement, with the downstroke starting at or near the right end of of the cross-bar (**28** 33 ωPEΓETO); *ny* sometimes with its middle stroke raised so as to form a right angle with the second upstroke (**28** 32 €NYTINION, 34 €N ΔIOC, 38 €KOIMICEN, as in **31** (P.Hamb. 169) line 6 M€NOYN etc., cf. the *taus* and *ny* in Π€ΠTΩKOTΩN I. 9). **27**, **28**, **29**, **30**, and **31** can therefore be dated to the second half of the third century.

32 (P.Brux. 22 + P.Sorb. inv.2254), however, while following the same general pattern of handwriting, is visibly closer to achieving bilinearity; it also shows some letter forms not shared by the other specimens of this group, such as *eta* with its middle stroke transformed into a rising diagonal linked at the top to the second downstroke, and *alpha* usually made with the left diagonal merging with the middle stroke into an acute angle (Α). Its date may be within two decades either side of 200 BC, and in any case not as late as the second half of the 2nd century, the date suggested by the editors.

33. P.Hamb. II 153 fr. 6 (inv. 649) ed. R.Merkelbach: *Iliad* XI 266y - 280b. 13 x 8,2 cm; the columns had at least 29 lines. Cartonnage, provenance unknown, III^{ex} BC; MP 0875; LDAB 2367; Allen-Sutton-West p0432; S.West 91-103 (Fr. B); H.Maehler, *Pap.Lup.* 4 (1995) 146-148.

Very small, informal hand, with some ligatures and other features "imported" from documentary cursive hands: A written in one sequence (), Ε with the upper part of the half-circle and the cross-bar fused into an angle (), C in two movements (quarter-circle with cross-bar added at the top:), and frequent ligatures, especially with the horizontally stretched second diagonals of A and the cross-bars of Γ, Ε and C, and pseudo-ligatures, i.e. short dashes linking the tops of H, N, Π, Υ or the upper arm of K to the following letter. Apart from the very small Θ and O, most letters are aligned to the upper notional line.

- - - -
 266y εφε]ρον θοον αρ[μα
 266z]αι νοριεϛ πολεμ[
 267 αυτ]αρ επει το μεν ελκ[οϛ
 οξει]αι δ οδυναι τειρ[οϛ
 ωϛ δ ο]τ αν ωδινουσαν[
 270 δριμ]υ το τε προιηϛι μογοϛ[
 Ηρη]ϛ θυγατερεϛ χαλεπ[α]ϛ[
 ωϛ οξ]εια οδυνη τειρειν μενοϛ[
 272a]αϛ εκ κεφαληϛ [
 εϛ διφ]ροϛ δ ανορουϛε κ[αι] ημιοχ[
 νηϛι]ν επι γλαφυρηϛ[ιν ε]λανν[
 275 ηϛε]ν δε διαπρυϛιοϛ Δαναο[ιϛι
 ω φιλοι] Αργειων ηγητορεϛ η[
 υμειϛ] περ υν νευϛιν αμυ[
 φυλο]πιδοϛ κρατερη[ϛ
 ειαϛε] Τρωεϛϛι παν[ημε]ρι[ο]ν[
 280 ωϛ εφα]το ημιοχοϛ δ ιμ[
 280a μαϛτιγι ραδινηι τω[
 280b]μφαεφ[
 - - - -

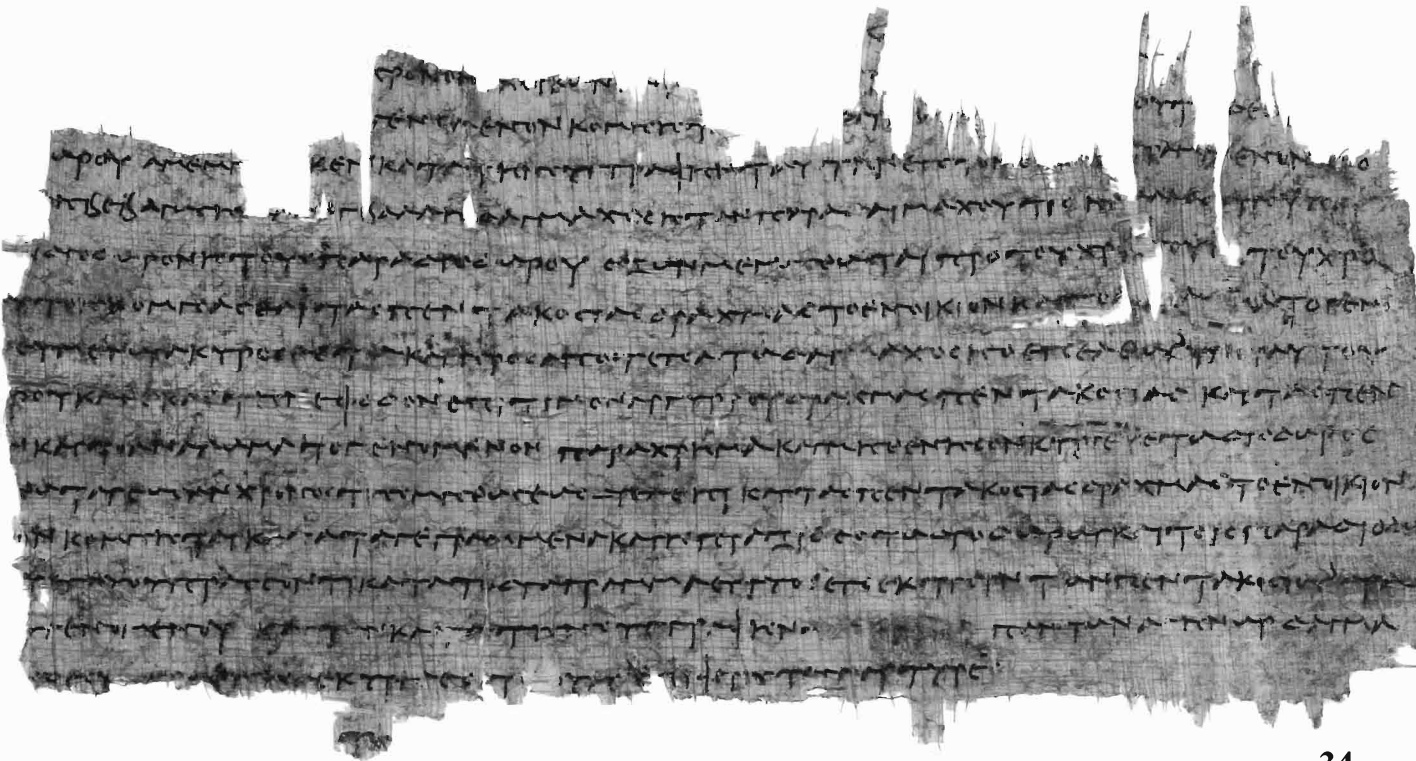


33

73 %

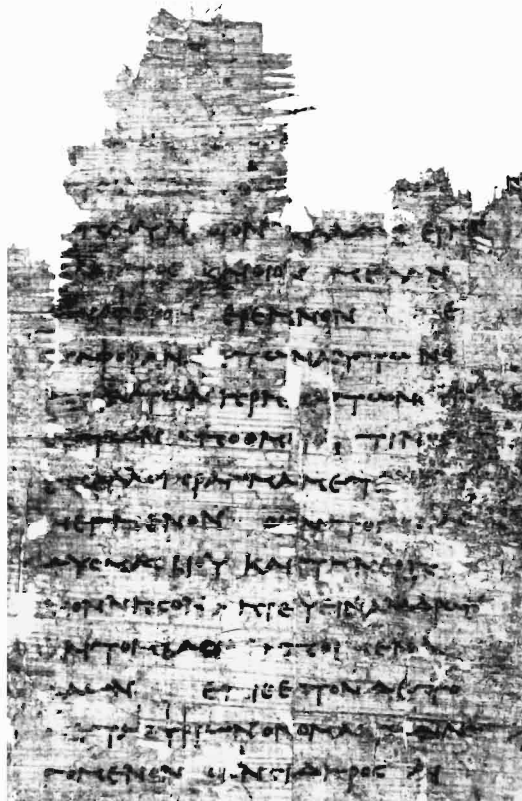
34. BGU X 1964 ed. W.Müller + **P.Hamb. II 190** ed. H.Vocke (= *SB* V 7569): Antichretic loan. The fragments in Berlin (P.Berol. inv. 17291) and Hamburg (inv. 422) combined would form a sheet 13.8 cm high and 31.5 cm broad. Cartonnage, Tholthis (Oxyrhynchite), 221-214 BC. On the back (→) is part of a petition. Image: BGU X pl. 16 (left), *Aegyptus* 13 (1933) 357 (right). *BerL* X 22. Shown here is the right-hand portion (P.Hamb. inv. 422 ↓).

Very small, informal hand with the same cursive features as those noted in 33, which this hand very closely resembles. In 34, even I is often linked at the top with the following letter (see, e.g., line 8 Δγοδωρωρητοϛ). The arms of K



34

67%



35

77%

36. P.Dublin TC 274 ed. B.McGing, *APF* 43 (1997) 273-314 + pl. 4 (*SB* XXIV 15972; first mention: W.Clarysse, *Actes XV Congrès*, IV 102-104). Official correspondence: report on fiscal matters. Fr. A: 27 x 23 cm. Lykopolis, c. 190 BC. (On the back, traces of writing.)

Small, skilled and very neat semi-literary hand with some ligatures. Its general appearance is approaching bilinearity, although letters can vary in size and execution: A is broad with middle bar either rising or horizontal, but sometimes the diagonal bends back to form a tiny loop with the middle bar (Α, e.g. in line 15 αναγραφομενης), or it is in its cursive form in one sequence (α), especially in ligature with K (κα, lines 12, 17, 22); B and often I are tall; the long descenders of P and Φ are usually straight but sometimes end in tiny hooks pointing left; the second upright of Π appears curved into a half-circle, often in ligature (Π); O varies in size; the cross-bar of T is sometimes undivided and straight, but more often it bends down at half-way, with its second half joined at the junction; ω is broad and high. The words are sometimes divided by small spaces.

Col. II 12-22:

απο των κατα την Χαοινωφριος παραχην [κ]αιρωι συνε[βη
 τους πλειονας των [[δ]] λαων δ[ι]αφθαρηναι και την γην χερ[σ]
 θηναι οθεν κατα τα το εικος της μη εχουσης κυριους εν τη
 15 αδεσποτωι αναγραφομενης ενιους των [πε]ριοντων
 επιβαινοντες επι την προκυρουσαν [τη] α]υτων επι
 σπασθαι πλειον της καθηκουσης ων μεν [τ]α [ονοματα
 λανθανει δια το μηθENA ταυτης τελεισθαι εις το βα[σιλικον
 της δε σποριμου μηθεν παρορασθαι της γεωμετρια[ς των
 20 σπειρο[μ]ειων καθ ετος γινομενης και των εκφ[οριων
 απαιτ[ουμ]ειων δι ο και οπως [. .] . . . c . [.
 κατα το αναγκαιον προσανα . [.

37. P.Vindob. G 40612 = P.Rainer Cent. 47, ed. H.Zilliacus: Receipt for supply of sesame. 20 x 8 cm. Cartonnage, Arsinoites, 18 Aug. 213 BC. Image: P.Rainer Cent. pl. 62.

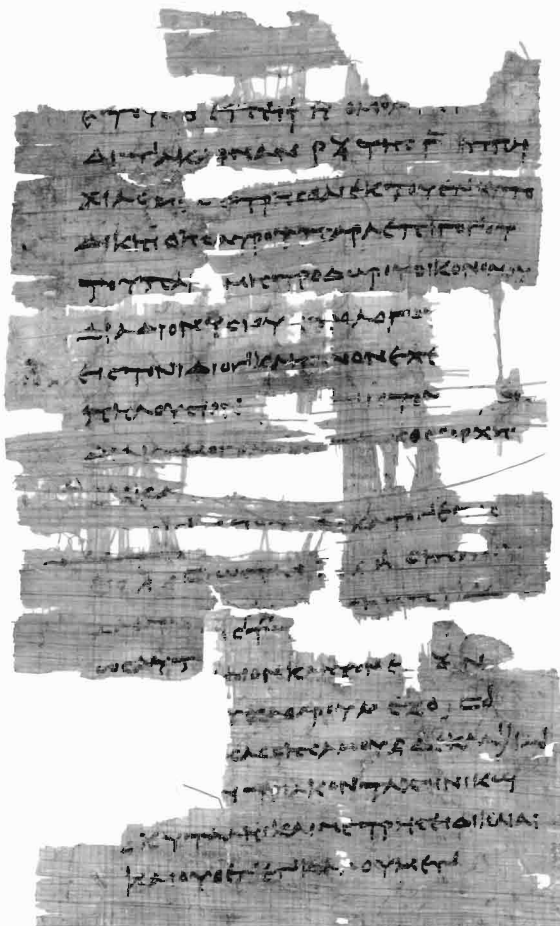
Very small, informal hand, similar to those of 33 and 34. Most letters aligned to the upper line; few ligatures, mostly with the middle bar of Ε or cross-bars of Γ or Τ, also ωΝ (line 2), ωΡ (line 5); pseudo-ligatures from the tops of Η and Π (e.g. line 4 δικηι and παρα); Ν often with middle stroke horizontal and second upright raised.

The first hand wrote lines 1-21; shown here are lines 1-9:

Ετους θ Επειφ η ομολ[ο]γει
 Διων Ακαριαν ρξ της γ̄ ιππαρ
 χιας μεμετρησθαι εκ του εν Αυτο
 δικηι θησαυρου παρα Επιγονου
 5 του παρ[α] Μητροδωρου οικονομου
 δια Διονυσιου ςιτολογου [
 εις τον ιδιον κληρον ον εχε[ι] περι]
 Πηλουσιον τ[ης Θε]μιςτου [με]ρ[ι]δος
 δια κωμογραμματ[εω]ς etc.



36
58 %



37
88 %

33-37

P.Hamb. II 153 (**33**) and 128 (**35**) are written in a small bookhand that is marked by the same contrast between small and narrow letters, such as *epsilon*, *theta*, *sigma*, and broad ones (e.g. *eta*, *pi*, *tau*) that is the hallmark of both literary and documentary hands in the middle and the second half of the third century BC. **33** betrays the influence of contemporary cursive in a number of its letter forms: *alpha* is often drawn in one movement, with the loop slightly open at the top and sometimes linked to the preceding letter (as in $\theta\upsilon\alpha\tau\epsilon\rho\epsilon\varsigma$, Λ 271); *epsilon* mostly with the top of the upper half of its semicircle merging downwards into the middle stroke (ϵ), facilitating ligatures with the following letter ($\epsilon\rho$, $\epsilon\iota$); *eta* with its middle stroke merging downwards into the second vertical, to which a small dash is added to the right which can serve, if needed, as a link to the following letter. The overall impression is that of a script more connected through ligatures than it actually is. A strikingly similar hand is that of **34** (BGU X 1964 + P.Hamb. II 190), an antichretic loan contract of 213 BC.

The hand of P.Hamb. II 128 (**35**), though very similar, is a rather more formal representative of the same type of hand; *epsilon* has its middle stroke always added separately, and although it sometimes appears to touch the following letter, there are no ligatures, not even in $\epsilon\iota$. It makes an interesting comparison with P.Dublin TC 274 (**36**), an official report written c. 190 BC in a small and very neat hand which closely resembles that of **35**. The only differences are in *alpha* (with horizontal cross-bar in **36**, with rising cross-bar in **35**), in *tau* (in **35** with long cross-bar, sometimes starting from a small hook, and downstroke starting near its end; in **36** the first half of the cross-bar bends down at a right angle before the second half is attached level with the first: $\kappa\alpha\tau\alpha$ $\tau\omicron$ $\epsilon\iota\kappa\omicron\varsigma$ l. 14), so that it looks deceptively like one unbroken line, except in $\pi\rho\kappa\tau\eta\varsigma\iota\nu$ l. 29 where the split crossbar is evident. This may suggest that **36** was written two or three decades after **35**. Another difference can be seen in *psilon*: in **35** its arms are either joined at a right angle (Υ) or fused into a shallow curve (Υ), while in **37** it is mostly V-shaped. Moreover, in **36** more ligatures can be seen ($\epsilon\iota$, $\kappa\alpha$, $\pi\rho$).

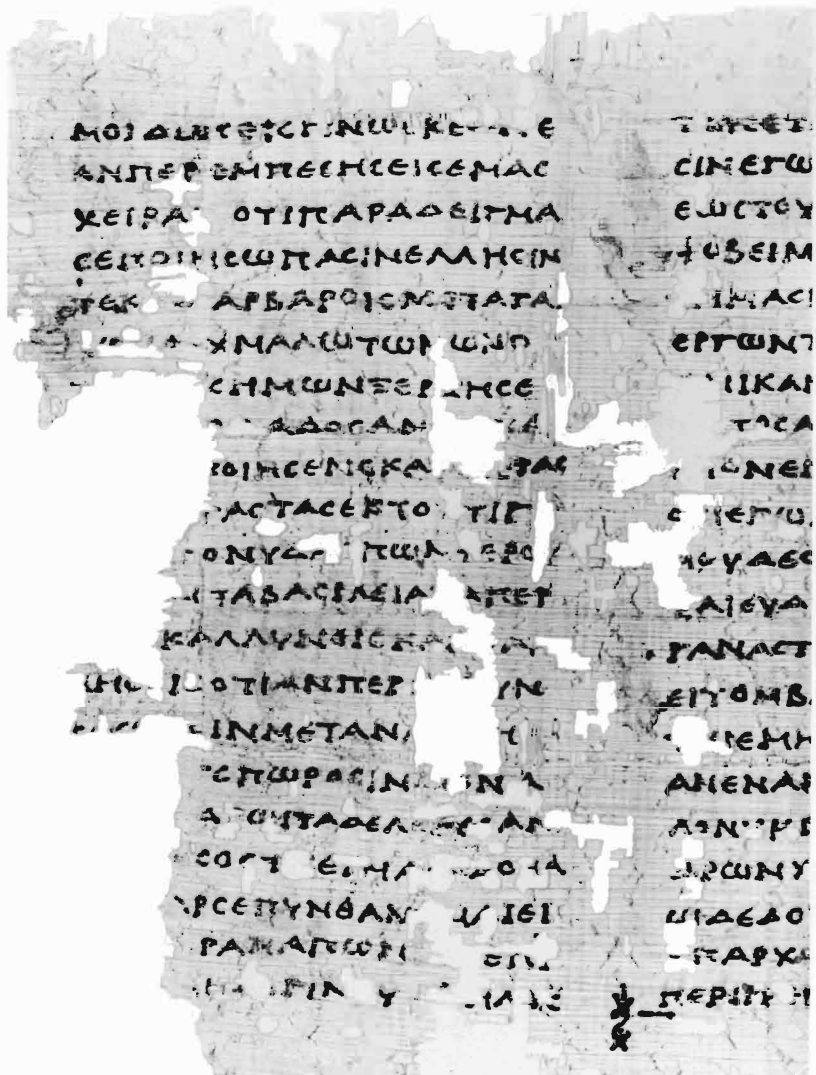
Comparable documentary hands are also P.Rainer Cent. 47 (**37**) and 48, which, together with **34** (BGU X 1964 + P.Hamb. II 190), suggest a date in the last quarter of the 3rd century for **33** and **35** as well.

38. P.Hamb. II 129 (inv. 605) ed. R.Merkelbach: Anthology of fictitious letters. 15.5 x 60 cm; 8 cols.; 21 lines/col. Provenance unknown. IIⁱⁿ BC. MP 2115; LDAB 6780. Image: P.Hamb. II pl. 5a-d.

Small, regular hand; bilinear, except that O and Δ are smaller and high in the line; Φ only slightly exceeds the notional parallels. The uprights of H, M, Π and sometimes N are slightly curved, their feet and those of P end in small serifs or blobs. Although many letters resemble those of 32, this hand is much more regular and better controlled. The end of each section is marked by paragraphos and coronis; book title below the last line in col. VIII.

Col. IV 1-15:

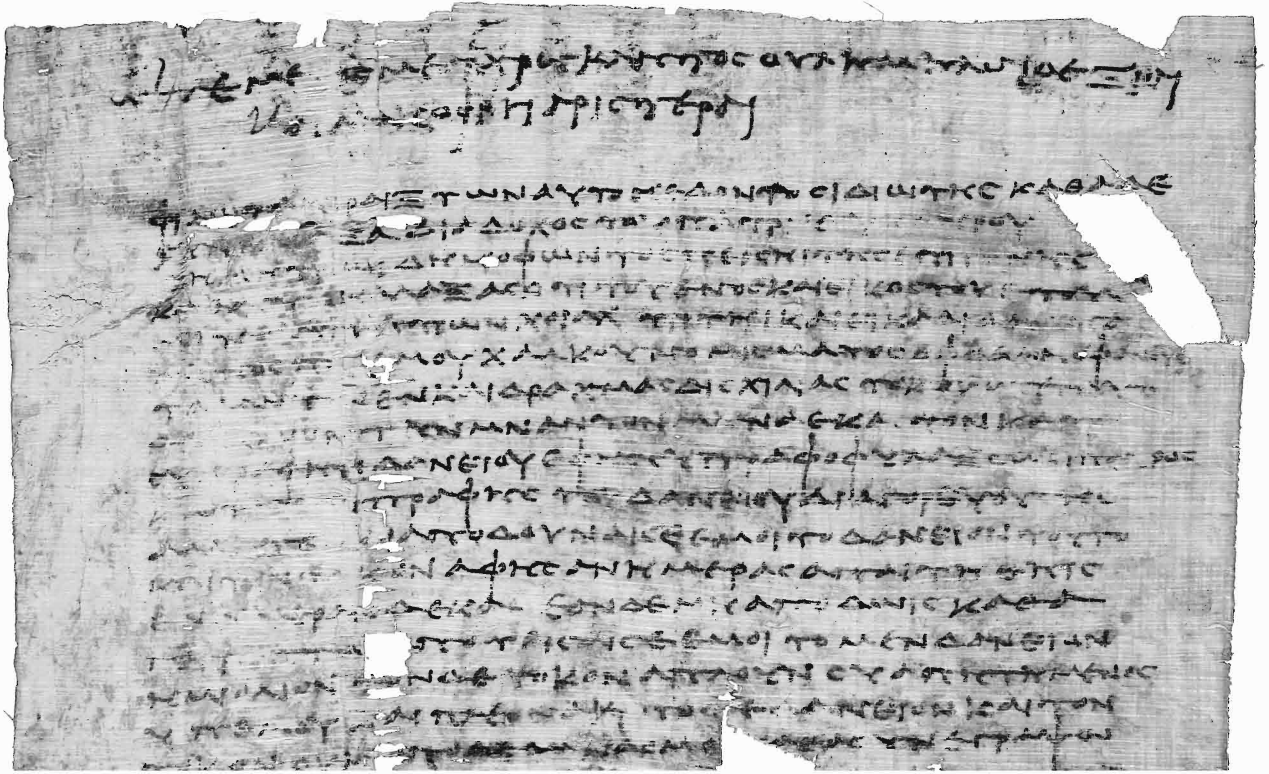
<p>μοι δωσεις γινωσκε δη ε ανπερ εμπεςης εις εμας χειρας οτι παραδειγμα σε ποιησω πασιν Ελληνιν 5 τε κ[α]ι βαρβαροις μετα γαρ των αιχμαλωτων ων ο π[α]ππο[ς] ημων Ξερξης ε κ της Ελλαδος αν[α]πα[ς]] τους ε]ποιησεν σκα[ψετ]ε τας</p>	<p>10 15</p>	<p>διωρυ]γας τας εκ του Τιγ[ρι] δος εις] τον Υδασιων φερου ρας κ]αι τα βασιλεια τα Περ ρικα] καλλυνεις και [δ]ιαπ[ο] ηςεις οτι αν Περρ[α]ι [ς]υν τας[ω]ειν μετ ανα[γκ]η[ς]</p>
--	-----------------------------------	---



39. P.Mil.Vogl. inv. 1297 [Milano, Univ. Statale]. Request for the repayment of a loan (to be published by C.Gallazzi as P.Mil.Vogl. IX 323). From the same cartonnage as **28**. Herakleopolites, 182 BC.

Both hands write with a fairly thick pen. While hand 1 uses ligatures wherever possible and cursive letter forms slightly inclined to the right, very similar to those of P.Heid. VI 380 (pl. 25; 209 or 192 BC), hand 2 is upright, smaller and more or less bilinear with few ligatures (mostly from the crossbars of ϵ and T) or pseudo-ligatures (e.g. N in l. 6 ϵ NOC). Some letter forms recall those of **28**, but T always has a split crossbar which starts from a small hook or blob; the verticals of Φ and Ψ are very long, those of P and Υ less so. It is not impossible that hands 1 and 2 belong to the same scribe.

Lines 1 - 11: (m1) $\omega\varsigma$ \perp λε μερως μελιχρως κλαστος ουλη μηλωι δεξιωι
 και αλλη οφρυι αριστεραι
 (m2) Φιλωτας Θραιξ των Αυτομεδοντος ιδιωτης καθα δε
 5 Δημητριωι Δημοφωντος Περρηι της επιγονης
 καθα συνηλλαξας οτι του ενος και εικοστου ετους
 μηνος Αιγυπτιωιν Χοιαχ τριτηι και εικαδι δανεισα-
 μεινος παρ εμου χαλκου νομισματος οφθαλμοφανους
 ταλαιτων εν και δραχμας διςχιλιας τοκου ως εγ δυο
 10 δραχμων την μναν τον μηνα εκαστον κατα
 συγγραφην δανειου εφ ης συγγραφοφυλαξ ζ ωσιπατρος



40. P.Col. VIII 202 (inv. 517a) ed. C.W.Keyes, *CP* 33 (1938) 411-413: Euripides, *Orestes* 205-224; 226-247; 14 x 7.2 cm; 21 lines/col. Provenance unknown; II¹ BC. MP 0410; LDAB 1012. Image: P.Col. VIII pl. 11.

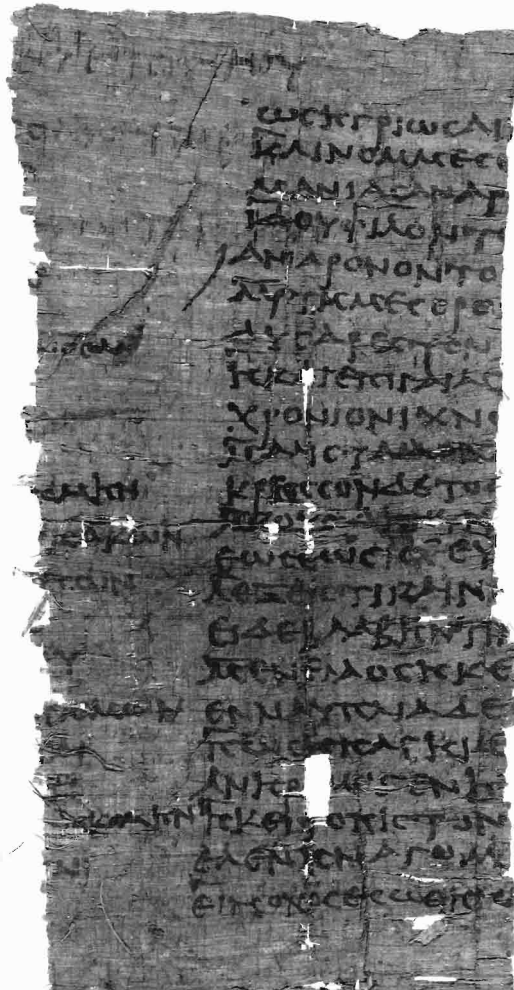
Rounded, somewhat clumsy hand, writing with a broad pen, roughly bilinear except Φ (l. 229), Β (l. 240) and the descenders of P and sometimes T; the first upright of H is also slightly taller than average, as is the upright of K. Some ligatures, especially with cross-bar of Ε, and pseudo-ligatures from the tops of M and Π (e.g. μεϵ l. 227, επι l. 233). The cross-bar of T, which starts with a hook, is always split in the middle where it turns down at a right angle, before the second half is added at the junction. Change of speaker is marked by paragraphi. One accent (v. 229).

Col. II	226	ωϵ ηγριωϵαι δ[		χρονιον ιχνο[
		κλινομ μ ϵϵ[	10 (235)	μαλιϵτα δοξα[
		μνιαϵ αναρ[		κρειϵϵϵον δε τοδ[
		ιδου φιλον το[		ακουε δη νυν[
5	(230)	/ αμιαρον ον το[		ϵωϵ εωϵι ϵε ευ[
		αυτ[[ιϵ]]η μ ϵϵ ορθο[		λεξειϵ τι καινο[
		δϵαρεϵτον . [	15 (240)	ϵι δε βλαβην τιυ[
		η και επι γαιαϵ α[		Μενελαοϵ ηκει[

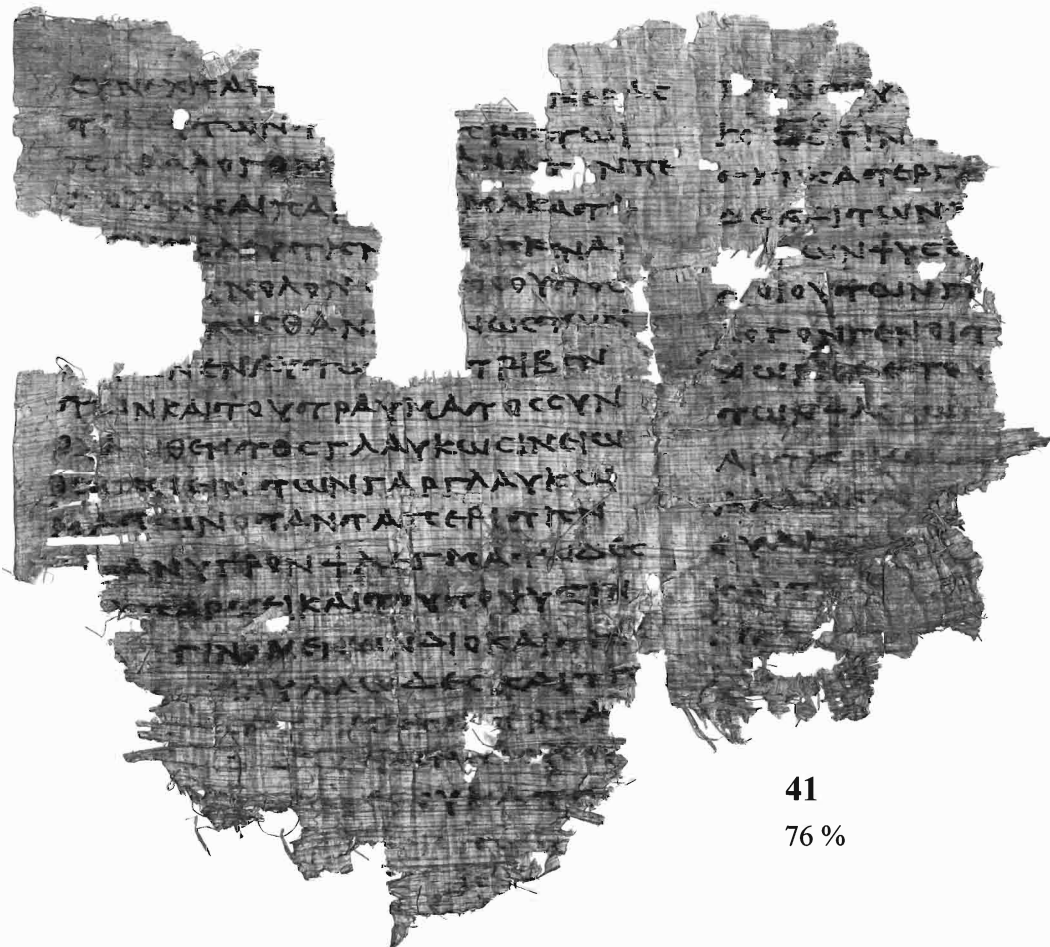
41. P.Oxf. s.n. [Oxford, Sackler Lib.] ed. J.W.B.Barns, *CQ* 43 (1949) 3-4: Medical text. 16.7 x 18.4 cm; Fayum, II^{ex} BC. MP 2344; LDAB 6883; M.-H.Marganne, *HPLS* 1 (1979) 206; eadem, *L'ophtalmologie dans l'Égypte gréco-romaine d'après les papyrus littéraires grecs* (Leiden 1994) 97-103.

Clumsy, unskilled hand, writing with a thick pen, tries but fails to achieve bilinearity as the letters are often of uneven height, uneven spacing and varying shape. The middle bar of A can be straight and horizontal, or bowed, or a falling oblique (Λ , as in col. II 10 αρτηριων); the cross-bar of T, whether split or straight, starts from a hook, blob or circlet; the second bow of ω is replaced by an upright.

Col. I	ϵυνεχη αν[	η]μεραϵ	Col. II	πρωτου τ[
	τελευτωντ[	] προς τωι		η ϵϵτιν . [
	παραλογον τ[ινα θ]ανατ[ο]υ πε			τηι κατεργα[
	ποηκεναι παρ[αχη]μα κατα			δε και των μ[
5	τ]ηη τελευτην [πε]ποηκεναι		5	[..]των φυϵει[
	το δε ϵ]υνολον ο [μη] τοϵουτοϵ			τοιουτων .. [
	ωϵθ ου]τωϵ θανα[του]ν ωϵ των			λογον γενοιτ[ο
	υ[γ]ρων εν αυτω[ι ϵυν]τριβεν			χωριϵ δε του[
	των και του τραυματοϵ ϵυν			των φλεβων [
10	θλα[ϵ]θεντοϵ γλαυκωϵιν ειω		10	αρτηριων . κ . [
	θεν ποιειν των γαρ γλαυκω			αλλα και [
	ματων οταν τα περι τηη			ουλη[
	κο]ραν υγρον φλεγματοϵδεϵ			και τ[



40
100 %



41
76 %

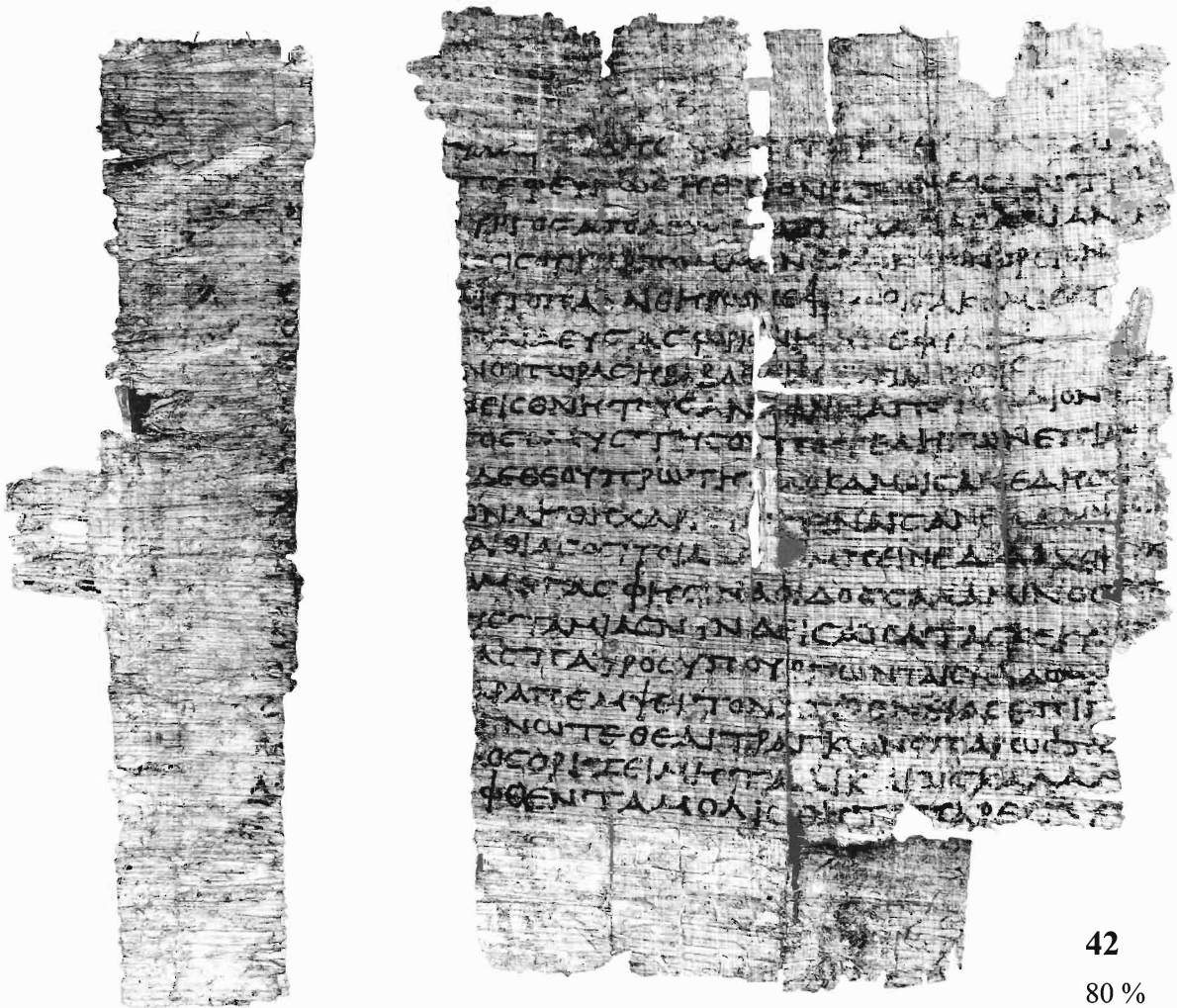
42. P.Fackelmann 5 [present location unknown] ed. B.Kramer, *ZPE* 34 (1979) 1-14 no. 5: Anapaestic tetrameters; 19 lines/col. Fr. B: 16.3 x 12.5 cm. Provenance unknown, II^{ex}/Iⁱⁿ BC. LDAB 6772; *TrGF* II 646a. Image: *ZPE* 34 pl. 1.

Medium-sized, regular hand, largely bilinear except Φ , Ψ and the verticals of κ ρ τ γ which occasionally descend slightly below the line. The cross-bar of τ (which is made as in **40**) often starts from a small hook or blob; small serifs can appear at the extremities of some letters (η ι κ π ρ τ γ ϕ χ ψ). Ligatures are rare, except with the extended cross-bars of Γ , H , Π or T .

Fr. B:] υλεδ] ης[] υθο υει[]] ω[
] πεφευγως ηθυρον εγω νεος αντροι[ς]
 φυτ]ουργος απλους]] μ] ς αμμαντ[ος]
]] ος ιου καρπομ μεν εμ̄ον τ̄ον ορειον
 5] αι το παλαι θηρων εφοδοις ακομιςτ[ος]
] παιδευσας ωριον ηβην εφυκλαξα
 καρπο]ν οπωρας ηρα βαθειας επι ληνους
]ν εις θνητους ανεφηνα ποτον Διου[ς]
]ςος ο μυςτης ουποτε ληγων επια[—]
 10]δε θεου πρωτη πλοκαμοις ανεδης[ν]
]ων ληθη χαριςιν ξειναις ανελαμψ[εν]
]αι θιασος τοιαδε []] μπειν εδιδαχθη
] μεγας φησιν αιδοσ Καλαμινος
]ης ταμιας νυν δ εις απατας κεκυλ[ιςται]
 15]ας παυρος υποργων ταις ψευδομε[ναις υυ— —]
]αρα πεμψει τον απ θνειας επι γ[αιαν]
]γνωτε θεαι τραγκων ο παρωσ' πο[— —]
]] ος οριζει μη τα δικαιως καλαμ[— —]
]φθεντα μολις θητε παρεργου] υυ— —]

38-42

The hands of this group are characterized by a tendency to inscribe the letters, as far as possible, into a square, so that - with the obvious exception of the narrow letters *iota* and *rho*, and the long verticals of *phi* and *psi* - their width more or less matches their height. Few letters fall short of this ideal in some of these specimens: *omikron* is smaller in P.Col. 202 (**40**); in **38**, *delta* and *omikron* are small and high in the line; the second hand of P.Mil.Vogl. inv. 1297 (**39**) is more indifferent to bilinearity, which is broken not only by *phi* and *psi*, but often also (as in **40**) by the descenders of *rho*, *ypsilon* and *tau*, but apart from this, it looks like the documentary variant of **38**. In both hands of **39**, the first half of the crossbar of *tau* is a small curve which merges into the vertical, to the top of which the second half is attached; *omega* is broader than tall. In P.Oxf. (**41**), *ypsilon* sometimes appears nearly V-shaped, drawn in one movement, as in TOY ΤΡΑΥΜΑΤΟΣ CYN col. I 9 (this becomes its standard form in both literary and documentary hands from the 2nd half of the 2nd century BC; an early example is P.Laur. III/155 (*Scrivere libri* 106,



42

80 %

pl. 95, of 164 BC). Bilinearity is evidently aimed at, and largely achieved, even by the rather clumsy hand of **41**. Diagonal strokes often appear gently curved in *alpha*, *delta*, *lamda*, *my*; the second verticals of *eta* and *pi* bend almost into semicircles; the first two strokes of *alpha* form an acute angle pointing downwards; in **40**, the second diagonals of *deltas* extend beyond the point where they meet the horizontal stroke. An interesting development can be seen in *tau*: in most instances it appears in its traditional form with strong crossbar starting from a small hook or blob and downstroke attached to it, but some *taus* show a split crossbar, the first half of which merges into the downstroke (always in **39**, TI in line 14 of **40**, TΩN col. I 9 of **41**; ΘNHTOYC l. 8 in **42**). This form of *tau* - with split crossbar, of which **39** is an early example - is not found in third-century hands; it becomes common in documentary hands of the 2nd century BC, see, e.g., BGU X 1957 (177 BC) and 1907 (167/6 BC), P.Lond. 42 (Facs. I 17: 172 BC). It is the forerunner of the standard V-shaped *tau* of documentary hands of the first century and later. The appearance of *tau* with split crossbar in bilinear bookhands is a useful dating criterion.

43. P.Köln IV 186 (inv. 7962) ed. B. Kramer: Letter from a military commander concerning an episode of (probably) the sixth Syrian war of 170-168 BC. 29,5 x 16,5 cm; 30 lines. Cartonnage, provenance unknown, II^{med} BC. Iota adscr. omitted in 16 Θρακος, 18/19 δε]ξια and 21 ηευχη. Image: ed. pr., pl. 18. Large, regular hand, bilinear except Φ, Ψ and the descenders of P and (rarely) Υ. Round letters (Ε Θ Ο C) show an oblong pattern, only ω is quite broad. The middle bar of A is usually horizontal, occasionally a rising diagonal; B is slightly taller than average; M is in 4 movements; the arms of K are sometimes detached from the vertical; T always has a split cross-bar which starts from a small hook. Small serifs can appear at the extremities of some letters (K Π P Υ X Ψ) but most letters are quite plain and without serifs. There are very few ligatures.

Lines 1-7:

] βιαζομενοι διεδορατιζοντο νεανικωτερον διο και συνεβη [
 πο]λυ καταβαρησαι τους παρ ημων διηνεγκαντας ταις ευψυχαις και εντ[
 αυτο]ς και των πατριδων αξιους γενομενους κυριευσαι του χαρακος κα[ι
 α]υτους υφ αυτων δια το εντος παντας ανειληφθαι και μηδεμιαν αναφ[
 5]ρους τε και διωρυγας εμπειπτοντας και περιπιγεις γινομενους[
] ομενους διαφθειρεσθαι ωστ ει και τις διαλαθεσθαι η βουλοιτ[
]ς ημετερας ιππου δια το ευρυχορον εινα ευμαρωσ συνεβαινειν χε[

44. P.Louvre inv. E 7172 (Pap.Didot, cols. I-III lines 1-44) ed. H.Weil: New Comedy. 16,5 x 108 cm; Memphis/Saqqara, c. 160 BC. MP 1319; LDAB 1048; H.Weil, *Un papyrus inédit de la Bibliothèque de M. Ambroise Firmin Didot*, Paris 1879, 1-15; D.Page, *GLP* no. 34; Menander (ed. Koerte) I pp. 143f.; Menander (ed. Sandbach) pp. 328-330; U.Wilcken, *UPZ* I pp. 111, 115; *CGFP* no. 287; *PCG* VIII 1000; A.Ponzio, *AnPap* 8-9, 1996-7, 102 no. 1; Image: Weil 1879 pl. 1.

The hand of the first three columns is that of a very untrained writer; sizes, shapes and spacing of letters vary widely. Ε, Θ and often C are taller than broad; B is tall, O is usually very small and sometimes reduced to a dot (col. III 3 εμον σκοπειν, 5 προς); the arms of K are often detached from the vertical. Ligatures appear intermittently (e.g. col. III 5 ταυτεστι). *Scriptio plena* is more frequent than elision.

Col. III 1-11 (vv. 35-44):

ανδρα ωι με δωσεις ση γαρ ην τοτε αιρεσις
 επει δ απαξ εδωκας ηδη στιν πατερ
 εμον σκοπειν τουτο εικοτως μη γαρ κακωσ
 κρινασα εμαυτης τον ιδιον βλαψω βιον
 5 ταυτ εστιν ωστε μη με προς της εστιας
 αποστερησης ανδρος ωι συνωικισας
 χαριν δικαιαν και φιλανθρωπον πατερ
 αιτω σε ταυτην ει δε μη συ μεν βιαι
 πραξεις α βουλει την δ εμην εγω τυχην
 10 πειρασομ ωσ δει μη μετ αιχυνης φερειν
 στιχοι μδ

43-44

The hand of **43** shows an oblong pattern; most of the letters (except *omega*, which is quite broad) are taller than broad. It is more or less bilinear, with the usual exceptions of *phi*, *psi*, *rho* and occasionally *psilon*. In general, the letter forms seem fairly close in shape to those found in the later third and early second centuries BC; features common to both hands are *tau* with split crossbar and *omega* with its middle element slanting somewhat to the left; *alpha* made in two movements, the first diagonal and the rising crossbar forming a sharp angle; tall and narrow *beta* and *epsilon*; large, oblong *theta* with straight crossbar; *xi* with short middle bar close to top stroke (**43** l. 3 ΑΞΙΟΥΣ, **44** l. 43 ΠΡΑΞΕΙΣ), *pi* with curved second vertical, the top of which is often linked to the following letter by a pseudo-ligature (**43** l. 5 ΠΕΡΙΠΝΙΓΕΙΣ, 8 ΠΡΟΣ, **44** l. 1 ΠΑΤ[ΕΡ, 3 ΟΠΟΥ, 36 ΕΠΕΙ Δ ΑΠΑΞ), *rho* with long descender curving slightly to the left at the end. Marked differences can be seen only in *my* (in **43** it is in four strokes, the middle ones forming a sharp angle, whereas in **44** they are fused into a shallow curve) and *epsilon* (in **43** the arms join at an angle, the left arm often starting from a small hook; in **44** it is made in one movement from top left in a shallow curve, then descending from its right end). Compared with **43**, the hand of **44** is extremely rough and uneven, its letter forms are much less consistent, bilinearity is broken much more often; it looks as though both scribes were trying to reproduce the same essentially bilinear model, though the scribe of **44** did so with poor control through lack of experience.

45. P.Oxy. XV 1790 (+ XVII 2081f) [Oxford, Sackler Lib.] edd. B.P.Grenfell & A.S.Hunt: Ibykos, *Enkomion on Polykrates*; 3 columns, 20 lines/col.; 20 x 31.2 cm, II² BC. MP 1237; LDAB 2434; Page, *PMG* 282; J.P.Barron, *BICS* 16 (1969) 119-149; G.B.D'Alessio, *ZPE* 134 (2001) 35. Date: E.G.Turner, *BICS* 16 (1969) 144 n. 3 and Cavallo, *Calamo* 115. Image: (Col. III) P.Oxy. XV pl. 3; *BICS* 16 pll. 5-6; *GMAW*² 20; Seider I 15.

Description by E.G.Turner, *GMAW*² p. 48: "Strictly bilinear (except Φ, Ψ), slowly written, strongly stylized. Α and sometimes Δ begin with low loop [αρεταν l. 16]; when the stroke begins high up, the pen makes a high wedge or circlet, and oblique or vertical strokes will end in a finial or circlet (note Γ, Κ, Ν, Ρ, Υ). Ο is large, made of two half ovals, cross-bar of Ε is usually connected by wedge-shaped movement to upper curve, cross-bar of Τ usually curves down into its vertical. Lection signs, some by a later scribe, include middle and high stops, rough breathings (´), tremas, apostrophes, occasional accents (ὀρεῖ-χάλκωι III 2-3; on 'Doric' system εἰεῖ III 7), marks of long and short quantity (εμβάϊεν II 4; ἄπεφθο[ν III 3). A 5-line note in cursive with reference mark ·/· comments on the name Κυάμππος. Offsets in a documentary capital . . . in the upper and lower margins and in the empty central space."

Col. I:]αι Δαρδανιδα Πριαμοιο με
]τυ περικλεεσ ολβιον ηνάρον
]οθεν ορνημενοι
]νος μεγαλοιο βουλαισ
 5]ηθᾶσ ελενας περι είδει

-]ριν πολυμνον εχ[ο]ντες
-]λεμον κατα [δ]ακρ[υ]ο]εντα
-]γαμον δ ανε[β]α ταλαπειρι[ν α]τα
-]σοθειραν δ[ι]α Κυπριδα·
- 10]ν δε μοι ουτε ξειναπά[τ]αν Π[αρι]ν
-]επιθυμιον ουτε ται[ν]υρ[ον]
-]νῆν Κασσανδραν
-]αμοιο τε παιδας αλλου[σ]
-]ιασ θ υφιπυλοιο αλωσι[σ]
- 15]αρ ανώνυμον· ουδε π[ι]
-]ων αρεταν
-]εραφανον όυς τε κοιλα[σ]
-]πολυγόμοφοι ελεύσα[σ]
-]αι κακον ηρωας εσθ[ι]
- 20]μεν κρειων Αγαμε[σ]



46. P.Lond. inv. 134 ed. F.G.Kenyon, *Classical Texts from Papyri in the British Museum* (London 1891) 42-55: Hypereides, *In Philippidem*. 9 cols., 25 x 50 cm, provenance unknown. II^{med} BC. MP 1234; LDAB 2431; Image: Kenyon, *Classical Texts* pl. 2 (cols. VIII-IX); Schubart, *Griech. Pal.* 110 fig. 72 (col. VIII-IX); W.A.Johnson, *Bookrolls and Scribes in Oxyrhynchus* (Toronto 2004) 319f. + pl. 15 (cols. I-IX).

Bilinear except for Φ and Ψ. Small serifs at the extremities of most uprights and of the arms of Υ; at or near line-beginning, Γ Ρ Τ and the first upright of Ν and Π stand on bases pointing left. As in **45** and **48** l. 11, Α is in 2 movements, its first diagonal bending back into the cross-bar forming a small loop (Α); the same can sometimes be seen in Δ (e.g. δεδωκατε l. 4). Frequent "pseudo-ligatures" (e.g. col. viii 2 τοις των etc.). No punctuation, but sentence end marked by blank space, section-end by wider space + paragraphos. Lines begin progressively further to the left ("Maas's Law").

Col. VIII 1-10; IX 1-6 (§§ 12-13):

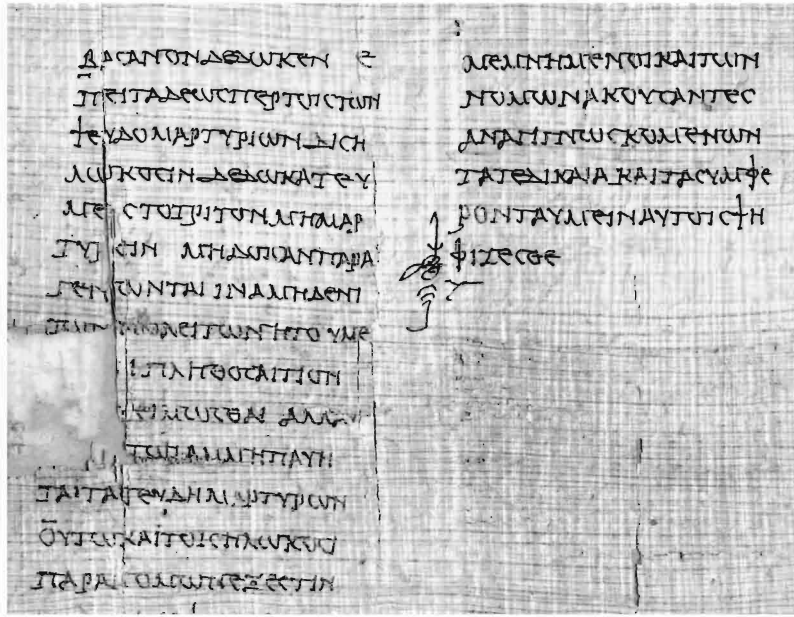
	βασανον δεδωκεν	ε	μεμνημενοι και των
	πειτα δε ωπερ τοις των		νομων ακουσαντες
	ψευδομαρτυριων δις η		αναγιγνωσκομενων
	λωκοσιν δεδωκατε υ		τα τε δικαια και τα συμφε
5	μεις το τριτον μη μαρ		ροντα υμειν αυτοις ψη
	τυρειν μηδ οις αν παρα	↓	φιζεσθε
	γενωνται ινα μηδει	↓	—
	των πολειτων το υμε		
	τερον πληθος αιτιον		
10	του ητειμωσθαι αλλ αυ		
	etc.		

47. P.Turku inv. 2 ed. H.Koskenniemi, *Proc. XX Congr.* 246-251 (= *SB XXII* 15545): Petition of the priests and wardens of sacred ibises and falcons of Theadelphia to the *Epimeletes* complaining about excessive taxation. Cartonage; Theadelphia, 146 BC. 17,1 x 17,7 cm. Image: *Proc. XX Congr.* pl. 14.

This hand clearly aims at bilinearity, but it is broken by Ψ and the first upright of Η, and occasionally (and very slightly) by Ρ Τ Υ. Ornamental hooks at the extremities of Η Ι Κ Μ Ν Π Ρ Τ Υ; € and C taller than broad, as in **45**.

Lines 4-11:

] και Θοτομουτος του Φαμενεμου ιερων Αρησιος και ιβιοβοσκων και ιερα
]ελαιδος της Θεμιστου μεριδος ουκ αγνοεις ον τροπον επιδοντων
 Με]χειρ υπομνημα δι ου εξηριθμουμεθα τα βιαι τελουμενα εις τε ημας
 με]λει αδικηματα πλειονα παρα την σην και του διοικητου εις το θειον
]τον Ερμη προαι[ρ]ειν υπο Σαραπ[ι]ωνος του παρ Αγλαου χαριν ων
]κωμην βασ[ι]λικη]ς γης αρουρ[] εκφοριου της αρδυρ & γ ων τα
] εις τρ[οφ]ην και ταφην και την αλλην προστασιαν των ιερων
 α]φ ου χρονου εχει ο Αγλαος εν δωρεαι την κωμην μεχρι του λ L



46

95%



47

73%

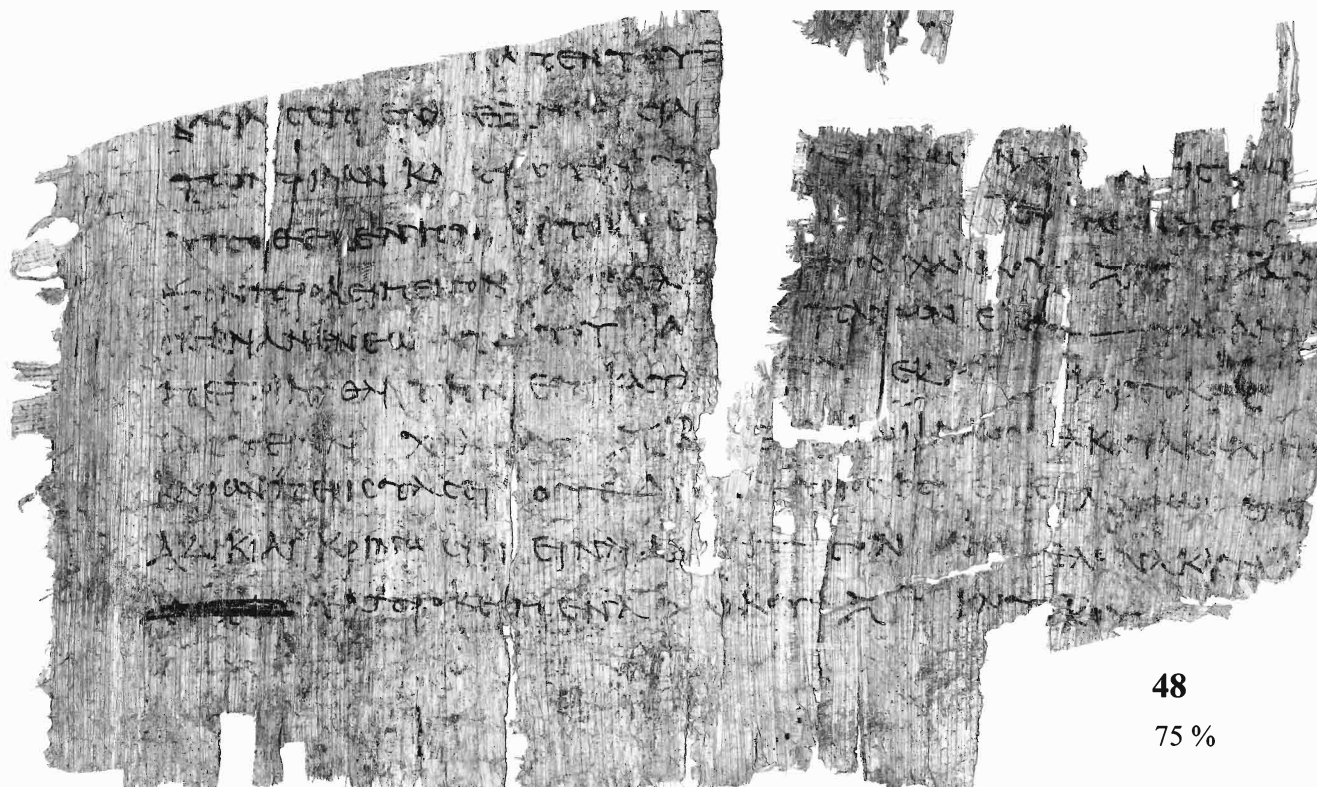
48. P.Heid. inv. G 5017 v: ed. Ch.Armoni, *APF* 51 (2005) 208-227: Enteuxis. Cartonnage. Herakleopolis, 156 BC (?). Shown here is fr. C (14.3 x 23 cm). Image: *APF* 51 pl. 19.

Bilinearity is clearly aimed at, although it is broken by P, Φ and often I and the uprights of K and sometimes T. A is in 2 movements, its first diagonal and cross-bar forming a sharp angle, sometimes a small loop (Α in ἀδικιαί line 11); this curiously mannered form of A is found also in other documents of the mid-second and early first centuries, e.g., in **51** (l. 6 ἀθλοφορου), P.Köln V 222 pl. 42 (l. 6 Αciαν), BGU XVIII 2732 pl. 2, lines 16 ἀδελφου und 20 αξιω, and still in the 1st century AD (**96** = P.Oxy. 246); an even more exaggerated form of this A is found in P.Bingen 51 pl. 29 (P.Berol. 25427: line-ends of P.Berol. 13962 = BGU VIII 1740, 14: απλωc (c. 70-60 BC). The cross-bars of ε and Θ are regularly, N and Π often linked to the following letter. The middle strokes of M and the arms of Υ form a shallow cup. Some letters (T, X) start with a blob or circlet; serifs appear at the extremities of K and sometimes of H, N, Π and T. The words are sometimes divided by spaces.

Fr. C, 2-12:] απ εντευξ[εωc ην] επεδωκεν τω[] βα[
 βασιλιcκη εν Αλεξανδρειαι [α]ναπεμφθηγαι []
 των φιλων κα[ι] προς τη επ[ιμε]λειαι των χρη[μ]ατιcτων []
 5 υποθεμενην αυτην εν [τω]ι ι L εφ υμων μεγαcτ[]
 τον προκειμενον αμπελω[να] προς χαλκου Ϝ γ και του[]
 ον και ανενωσατο του ια L Παχων ειc α L τον Δημ[]
 πεποιηcθαι την επικατα[βολ]ην εκ Ϝ ε και τοκ^{ου}[ων] . []
 ωcτ ειναι χαλκου Ϝ β []ε...ι ...cτα κατακεχηρημ[]
 10 καιρων περιcταcει οτε Δη[μ]ητριoc η μετειληφωc επι[]
 αδικιαι κρινωcιν ειναι αυτης τον αμπελωνα κατα []
 [[αυτης]] τα προκειμενα χαλκου Ϝ γ και τοκου[c]

45-48

The hands of the two literary texts (**45** and **46**) are strictly bilinear, except Φ and Ψ; the letters are carefully drawn. The most striking feature of the handwriting of both these specimens is their obvious stylization, particularly in **45**, which also shares a number of characteristic features with **47**: a faint but consistent bending of diagonal strokes (of *alpha*, *delta*, *lamda* and *ypsilon* in particular), and by the addition of little hooks or serifs pointing left at either end of vertical and even diagonal strokes, such as those of *ny* (Ν in **45**: e.g. in ΟΠΝΥΜΕΝΟΙ col. I 3; Ν or Ν in **47**) and of *chi* (e.g. in ΑΧΙΛΛΕΥC **45** col. II 13, ΧΑΡΙΝ in **47** line 5) and most other letters. In **47** this effect is achieved by starting diagonal strokes from the top well before they meet verticals (as in *ny*: Ν) or other diagonals (as in *delta*: Δ, or *lamda*: λ), or by bending the ends of verticals outwards (e.g. of *eta*: Η) and those of horizontals downwards (e.g. of *tau*: Τ). In **45**, *epsilon* often shows its upper arc bending down to the starting point of its middle bar (ε); the middle strokes of *my* touch the baseline, as they do in **46**, while in **47** they form a



48

75 %

very flat angle (as in line 10 $K\omega MHN$). In **46**, too, small serifs can be seen at the extremities of most letters; the loops at the lower left corners of A and Δ, present also in the *alphas* of **45** and **48** (l. 11 $A\Delta IKIAI$), are more prominent, and there is a strong tendency to connect the tops of letters by horizontal dashes (pseudo-ligatures), which can also be seen in **48**. In shape and execution, many of the letters in **46** correspond closely to their counterparts in **45**, e.g. the oblong $\epsilon \theta \omicron \varsigma$, \omicron made of two ovals (cf. **46** col. IX 2), the upper arm of K bending upwards, etc. **46**, although less strictly bilinear and less artfully stylized than **45**, **46** and **47**, evidently follows the same stylistic model; in particular, it shares the peculiar forms of A and K with **45** and **46**.

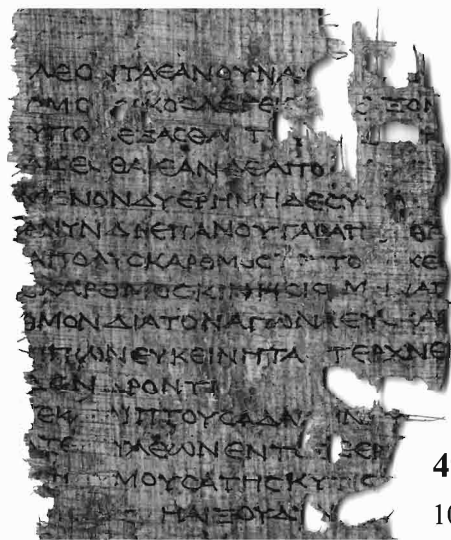
In the *editio princeps*, **45** had been dated to the first century BC; subsequently, the date was brought forward to the 2nd century by E.G.Turner (*GMAW*² 20). That date can be confirmed by comparison with the documentary hand of **47**: the clear analogies in its letter forms point to a date in the middle of the 2nd century BC.

49. P.Lille inv. 76d, 78a-c, 79, 82, 84 ed. C.Meillier, *CRIPEL* 4 (1977) 261-286: Callimachos, *Aitia* III with commentary. Height of roll 23.5 cm, 38-39 lines/col.; shown here is the top part of 79 (23.5 x 6,5 cm). Cartonnage, Magdôla. II¹ BC. MP 0207.3; LDAB 527; P.J.Parsons, *ZPE* 25 (1977) 1-50; *SH* 254-269. Both **49** and **50** come from the same cartonnages as the documents *SB* XVI 12164; 12269-12272 and 12274, all of the 2nd century, cf. W.Clarysse, *CE* 55 (1990) 352-354. Image: *CRIPEL* 4 pll. 1-4; *GMAW*² 75; *Gloire d'Alexandrie* p. 134; B.Legras, *Lire en Égypte* 17 pl. 8.

Skilled, medium-sized, very regular hand, strictly bilinear except Φ and Ψ (and B which can slightly exceed the upper line); most letters except these and *iota* would fit into a square; even K P T Y are confined within the lower line; middle bar of A mostly straight, sometimes a flat bow; ϵ θ \circ C well-rounded (θ with middle bar); cross-bar of H fairly high; M in 4 movements; middle stroke of Z is vertical, that of Ξ a short horizontal dash; T with split cross-bar (line 11 $\delta\epsilon\upsilon\delta\rho\omicron\nu$ $\tau\iota$); ω is broad, shaped like 2 ellipses joined in the middle. No serifs, except very rarely at the ends of the arms of K or Y, or the cross-bar of T. Commentary indented (*eisthesis*) by 3 letters.

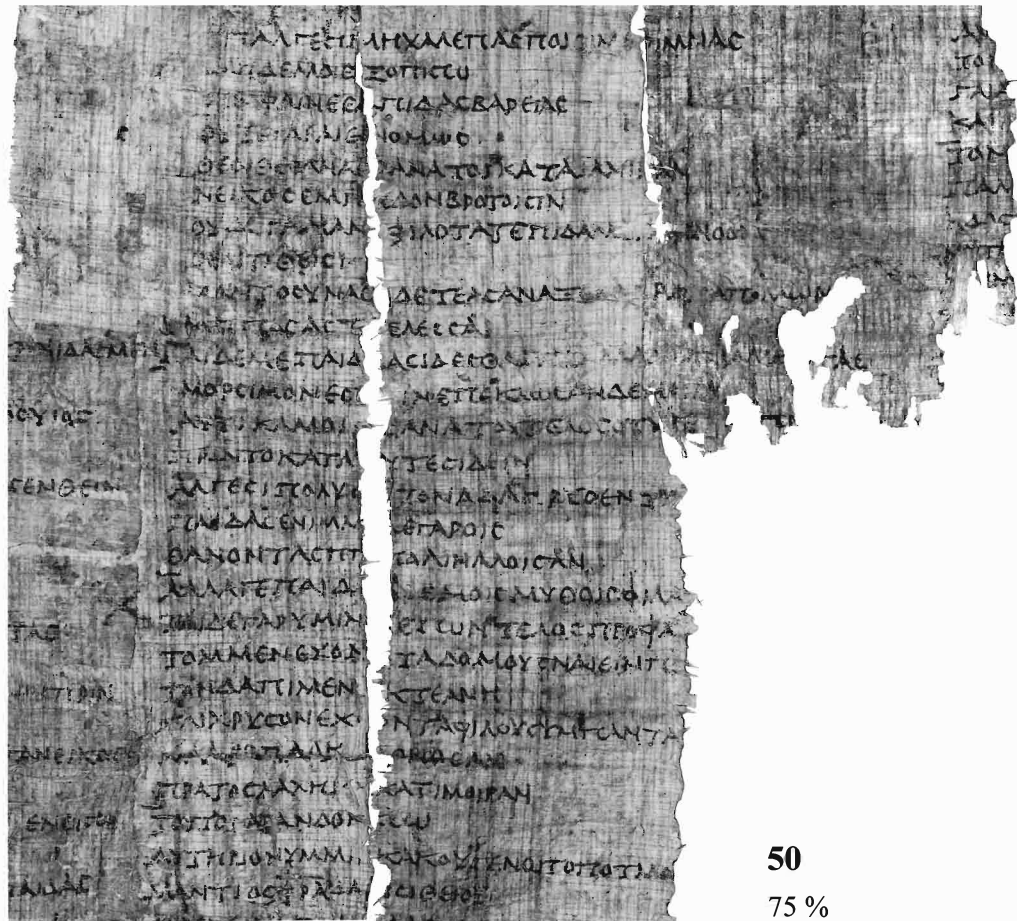
79 lines 1-11 (*SH* 257 + 258):

λεοντα εαν ουν α . [
 ο Μο[λ]ορκος λεγει τ[...]εϋξομ[
 υποδεξασθαι τ . . [...] [
 λιζεσθαι εαν δε απολ [
 5]μειον δυερη μηδε συν αξ[
]α νυν δρεπανου γαρ απε[υ]θε[
]α πολυσκαρθμος τουτου εχει[
]σκαρθμος κινησις μηνα π[
]θμον δια του αγωνα ευσκαρθμ-
 10 ι]ππων ευκεινητα τερχνε[α
] δενδρον τι [



50. P.Lille inv. 76abc, 73, 111c edd. G.Ancher & C.Meillier, *CRIPEL* 4 (1977) 287-351: Stesichoros, *Thebais*. 34 lines/col., (76a): 23.3 x 11.3 cm. Cartonnage, Magdôla, II¹ BC. MP 1486.1; LDAB 3975. C.Meillier, *ZPE* 26 (1977) 1-5; P.J.Parsons, *ZPE* 26 (1977) 7-36; G.Ancher, *ZPE* 30 (1978) 27-35 (on the hand); J.M.Bremer, *Some recently found Greek poems* (Leiden 1987) 128-172. On the back of inv. 76a-c is a list of names and payments of the late 2nd century BC: *SB* XIV 11894. Image: *CRIPEL* 4 pll. 4-6; *GMAW*² 74; Bremer, pl. 7-8.

Description by P.J.Parsons, *GMAW*² p. 124: "Untrained scribe uneasy in his craft. Separate capitals ($\Gamma\epsilon$ $\epsilon\iota$ CI $\text{C}\omega$ may ligature), awkwardly stanced, not made consistently or of the same size. P, T (A, Γ , H, Π) may have left-pointing serifs, T and Y often a broad flat base. Bilinearity is aimed at except for Φ (descenders of P T Y often docked), and the hand is laterally compressed, contrasting usually narrow (but at times broad) ϵ θ \circ , broader C (often having a long horizontal cap) and letters normally made broader, A Γ H K M Π X. M deep, on 4 angular movements, but also shallow and rounded in 3 movements; θ a circle with central dot. No accents or breathings, and no punctuation except a double dot at verse and period-end in 217." [T with split cross-bar: e.g. lines 20 and 22 $\epsilon\chi\omicron\nu\tau\alpha$, line 21 $\kappa\tau\epsilon\alpha\upsilon\eta$, 24 $\pi\rho\alpha\tau\omicron\varsigma$].



50

75 %

76a col. II + 73 col.I, lines 1-17 (vv. 201-217):

επ αλγεσι μη χαλεπας ποιει μεριμνας

μηδε μοι εξοπιω

προφαινε ελπιδας βαρειας

ουτε γαρ αιεν ομωσ

5 θεοι θεσαν αθανατοι κατ αιαν ιραν

νεικος εμπεδον βροτοιειν

ουδε γα μαν φιλοτατ επι δ αμερα[ι] εν νοον ανδρων

θεοι τιθεισι

μαντοσυνασ δε τεασ αναξ εκαεργος Απολλων

10 μη πασας τελεσσαι

αι δε με παιδας ιδεσθαι υπ αλλαλοιρι δαμειντας

μορσιμον εστιν επεκλωσαν δε Μοιρα[ι]

αυτικα μοι θανατου τελος στυγερο[ιο] γεν[οι]το

πριν τοκα ταυτ εσιδειν

15 αλγεσι πολυστονα δακρυσεντα[

παιδας ει μμεγαροις

θανοντας η πολιν αλοισαν:

51. P.Tebt. III 1, 811 [Berkeley, UC 2387] edd. A.S.Hunt & J.G.Smyly: Declaration on oath; *C.Ptol.Sklav.* I 35; cf. BerL X p. 359. 11 x 17.5 cm; 165 BC. Image: P.Tebt. III 1, pl. IV.

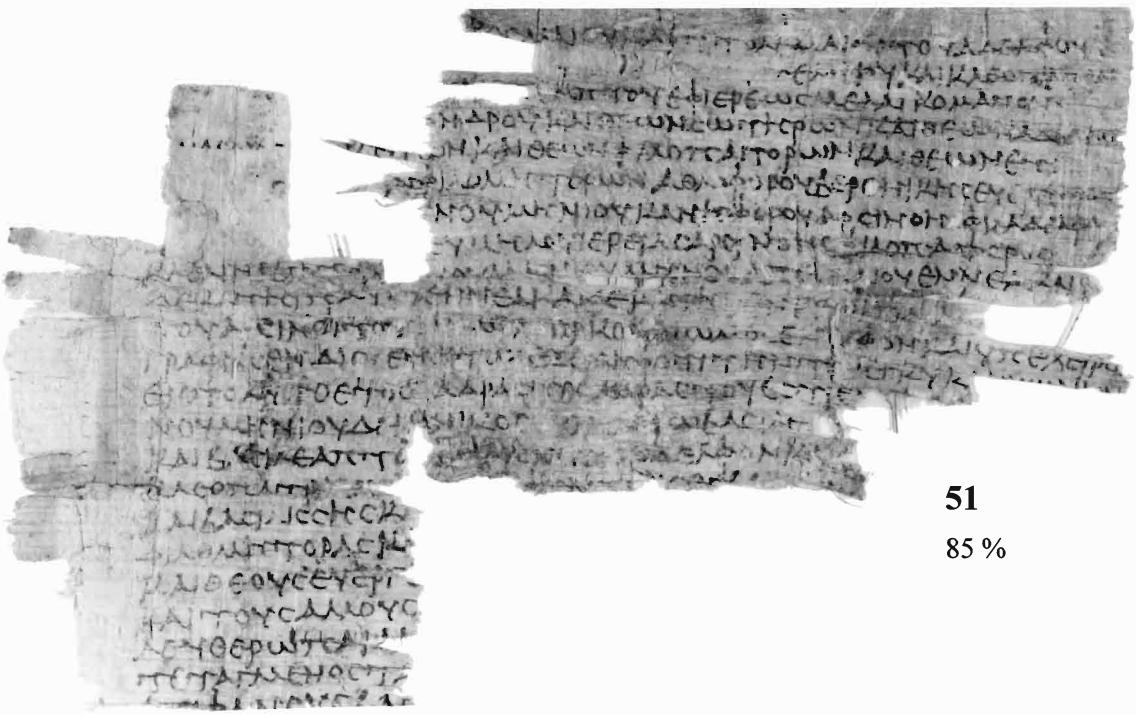
Medium-sized hand; bilinearity is aimed at but often broken, not only by Φ, Ψ and Β, but also by the verticals of Η, Κ, Ρ and Υ. Α and Τ are made as in 43; the upper arm of Κ bends upwards, as in 37 and 43. Pauses in the sense are marked by blank spaces in lines 11 after νομου and 14 after δεκαδικος.

Lines 8-12:] Ευμηλου ιερειας Αρσινοης Φιλοπατορος
 Κλειαιετης τη[σ] Νουμημιου μηνος Απελλαιου εννεακαι
 10 δεκατη Παυι εννεακαιδεκατη εν Κροκοδιλω[ν πολει
 του Αρσινοιτου νομου ορκος ον ωμοσει υφ ον και υπεχειρο
 γραφησει Διογενει τω εξειληφοτι την του εγκυκλι[ο]υ ωνην

52. Louvre, inv. E 9331r + 10438 ed. E.Revillout, *REG* 2, 1889, 1-16: Hypereides, *In Athenogenem.* 6 columns, 26-27 lines/col.; height of roll 23.3 cm; from Panopolis (?). II^{med} BC. MP 1235; LDAB 2430; D.Whitehead, *Hyperides: The Forensic Speeches* (Oxford 2000) 1-4. Image: Revillout, *Corpus Papyrorum Aegypti* III (1892); Kenyon, *Pal.*, pl. 12; Schubart, *Gr.Pal.* Abb.70. Shown here is col. V.

The hand seems carefully stylized to imitate those of stone inscriptions; bilinear except for Φ and Ψ, and the descenders of Ρ and Τ (Τ with strong cross-bar, apparently drawn over ᾿, as in 53). The apex of Α exceeds the upper notional line, as does the second diagonal of Δ; large Θ with straight cross-bar; most of the other letters are made to fit more or less into a square. No accents or punctuation; pauses in the sense are indicated (though not consistently) by blank spaces, often combined with paragraphoi. A line-filler in l. 15.

Col. V 1-18: ματων αλλ εν προσθηκης με ρει ως ου
 δεν οντα και ει τωι αλλωι οφειλει τι Μιδας
 και των εραιων εις μεν ουν Δικαιοκρατης
 ενεγεγραπτο ου ησαν λοιπαι τρεις φοραι
 5 ουτος μεν επι του Δικαιοκρατους ονομα
 τος ην γεγραμμενος οι δ αλλοι εφη οις
 ειληφει παντα ο Μιδας νεοσυλλογοι δ η
 σαν τουτους δ ουκ ενεγραψεν εν ταις
συνθηκαις αλλ απεκριψατο βουλευομε
 10 νοις δ ημιν εδοξεν πορευεσθαι προς του
 τον και διαλεγεσθαι ^κ[[η]]αι κα[τ]αλαβοντες
 αυτον προς τοις μυροπωλιοις ηρω[τω]μεν
 ει ουκ αισχυνοιτο ψευδομενος και [ε]νεδρευ
 σασ ημας ταις συνθηκαις ου προειπων τα
 15 χρ[ε]α ο δ απεκρινατο ημιν ως ουτε τα >:
 χρεα γινωσκοι α λεγομεν ουτε προεχει η
 μ[ιν] τον νουν γραμματειον τ ειη αυτω
κει[μ]ενον προς εμε περι τουτων πολλων



51

85 %



52

96 %

53. P.Dion. 25 [Paris, Sorbonne, inv. 2035 = P.Rein. I 26] edd. E.Boswinkel & P.W.Pestman: Loan of wheat; cf. *BerL* XI p. 127. 32 x 15 cm; Hermupolis, 22 Dec. 104 BC. M.Chr. 164; P.W.Pestman, *Dionysios, son of Kephalas. A bilingual family archive from Ptolemaic Egypt (Acta Orientalia Neerlandica, Leiden 1971)* 19-21. On the back are two notices of 3 lines each: on the right, summary of the contract; on the left (by another hand): ἀπαρχιός | ιπ[πον]ι^κ | λο .. ἀρχοῦ. μ. Image: P.Dion. pl. 33; *Acta Orientalia Neerlandica* pll. 7-9; G.Menci, *S&C* 20 (1996) pl. 6.

Roughly bilinear, except for Β, Φ, Ψ and the descenders of Ρ, Τ and sometimes Υ and Ι. Τ is made in 2 movements: the horizontal turns down at a right angle (1), then the top line is drawn over it again.

Lines 1-16: ετους ιδ του και ια Χοιαχ ζ εν Ερμ[ο]υ πολει

- της Θηβαιδος εδ[α]νεισεν Πασιων
 ος και Πασις Πετρε[ν]εφωτου Περσης
 εκατονταρχος τω[ν] της Ασκληπιαδου
 5 ηγεμονας Ακωρ[ι]των Διονυσιω τω και
 Πληνει Κεφαλατο[ς] Περση της επιγονης
 και τη τουτου γυν[αι]κι Ισιδωραι τη και
 Τασιτι Ερμοφιλου τῶυ και Παχοιτος και τη
 του προγεγραμμε[ν]ου Διονυσιου μητρι
 10 Σαραπιαδι τη και Σεναβελλει Ηλιοδωρου του
 και Εριεως αμφοτερας Περσιναις μετα
 κυριου αυτου Διονυ[ς]ιου του και συνδεδα-
 νεισμενου πυρου στ^ε αρταβας πεντηκοντα
 ας μεμετρηνται πα[ρ] αυτου αμα τη συγγραφη
 15 ταυτη αναφερομενη τοκων ημιολιων
 πυρων αρταβαις εις[ο]ς]ι [ε]πτα του δε πυρου

49-53

49 and **50** derive from cartonnages found at Ghoran by P.Jouguet and G.Lefebvre in 1901/2. Their dates have been controversial: Turner dated them to the 3rd century (*Ptolemaic Bookhands* 35; *GMAW*² nos. 74 and 75), Parsons to the early 2nd (*ZPE* 26 p.7: *Stes.*; *ZPE* 25 p. 4 *Callimachus*), followed by Cavallo, *Libri . . . Ercolano* p. 53. The documentary texts derived from the same cartonnages as **49** and **50** are all dated in the 2nd century BC, cf. W.Clarysse, *CE* 55 (1990) 352-4.

The later date can be confirmed by comparison with the hand of P.Tebt. III 811 (**51**), even though that documentary hand is more fluid and relaxed than those of the two Lille papyri, both of which are stiffer and more formal, especially that of **49**. All three hands are almost perfectly bilinear; the letters can more or less be fitted into squares, their design is smooth and uniform. Some individual letter forms deserve mention: *alpha* mostly with horizontal middle bar, but in **50** sometimes slanting and forming an acute angle with the first diagonal; the forms of *kappa* are strikingly similar in that its lower arm often touches the upper one at a short distance from the vertical (Κ in ΚΑΡΘΜΟC **49** l. 7; in **50** l. 6 ΝΕΙΚΟC, in ΚΑΩCΑΝ l. 12; and in **51** l. 2 ΚΑΙ ΚΛΕΟΠ); *tau* has its traditional form in most instances in **49** and **50**,



53

70 %

yet sometimes appears with split crossbar (in **49** line 11 ΔΕΝΔΡΟΝ ΤΙ; in **50**: ΠΟΛΥΤΟΝΑ 1. 15; ΕΧΟΝΤΑ 1. 20), as it regularly does in documentary hands of the 2nd century. The verticals of *rho* and *epsilon* in **49** and **50** reach only slightly, if at all, below the baseline, illustrating the scribes' effort to achieve bilinearity. On the whole, **50** is less formal than **49**: its letter forms are less consistent; *epsilon*, *theta*, *omikron* are smaller and narrower; some of the descenders end in little hooks pointing left; *epsilon* and sometimes *tau* stand on a short base (ΤΟΓΚΑΤΑ 1. 5, ΜΑΝΤΟCΥΝΑC 1. 9, ΎΜΜΙ 1. 26), see also on **55** and **59**.

The hands of **52** and **53** follow the pattern of the two Lille papyri. Most of the letter forms of **52** fit into a square, and many of them resemble those of **49** and **50** closely. Bilinearity is less strictly observed in **53**, and even in **52** not only *phi* and *psi*, but also *tau* and *rho* extend below the baseline; the end of the upper arc of *epsilon* often touches the end of the middle bar, as it sometimes does in **62** (UPZ I 8) of 161 BC and in **53** of 104 BC.

54. P.Merton I 1 [Dublin, Chester Beatty Lib.] ed. H.I.Bell; Homer, *Od.* VI 190-191, 199-201, 204, 206-208, 236-275. 24 x 8.1 cm; Oxyrhynchos ?, II¹ BC. MP 1063; LDAB 2340; S. West, 218-223; Allen-Sutton p110. Image: P.Merton I 1; Seider II 2, pl. VII 14.

Small hand, roughly bilinear, except Φ; B and the uprights of P and K tend to reach below the lower notional line.

Assimilation of N to the following letter (v. 242).

Col. II, vv. 238-246:

δη ρα τοτ αμφιπ[ο]λοιειν[
^τ
κλυθε μοι αμφιπολοι λευκ[
240 ου παντων αεκητι θεων οι Ολυμ[
Φαιηκεσσι οδ αν[η]ρ επιμιξετ[
προσθεμ μεγ γαρ δη μοι αεικελι[
νυν δε θεοειν εοικεν οι ουρανον ε[
αι γαρ εμοι τοιοσδε ποσις κεκλημ[
245 ενθαδε να^εεταων και οι αδοι ενθ[
αλλα δοτ αμφιπολοι ξεινωι βρω[

55. P.Louvre inv. E 7733r, ed. K. Wessely, *WS* 13 (1891) 312-323: Philosophical treatise (on sensory perception). 15.5 x 36.8 cm. Memphis/Saqqara; II^{ex} BC. MP 2579; LDAB 7038 (on the verso is MP 2911 = **94**). F. Lasserre, 'Un papyrus sceptique méconnu', *Le monde grec: Hommage à Claire Préaux* (Bruxelles 1975) 537-548 (new combination of fragments); Cavallo, *Calamo* 113. Image: *Le monde grec* pl. 9; Cavallo, *Calamo* pl. 19a.

Small, practised and regular hand, bilinear except P and Φ; no ligatures. The cross-bar of T starts from a small hook; Υ is docked and V-shaped; serifs appear occasionally at the ends of the arms of Υ and the descenders of P, and sometimes at both ends of the vertical of K; the descending diagonal of N tends to start before it meets the first upright, as it does in **54** and **56**. ω is nearly always of normal size, rarely flat (ορων line 20). Sentence-end is marked by blank spaces and paragraphhoi.

Col. IV 9-17:

τουτων [.....]μεν αυ
των τας κινησεις δηλον
δ εστι μεγ γαρ τας ανα
τολας και τας δυ[..]ις παν
των συνωρωμεν την πε
ριφοραν αι γαρ μειζονος
φαινομενου του υπερτελ
λοντος αναγκη δοκειν αυ
τα μεθιστασθαι διο και

ΔΗΡΑΤΟΤΑΜΠΕ...
 ΚΑΥΘΕΜΟΙΑΝ...
 ΟΥΤΑΝΤΩΝ...
 ΦΑΝΚΕΣ...
 ΠΡΟΣΘΕΜΜΕΓ...
 ΝΥΝΔΕΘΕΟΙ...
 ΑΝΑΡΕΜΟΙ...
 ΕΝΘΑΔΕΝ...
 ΑΛΛΑΟΤΑΜ...
 ΠΑΛΛΑΡ...
 ΑΡΤΑΔΕ...
 ΑΥΤΑΡ...
 ΜΑΤΑ...
 ΚΡΑΤΕ...
 ΤΟΛ...
 ΑΛ...
 ΚΕ...
 Α...

54
78 %

ΥΠΑΡΧΟΝ...
 ΤΗΣΑ...
 ΜΕΙ...
 ΤΕΛ...
 ΤΩΝ...
 ΔΕ...
 ΟΛ...
 Ε...
 Π...
 ΔΑ...
 Χ...
 Τ...
 Κ...
 Τ...
 Ε...
 Α...

55
100 %

56. P.Tebt. III 1, 692 [Berkeley, UC inv. 1508] edd. A.S.Hunt & J.G.Smyly: Sophocles, *Inachos* (?). Fr.1: 8.5 x 21 cm. II¹ BC. MP 1475; LDAB 3955; *TrGF* IV 269c; Carden, *Pap. Fragments of Sophocles* 72-93. From the same mummy (no. 15) as P.Tebt. 783, which has an account on the back of years 28-34 (of either Ptolemy VI or Ptolemy VIII) = 152-146 or 142-136 BC. Image: P.Tebt. III 1, pl. 1.

This hand is very similar to that of **53** but much smaller. Small serifs sometimes appear at the ends of the arms of Υ and the descenders of P, T Φ and Ψ , and cross-bars of Z. The arms of K form a half-oval, detached from the vertical.

Col. II 1-9: πολυ πολυιδριδας
 (TrGF IV 269c, 16-24) οτις οδε προτερων
 ονομ ευ σε θροει
 τον Αιδοκυνεας
 σκοτον αροτον υπαι
 τον Διος μεν ουν ερωτων α[γγ]ελον μεγαν τροχιν
 ει[κ]ασαι παρεστιν Ερμην π[ρο]ς τα σα ψοφηματα
 αυτον ειπας αυτον ος μοι δευρ ανεστρεψεν ποδα
 δευτερους πονους εοικας πριν μυκαι κενους ελαν

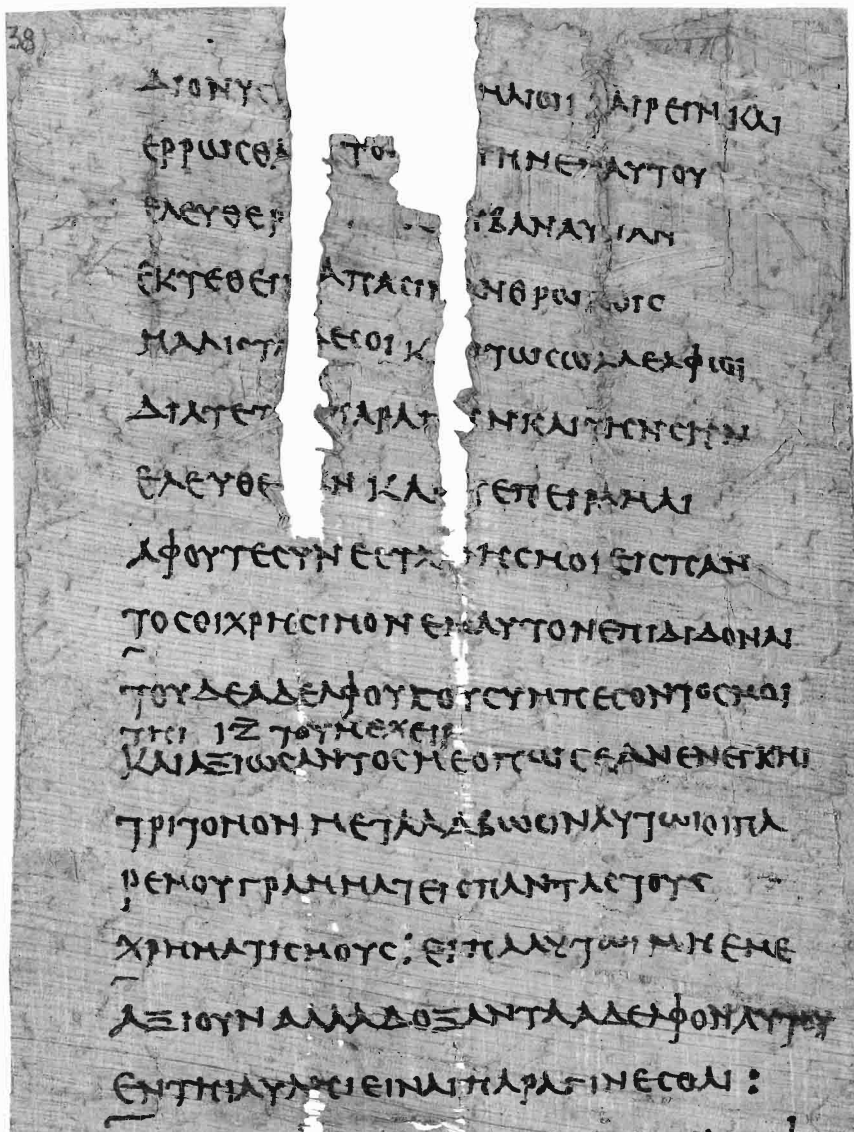
57. UPZ I 62 [Louvre, inv. E 2372 = P.Par. 49] ed. W.Brunet de Presle: Letter of Dionysios to Ptolemaios. 32 x 12 cm. Memphis/Saqqara, 160 BC. *Sel.Pap.* I 98. Verso: only address Πτολεμαιωι. Image: Seider III 1, II fig. 90a

Paragraphos under lines 9, 16, 23, 25, 27, 29, 31; colons after 14 χρηματισμους, 16 παραγινεσθαι, 23 απενεγκειν, 25 συμμειξαι μοι, 27 αιεχυνθεις, 29 εντραπηναι. The hand resembles those of **55** and **56**, except that the descenders of P, T and sometimes Υ are longer and curved to the left. The arms of K are sometimes detached from the upright, the upper arm bends upwards; N is made as in **54**, **55** and **56**. Sentence-end is marked by space, colon and/or paragraphos.

Lines 1-16: Διονυσι[ος Πτολε]μαιωι χαιρειν και
 ερρωσθα[ι] τοι[αυ]την εμαντου
 ελευθερ[ιοτ]η[τ]α . [ο]ν βαναυσιαν
 εκτεθεικα πασιν ανθρωποισ
 5 μαλιστα δε σοι κ[α]ι τω σω αδελφωι
 δια τε τ[ο]ν Σαραπιν και την σην
 ελευθε[ρια]ν και πεπειραμαι
 αφ ου τε συνεσταθης μοι εις παν
 το σοι χρησιμον εμαντον επιδιδουαι
 10 του δε αδελφου σου συμπεσοντος μοι
 τη ιζ του Μεχειρ
 και αξιωσαντος με οπως εαν ενεγκη
 τριτομον μεταλαβωσιν αυτωι οι πα
 ρ εμου γραμματεις παντας τους
 χρηματισμους : ειπα αυτωι μη εμε
 15 αξιουν αλλα δοξαντα αδελφον αυτου
 εν τη αυλη ειναι παραγινεσθαι :



56
82 %



57
98 %

58. P.Berol. 9767 edd. W.Schubart & U. von Wilamowitz-Moellendorff, *BKT V* 2,115-22: Menander, *Kitharistes* (?). 24 x 22 cm. Provenance unknown, II^{ex} BC; MP 1297.4 (= Pack² 1310); LDAB 2726; Menander (ed. Koerte) pp. 104-108; Menander (ed. Sandbach) pp. 159-161; *CGFP* 162; Gronewald, *ZPE* 93 (1992) 21-22 (new readings and supplements). Date: Schubart: I BC, Cavallo, *Calamo* 115: II^{ex} BC. Image: *BKT V* pl. 6; Schubart, *PGB* 11a (col. II 10-34).

Fairly small hand, bilinear except Φ and Ψ (but the descenders even of these letters are docked and stand on short horizontal dashes, as Υ and Τ also sometimes do). Serifs appear irregularly at the ends of uprights and of oblique strokes, such as Χ and the arms of Κ and Υ. The middle bar of Α can be horizontal, or descending (), or angular (); the uprights of Μ spread apart (). The lines appear crowded, as there is little or no space between letters; interlinear spaces vary. There is a general affinity with the hand of 46.

Col. II, 1-11 (vv. 35-45):

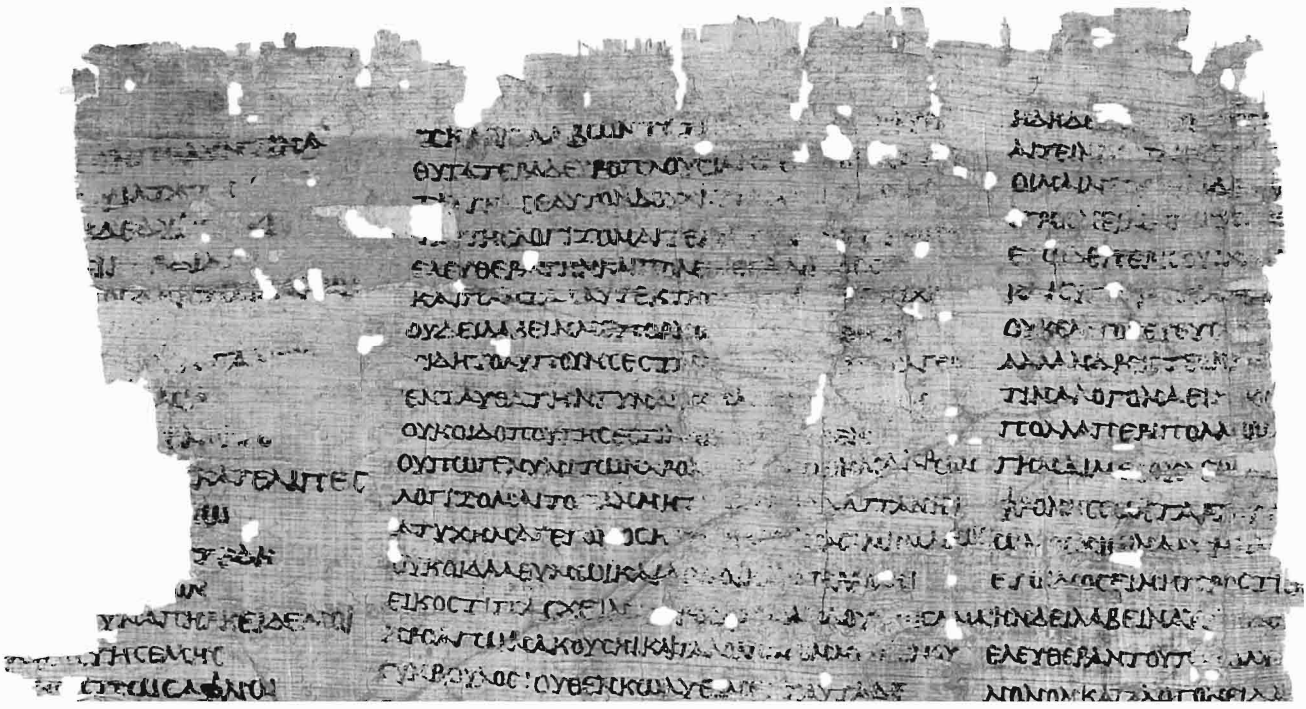
- (35) ζηλοισ λαβων τε τη[..... ελ]ηλυθα[
 θυγατερα δευρο πλουσιαν θ [ηγ]η[ι] μοιη[ν]
 ταυτην σεαυτον δ ουχι: παντ εγω [μ]οιης
 ταυτης λογιζομαι τ εμαυτου την εμην
 5 ελευθερα τ ην και πολεωσ Ελλη[νι]δος
 (40) και παντα ταυτ εκτησα[μην] α[γαθ]η τυχη
 ου δει λαβειν με πορνο[βοσκου] θρ[
 τι δη το λυπουν σ εστιν: [... ου]κ ηγαγεσ
 ενταυθα την γυναικα κα[ι]ν
 10 ουκ οιδ οπου γης εστιν: ουκ [ελληλ]υθεν
 (45) ουπω γε νυι των χρον[ω]ν οντων μακρων

59. P.Ryl. IV 586 edd. C.H.Roberts & E.G.Turner: Deed of loan. 24.5 x 10 cm. Oxyrhynchos, 99 BC. The top part of this document is P.Oxy. IV 802 descr. (= *SB* VI 9255 = P.Graz I 1933; 7 x 7 cm). Menci, *Apici ornamentali* 36-37. Image: P.Ryl. IV pl.1; *GLH* pl. 8a; Menci, *S&C* 3, pl. 3.

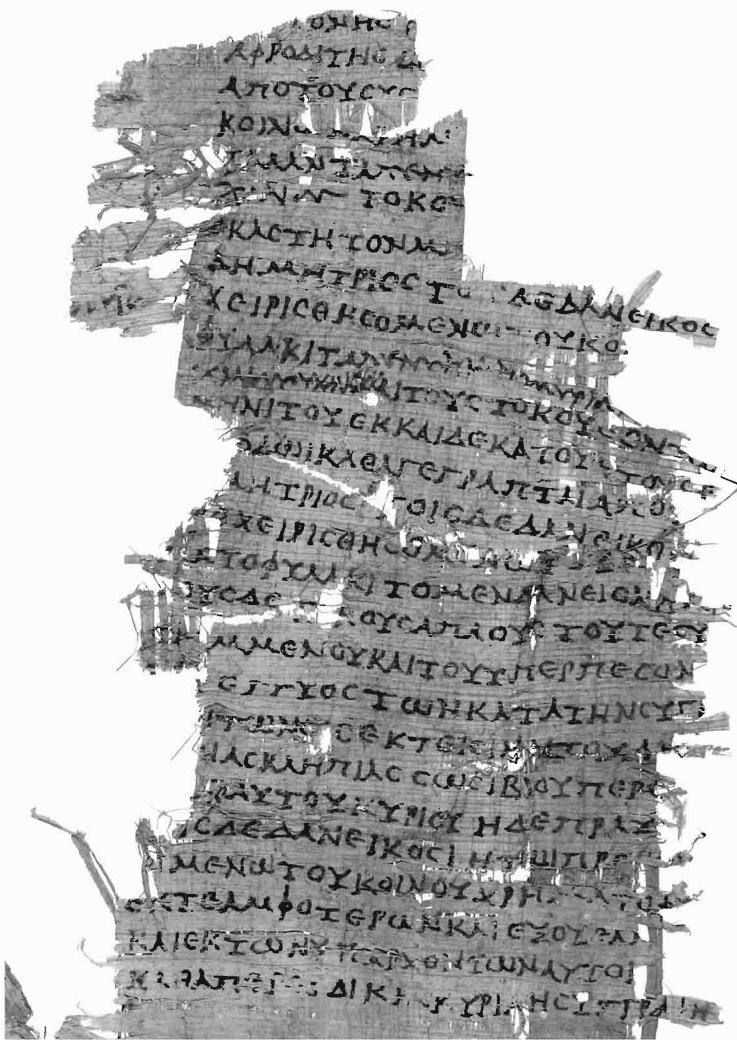
The first hand (lines 1-27) is small and strictly bilinear (except Φ). Τ and Υ stand on short bases. Marked serifs can be seen at the ends of some uprights: e.g. of Η, Κ, Ν, Ρ, Φ, while the uprights of Μ spread out. Ligatures and cursive forms in πεντηκοντα τρια (l. 8).

Lines 8-16:

- Δημητριος τοις δεδανεικος[ι
 χειρισθησομειω του κοι[νου
 10 φυλακι τα πεντηκοντα τρια τα[λαντα
 χιλιας του χαλκου και τους τοκουσ εν τω[ι
 μηι του εκκαιδεκατου ετους ε[αν δε μη
 [απ]οδωι καθα γεγραπται αποδ[οτω ο
 [Δη]μητριος τοις δεδανεικοσι [η τω
 15 [π]ροχειρισθησομειω του κ[οι]νου χρη
 ματοφυλακι το μεν δανειον παρα[χρημα



58 78%



59 96%


54-59

The hands of this group are very regular and uniform, generally bilinear, if somewhat less strictly in the documentary pieces. The tracing of the letters is finer in **55**, heavier in **54**, **57** and **59**. Most of the letters would fit into a square; there is a slight bend in all their strokes, some of which end in little ornamental hooks or blobs (in **54** and **55**), often pointing left; in **59**, *tau* and *ypsilon* stand on a short base, like their counterparts in **50**. In all five of these hands we find instances of *ny* with its descending diagonal starting before it meets the first vertical (\mathcal{N}); the analogous phenomenon affecting *alpha*, *delta* and *lamda* can be seen in **52**, **54** and **55**. The middle element of *omega* tends to lean to the left.

56 (P.Tebt. III 1, 692) was extracted from cartonnage together with documents datable to around 140 BC (P.Tebt. III 783, 893, 961), cf. Turner, *Ptol.Bookhands* p. 33 no. 39. The hand is very small, written with a thick pen; bilinearity is aimed at but not consistently observed: A and B sometimes project above and occasionally also below the line (APABE| and TAPB| in col. III 8-9), P T Y nearly always below. Many of the vertical strokes end in serifs pointing left; sometimes the crossbar of T and the left arms of Y and Ψ start with a little hook (cf. P.Ryl. III 458 = *GLH* 7a; P.Lond. 222, Facs. II 2 line 4 -ρψ . . . , line 23 Τρυφωνι).

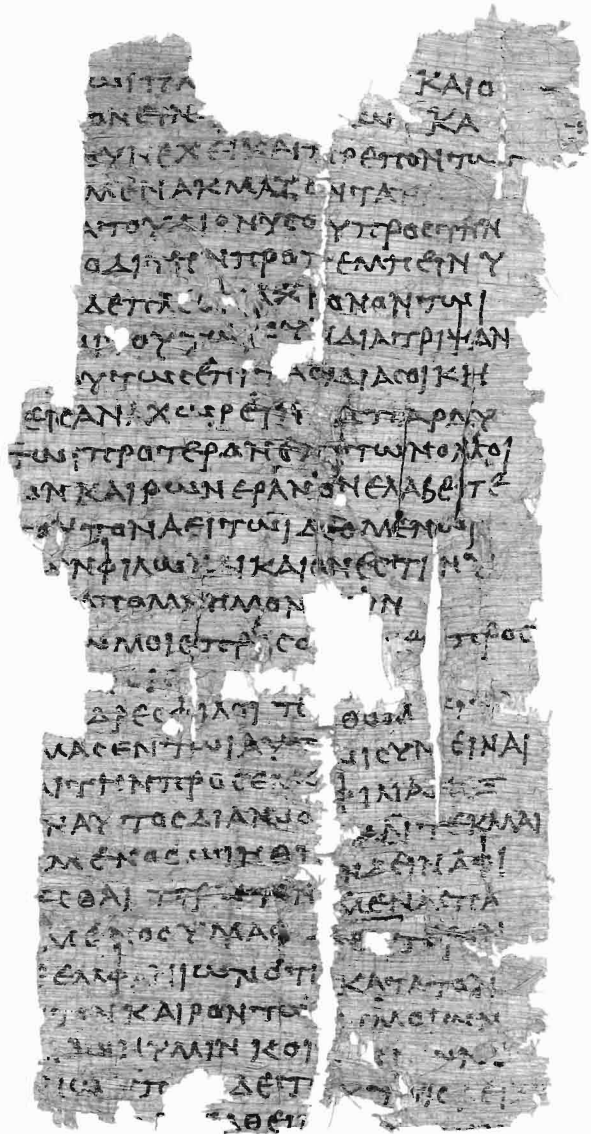
Even though the document **57** of 161 BC is less strictly bilinear, the similarities of its letter forms with those of **54** and **55** seem to place these in the first half of the 2nd century BC. The hand of **58** appears more terse; some of its letter forms seem to anticipate certain forms that are also found in the first century BC; for instance, the feet of uprights tend to curve left; *ypsilon*, *tau*, sometimes *gamma* and even *phi*, stand on short bases and do not descend below the baseline. Most of these features recur in **59**. The date of **58** may therefore be sought somewhere between 160 and 99 BC, the date of the document **59**. One peculiarity of the hand of **58** is the middle bar of *alpha* which often caves in (\mathcal{A}).

60. **PSI P.Laur. inv. 22012** ed. C.Gallavotti, *RFIC* 67 [n.s. 18] (1939) 252-260: Oratory (?). 15 x 7 cm; provenance unknown; II^{med} BC. MP 2557; LDAB 6852. Image: *Scrivere libri* no.51, pl. 41.

Small hand, roughly bilinear, with serifs at the ends of uprights and of oblique strokes, such as X and the arms of K and Y (as in 58). Some ligatures, chiefly with the middle bar of Ε and the extended cross-bar of Π, e.g. in line 3 πρεποντως, l. 11 προτερον (where the top bow of Ε bends back and turns into the middle bar: , as it does in 45), and l. 12 ελαβετε). O and C are often smaller than average, ω is flat and high in the line (sometimes linked to the cross-bar of T: T^ωN in l. 3, T^ωI l. 7)





Lines 1-15:

]ωι πλ[.....]γκαιο
]ον εινα[.....]ζω κα
]ουν εχει και πρεποντως
]μεν ακμαζοντα πλ[
 5]α του Διονυσου προς την
]οδιτην προπεμπειν υ
]δε πλεονα χρονον τωι
]ωι τούτωι συνδιατριψαν
]ουτως επι τας ιδιας οικη
 10]εις αναχωρειν ως παρ αυ
 τωι προτερον επι των ομοι
 ων καιρων ερανον ελαβετε
 τουτον αι τωι δεομενωι
 τ]ων φιλων δικαιον εστιν υ
 15 μα]ς απομνημον[ευ]ειν



60
100 %

61. PSI II 120 recto [Biblioteca Medicea Laurenziana, Firenze] ed. T.Lodi: Collection of maxims, 5 cols.; 16.5 x 68 cm. Oxyrhynchus, II² BC (for the date, see P.Pruneti, *Studi sulla tradizione del testo di Isocrate* [Firenze 2003] 7-19). MP 1994; LDAB 5633. Francesca Maltomini, 'Sulla trasmissione dei «Detti dei Sette Sapienti»', in: M.S.Funghi (ed.), *Aspetti di letteratura gnomica nel mondo antico* (Firenze 2004) II 1-24 (on PSI 120: 23-24); G.Messeri, 'Osservazioni su alcuni gnomologi papiracei', *ibidem* 341-353; M.S.Funghi, 'Detti dei Sette Sapienti', *ibidem* 381-401 (with re-edition of the text). On the back are 6 columns of an account in a 2nd-century cursive (to be published by G.Messeri). Image: *Studi sulla tradizione del testo di Isocrate* 14 = pl. 1; CD-ROM Papiri letterari della Biblioteca Medicea Laurenziana.

On the relationship between the *recto* and *verso* sides see G.Messeri, *loc. cit.* 346-352. On the *recto*, hand 1 (a sloping semi-documentary hand) wrote cols. I - V line 1 and the first word (κοφοc) of line 2, hand 2 wrote the rest of col. V. Both hands use very many ligatures; in both, bilinearity is broken not only by P, Φ and Ψ (in hand 2 also by I) and sometimes by the vertical of K, but also by A, € and other letters. The long vertical of P curves left at the bottom. The crossbar of T starts from a small hook, then bends down into the vertical, as in **45**, **48**, **51** etc. The *ductus* can vary: A sometimes appears (in col. II 15 αδηλα, more often in col. V 53-54) in two movements, with its first diagonal and crossbar joined in a loop, as it does in **45**, **46** and **48** (), elsewhere it is in one movement (); in both hands, initial K is in two movements, with arms detached from its tall vertical (), otherwise in one movement (). Sentences are divided by blank spaces. The meaning of the letters or numbers € and c to the left of cols. IV and V is not clear. Line-beginnings move left down the col. ("Maas's Law").

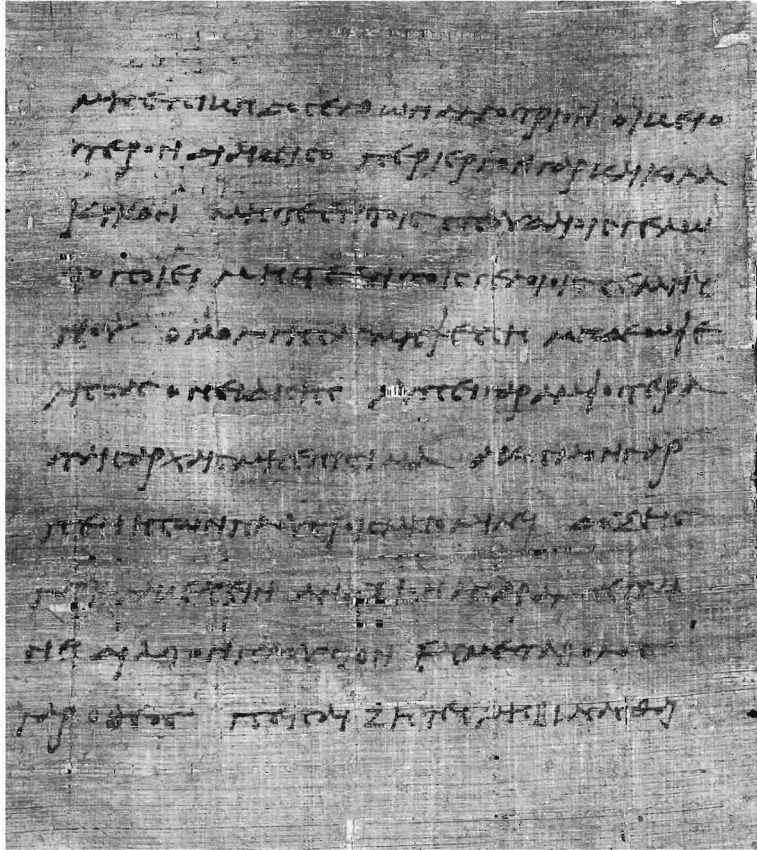
A date in the 2nd century BC is suggested by the hand of the *verso*. Moreover, P.Pruneti compares hand 2, in particular, with PSI III 166 (118 BC; *Scrivere libri* pl. 97) and 168 (118 BC: Norsa, *Scritt. doc.* pl. 6), also 173 (II BC; *Scrivere libri* pl. 98, a slightly sloping hand). P.Laur.inv. 22012 (**60**) may also be compared. The most unusual feature of hand 1 is its marked inclination to the right.

Col. IV lines 7-11 (46-50, hand 1):

€ ταιc αρχαιc μη επιτιμα ακοcμον γαρ
 πεινηc ων πλουcιοιc μη ομιλει δοξειc
 γαρ κολακευειν αναξιον ανδρα μη επαι-
 νει δια τον πλουτον ευμεταβολοc
 γαρ ο θεοc πειcαι ζητει μη βιαcαcθαι

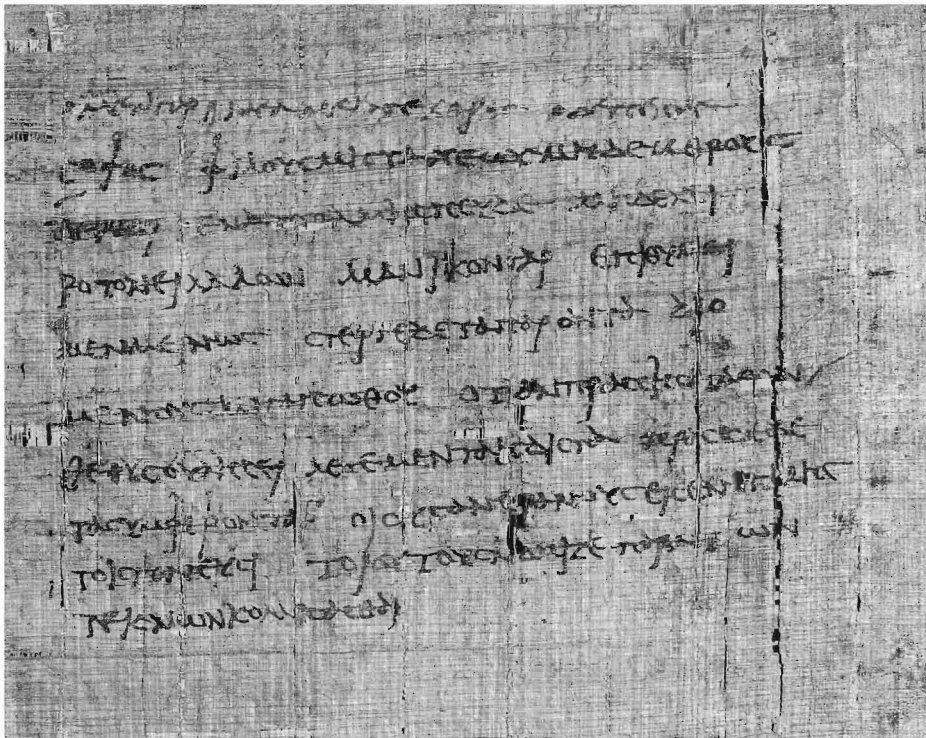
Col. V lines 1-6 (51-56):

(hand 1) ο μεν γαρ βιαcαμενοc εχθροc ο δε πειcαc
 αμαcιc /cοφοc (hand 2) φιλουc μη ταχεωc μηδ εκθρουc
 κτω εν αγορα μη cπευδε μηδε χει-
 ροτονει λαλων μανικον γαρ επιθυμει
 (55) μεν κενωc cτεργε δε τα παρονητα δεο-
 διοδω
 c μενουc μη απωθου οταν πραccηc αγαθον



61 Col. V

69 %



61 Col. IV

62. UPZ I 8 [P.Lond. inv. 44] ed. F.G.Kenyon: Complaint about cleaners (καλλυνταί); the incident referred to happened on 8 November 161 (Λκα Φαωφι η̄). 33.7 x 21.6 cm; Memphis. 2 *kolleseis* = 3 *selides*; the *recto* side has been inscribed three times: (1) in demotic (traces in the top margin), then (2) in Greek *transversa charta* (lines 30-31 φιλων και στρατηγωι and Μακεδονος in the left margin before lines 28-29 (first draft of Ptolemaios); (3) the present text, also *transversa charta*, but rotated 180°. Image: P.Lond. Facs. I pl. 19; *GLH* 6b; Kenyon, *Pal.* pl. 2.

Large, very regular hand of a professional scribe who was well-trained in writing petitions and other formal documents. Although he uses a fair number of ligatures (Τ^ο, Τ^ωΝ, ΕΙ, ωΙ, ΑΙ, ΓΕ, ΓΑΡ etc.) and pseudo-ligatures (ΗΙ, ΠΡ, ΥΚ, ΧΑΝ^ω, etc.), he leaves most letters separate. Apart from their uneven sizes and the consequent lack of bilinearity, they seem to be modelled essentially on a bookhand like that of **60** (P.Laur. 22012). Sentence-end is marked by blank space.

Lines 1-11: Διονυσιω των φιλων και στρατηγωι

παρα Πτολεμαιου του Γλαυκιου Μακεδονος
των οντων εν κατοχη εν τω εν Μεμφει μεγαλωι
5 Cαραπειωι ετος δωδεκατον ηδικημενος ου με
τριωσ και τωι ζην πλειονακις κεκινδυνευκωσ υπο
των υπογεγραμμενων εκ του ιερου καλλυντων επι σε
την καταφυγην ποιουμαι νομιζων μαλισθ ουτωσ τευ
ξεσθαι των δικαιων του γαρ καL Φαωφι η̄ παρα
γενομενων επι το εν τωι ιερωι Ασταρτιειον εν ωι
10 τυγχανω εν τη κατοχη γεγονωσ τα προκειμενα
ετη και τινωσ μεν εχοντων μετα χερα λιθουσ

63. P.Laur. inv. 22013 ed. C.Gallavotti, *RFIC* 67 [n.s. 18] (1939) 259-260: Oratory (?). 21 x 7 cm; provenance unknown, II^{ex}/Iⁱⁿ BC. Col. I has 27 lines, col. II has 29. MP 2558; LDAB 6773.

Small, largely bilinear hand, similar to that of **60**, but more crowded (less space between letters). Most letters are narrower than those of **60**, see especially H, N, Π, T and even M (with very shallow bow), and Ε Θ are oval rather than round. In its general appearance as well as many of its letter forms, this hand recalls that of **58** (P.Berol. 9767) and also semi-documentary hands like those of PSI III 166 (*Scrivere libri* 108 pl. 97), P.Lond. I 42 (Facs. I pl. 17) or P.Lond. III 658 (= P.Grenf. II 24) = Kenyon, *Pal.* pl. 3; *New Palaeographical Society* I pl. 1b). Short blank spaces and paragraphoi (in col. II) indicate pauses.

Col. I 1-12:

]προσδεχομεθα ωσ	]ς αρηγειν προαιρησεται
]χειμωνος εις ευδιαν	]φιλ[οι]ς βουλευωμεθα
] . οπωσ χαριν εχειν	10]ουσ φιλουσ πατερασ
]πι την αυτην αγεσθαι	]τουσ δοντεσ αλλ εχθροι
5]αιροιντο τικ ουν επι	]τεσ την συμφοραν
]ξυνοιαν ενδειξεται	
]ιρασ των ιδιωσ γινο	

ΔΙΟΝΥΣΙΩΣ ΤΩΝ ΦΙΛΩΝ ΚΑΙ ΣΤΡΑΤΙΣΤΩΝ
 ΤΑΡΣΙΤΟΛΕΜΩΟΥ ΤΟΥ ΠΛΟΥΚΙΟΥ ΜΑΚΕΔΟΝΟΣ
 ΤΩΝ ΟΝΤΩΝ ΕΝΙΚΛΟΧΤΩ ΕΝ ΤΩ ΕΝΚΕΦΑΛΕΙ ΜΕΤΑΛΛΩ
 ΣΥΛΛΕΓΕΙΝ ΕΤΟΣ ΔΩΔΕΚΗΜΗΝ ΗΔΙΚΤΟΜΕΝΟΣ ΟΥΜΕ-
 ΠΡΙΩΣ ΚΑΙ ΤΟ ΖΗΝΤΑΘΡΟΝ ΑΚΙΟΚΕΚΙΝΔΥΝΕΣΚΩΣ ΤΩ
 ΤΩΝ ΥΠΟ ΤΟ ΓΡΑΜΜΑΤΩΝ ΕΙΣ ΤΗ ΕΡΩΚΑΛΛΩΝ ΤΩΝ ΕΤΙΣΤΕ-
 ΤΩΝ ΚΑΡΦΥΣ ΤΩΝ ΤΟΙΩΝ ΜΟΜΙΖΩΝ ΜΩΝ ΟΟΥΤΩΣ ΤΕ
 ΞΕΣΩΝ ΤΩΝ ΔΙΚΩΝ ΤΟΥΤΑΡΚΑΛ ΦΙΛΩΙ ΤΕ ΤΟΥΤΑ
 ΓΕΝΟΜΕΝΩΝ ΕΤΑΙΤΟ ΕΝ ΤΩ ΙΕΡΩ ΛΟΥΡΤΙΘΩΝ ΕΝ ΤΩ
 ΤΥΤΧΑΝΩ ΕΝ ΤΗ ΚΛΟΧΤΩ ΓΕΤΟΝΩΣ ΤΑΣ ΤΡΟΦΑΜΑ
 ΕΥΤΕ ΚΑΙ ΤΙΝΩΝ ΜΕΝ ΕΧΩΝ ΤΩΝ ΜΕΤΑΧΕΡΜΩΟΥΣ

62
61%

ΤΩΣ ΔΕ ΧΕΡΣ ΘΑΛΩΣ
 ΚΕΙΣΩΝΟΣ ΕΙΣ ΤΩΝ
 ΙΟΥΣ ΧΑΡΙΝ ΧΕΡΣ
 ΠΙΤΗΝ ΑΥΤΩΝ ΑΡΕΩΝ
 ΕΙΡΕΝΤΟ ΤΙΣ ΟΥΝ ΕΤΙ
 ΔΙΩΝ ΕΠΙ ΔΕ ΕΣΤΗ
 ΕΤΟΣ ΤΩΝ ΔΙΩΝ ΜΩΝ
 ΕΡΗΤΕ ΤΩΣ ΟΥΝ ΕΤΕΜ
 ΤΩΣ ΔΕ ΧΕΡΣ
 ΤΩΣ ΦΙΛΩΣ ΚΑΤΕΡΩΣ
 ΟΥΣ ΔΕΝΤΕ ΤΩΣ ΧΕΡΣ
 ΤΩΣ ΤΩΝ ΕΥΡΩΣ ΜΩΝ
 ΕΚΕΙΣ ΚΕΙΣΩΝ ΤΩΝ
 ΜΩΝ ΕΤΑΙΤΟ ΚΑΙ ΟΥΝ
 ΚΕΙΣΩΝ ΤΩΝ ΕΤΕ
 ΚΑΤΕΡΩ ΤΩΣ ΑΔΩΝΩ
 ΕΚΕΙΣ ΚΕΣΩΝ ΤΩΝ
 ΕΤΕ ΤΩΝ ΜΩΝ ΕΤΕ ΕΤΕ
 ΤΩΣ ΚΑΙ ΣΤΙΣ ΑΥΤΩΣ
 ΟΥΣ ΚΑΙ ΔΟΥΜΩΝ ΕΤΕ ΚΑ
 ΕΤΕ ΤΩΝ ΜΩΝ ΕΤΕ
 ΕΚΑΙ ΘΕΟΙ ΤΩΝ ΤΩΣ
 ΤΩΣ ΕΡΩΣ ΤΩΝ ΜΩΝ
 ΤΩΣ ΤΩΣ ΚΑΙ ΕΤΕ
 ΤΩΣ ΤΩΣ ΧΡΗΤΩΝ
 ΤΩΣ ΑΝΑΤΕΚΕΛΩΣ
 ΤΩΣ ΤΩΣ ΜΩΝ ΕΤΕ

63
90%

64. SB VIII 9899a [Berkeley, UC inv. 1903] ed. M.-Th.Lenger, *C.Ord.Ptol.* 53bis, pp. 158-159: Incomplete copy of the first two sections of the amnesty decrees of Ptolemy VIII, Kleopatra II and Kleopatra III of 118 BC (P.Tebt. 5, 1-21). 25 x 22 cm. Kerkeosiris, II^{ex} BC. This text is followed by P.Tebt. I 1 (MP 1606; LDAB 6894), written by the same hand, which also wrote P.Tebt. I 2 (MP 1607; LDAB 6895). On the back is a list of *machimoi*, cf. A.M.F.W.Verhoogt, *Pap.Lugd.Bat.* XXIX p. 34 n. 60. Image: *C.Ord.Ptol.* fig. 1.

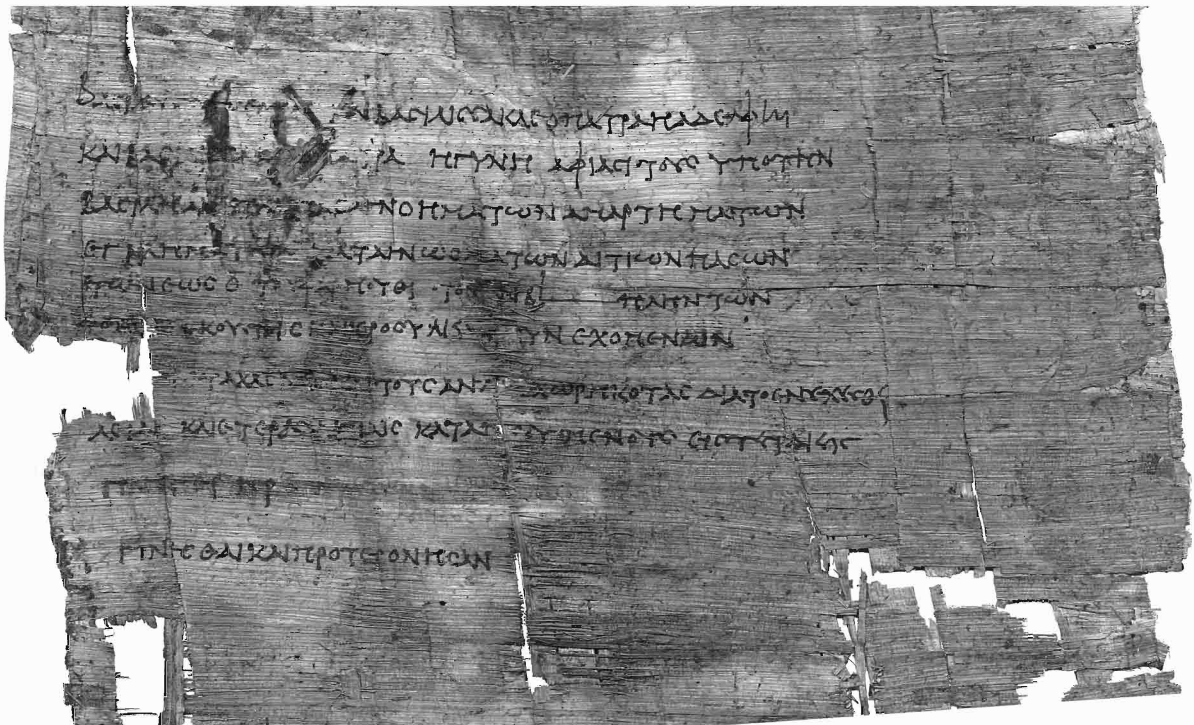
Medium-sized, practised and regular semi-documentary hand of the professional scribe who also copied P.Tebt. I 1 (Pack² 1606); although he uses many ligatures, he draws many letters separately, with serifs at the ends of most upright and oblique strokes. Bilinear except for Φ and the long descender of P; that of T may also descend a little below the line. There are many features of cursive: B is open at the top, H appears in its cursive form at line-end (*h*η : αδελφη I. 1; cf. θα I. 7, ιδια I. 8), A is sometimes reduced to a short rising and a long descending diagonal (λ); the middle bar of E is detached and often runs into the following letter; the middle element of M is a shallow bow; O is often small. Even so, most other letters show a close resemblance to their counterparts in bookhands of the later 2nd century, such as **60** and **63**.

Βασιλευς Πτολεμαιο[ς] και βασιλισσα Κλεοπατρα η αδελφη
 και βασιλισσα Κλεοπατρα η γυνη αφιασι τους υπο την
 βασιληαν παντας αγνοηματων αμαρτηματων
 εγκληματων καταγνωσματων αιτιων πασων
 5 των εως θ του Φαρμουθι του ιβ | πλην των
 φορο[ι]ς εκουσιου και ιεροσυλιας [ς]υνεχομενων
 [προς] τεταχασι δε και τους ανακεχωρηκοτας δια το ενεχεσθαι
 λεια[ς] και ετερα[ς] αιτιας καταπ[ο]ρρευομενους εις τας ιδιας
 [[γινεσθαι προ]]
 10 γινεσθαι και προτερον ησαν

60-64

The three literary pieces in this group are in informal hands with little attempt to achieve bilinearity, and with uneven tracing of the letters; the second uprights of *eta*, *pi*, *my* tend to be curved. In **60** one can see a mixture of older and more recent forms; the former include: small *omikron* and flat *omega*, both raised above the baseline; the crossbar of *tau* starting out from a hook or blob (Τ in ΤΡΙΨΑΝ I. 8, ΠΡΟCTHΝ I. 5); among the more recent features one could mention *epsilon* with the end of its upper arc bent back on the middle bar (as in ΠΡΕΠΟΝΤΩΝ I. 3, ΠΕΜΠΕΙΝ with ligature of EI in I. 6, ΕΛΑΒΕΤΕ I. 12), similar to the *epsilons* in **45**, which is also found e.g. in BGU X 1907 (plate 2) of 167/6 BC. Also noteworthy are *beta* with very small upper loop (ΕΛΑΒΕΤΕ I. 12), and *psilon* with relatively short vertical, as in most second-century bookhands.

Both hands of **61** are semi-documentary. The first inclines to the right at an angle of 5%; while this is not uncommon in documentary hands of the third century, it has very few parallels in the second (e.g. BGU XVIII 2734 pl. 4; 2752 pl. 22; 2759 pl. 29); hardly any among bookhands. Both hands are fluent (hand 1 more so than hand 2); as in **60**, letters do not follow a consistent pattern: some fit into a square, others are



64

70 %

oblong, M and ω are broad. **61** is evidently not a 'book', but a copy for private use.

Many of the features of **60** recur in **62**: see, e.g., the ε in **62**, 4 ΔΩΔΕΚΑΤΟΝ; the shape of *beta* (**62**, 12 ΠΑΒΔΟΥΣ); the small and slightly raised *omikron* and *omega*; the ligature εΙ (e.g. **60**, 6 ΠΡΟΠΕΜΠΕΙΝ, **62**, 4 ΣΑΡΑΠΠΙΕΙΩΙ and 5 ΠΛΕΙΟΝΑΚΙΣ). Similar documentary hands can be seen in P.Lond. I 24 (Seider I Abb. 9) and P.Par. 29 (Seider III Abb. 81). These parallels suggest a date not later than the middle of the 2nd century for **60**.

The hand of **63** is similar in its general appearance, although the letter forms are modelled not on a square but on an oblong pattern, with little space between them. The first diagonal and middle bar of *alpha* mostly form an acute angle, but sometimes appear as a loop (α in ΜΑΡΤΥΡΗΤΑΙ I. 21); the middle element of *my* is a very flat curve (ΔΕΧΟΜΕΘΑ I. 1). The curvature in most of the vertical and diagonal strokes, together with the tendency to link letters together wherever possible (as in ΑΓΕΘΑΙ I. 4), is a feature shared by many documentary hands of the last quarter of the 2nd century, including those of **64**, PSI XIII 1310 and III 166 (*Scrivere libri* nos. 107 and 108, plates 96 and 97), which seem to suggest a date towards the end of the 2nd or beginning of the 1st century BC for **63**.

65. P.Herc. 1425 [Napoli, Bibl.Naz.] ed. C.Jensen, *Philodemos über die Gedichte, fünftes Buch* (Berlin 1923/ 1973): Philodemos, π. ποιημάτων ε. Height of roll c. 20.6 cm; I² BC. C.Mangoni, *Il quinto libro della poetica* (Napoli 1993) 129-164 (text edition); G.B.D'Alessio, *ZPE* 134 (2001) 39-41 gives a concordance of the layers ("sezioni") and volutions ("volute") in the frames of P.Herc. 1425 and four other Herc. rolls. Cavallo, *Calamo* 118. Image: Cavallo, *Libri ... Ercolano* pl. 39 (cols. 22-24); *Calamo* pl. 24b.

Medium-sized, somewhat untidy and uneven hand, roughly bilinear (with the usual exceptions). Many uprights, but also the cross-bar of T, show serifs or small hooks at the ends of their extremities; the vertical of K and the first vertical of H are taller than average; the middle part of M is a deep curve, while its outer strokes spread outwards. Many upright and oblique strokes show a faint curvature.

Col. XIV, 22-35:

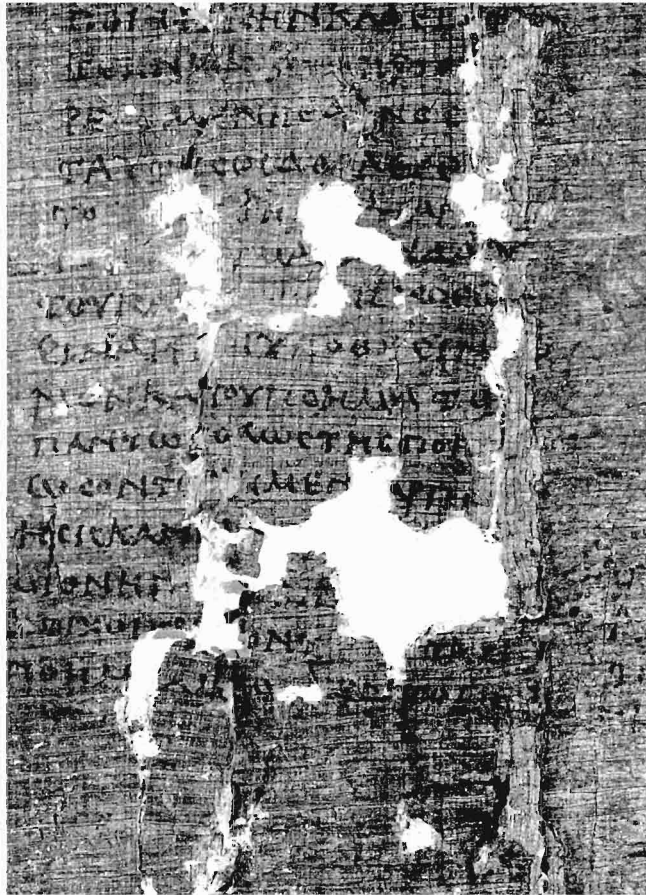
<p>τεχνης ουτω προς[αγο ρευομενης α[γ]νοε[ι] και ταυτης ειδος λεγειν 25 τον [ποι]ητη[ν] καταγε[λ]α[ε] τον θ[α]υμα[ε]στον δ αυ του και [το] τη[ε] ποιησεω[ε] ειναι τ[η]ν υποθεειν [μ]ο νον και του ποιηματο[ε] και</p>	<p>30 35</p>	<p>παντων ολωε της ποιη[ε] ως οντων η μεν [γ]αρ πο ηεις και π[ο]ημα γ εστιν οιοι η λι[αε] οι δε πρωτοι στιχοι τρι[ακ]οντα τα[υ]τηε ποιημα με[ε]ν ου μεντοι ποι</p>
--	--	---

66. P.London inv. 732 ed. A.S.Hunt, *Journal of Philology* 26 (1899) 25-59 : Homer, *Iliad* XIII 2-56, 73-87, 149-775, XIV 120-293, 322-522. Height of roll: 22.5 cm, 37-40 lines/col.; the roll contained Books XIII and XIV in 36 columns. Provenance unknown, AD I. MP 0899; LDAB 1381; Allen-Sutton-West p010; P.Lond.Lit. 22; Cavallo, *Calamo* 118. Image: Kenyon, *Pal.* pl.19; Cavallo, *Calamo* pl. 25a.

Fairly small, very regular hand, bilinear except Φ and Ψ. The end of the upper bow of Ε often touches the rising middle bar; the middle part of M is a deep curve touching the baseline. Most letters, except ω, are slightly taller than broad. Upright as well as oblique strokes often appear slightly curved. Stichometric numbers; in col. 36, end-title of Book XIV and number of lines in the book: ΙΛΙΑΔΟΕ Ξ Γ ΔΔ.

Col. XXXII, 13-22 (XIV 370-379):

(370) αλλ α[γεθ] ως αν εγω ειπω πει[θ]ωμεθα παντες
 απ[ιδεε] ορσαι αρισται ει στρατω ηδε μεγαται
 εε[ε]αμενοι κεφαλαε δε [π]αν[αι]θηι[ε]ιν κορυθεεειν
 κρυφαντεε χερειν [τε τα] μακ[ρ]οτατ εγχε ελοντεε
 ιομεν [αυ]τ[α]ρ εγω ηγ[ηε]ομαι ουδ ετι φημι
 (375) Εκτορα Π[ρι]μ[ι]δη[ν] μεν[ε]ειν μαλα περ μεμαωτα
 οε δε κ αιηρ μενεχ[αρμο]ε εχηι δε ολι[χ]ον κακοε ωμωι
 χειρ]οι φωτι δωτω ο δε εν ασπιδι με[ειε]ονι δυτω
 ωε] εφασ [ο]ι δε [αρ]α του μαλα μεν κλυον ηδ επιθουτο
 τουε δε αυτοι βασιληεε εκοεμεον ουταμενοι περ



65
130 %



66
74 %

67. P.Oxy. VI 878 [Brux. E. 5941] edd. B.P.Grenfell & A.S.Hunt: Thukydides II 22.3-25.3. 27.4 x 16.9 cm, 3 columns. AD I. MP 1514; LDAB 4032; Cavallo, *Calamo* 118. Image: Wittek pl. 2

Medium-sized, very regular and skilled hand, strictly bilinear (except Φ). The feet of Α, Λ and Χ and most uprights end with marked serifs (often at both ends), many uprights (notably Ι, Ρ, Τ, Φ) stand on short bases; the middle stroke of Ζ is vertical; the second diagonal of Δ starts well before it meets the first one. There is a general tendency for letters to lean back, most conspicuously Ε, C, Α, Λ and Ω. A short blank space marks a pause in l. 9 after ἕκαστοι (= end of ch. 23); paragraphoi under col. II 6: end of sentence; under col. III 3: "misplaced; perhaps the scribe took ἀλλὰ for the conjunction" (Grenfell & Hunt); line-fillers (>:).

Col. II 1-11: ανεχωρησαν δια Βοιωτων
 ουχ ηιπερ εσεβαλον παριον
 τες δε Ορωπον την γην την
 Πειρακτην καλουμενην ην
 5 νεμονται ωρωποι Αθηναι
 ων υπη[[ι]]κ[[ω]]οι εδηιωσαν αφι
 κομενοι δε ες Πελοποινη
 con διελυθησαν κατα πο >:
 λεις εκαστοι αναχωρησαν
 10 των δ αυτων οι Αθηναιοι φυ
 λακας κατεστησαντο κατα

65-67

65 (P.Herc. 1425), datable to the second half of the first century BC, shows a hand characterized by soft forms, irregular curvature of strokes and ornamental (sometimes slanting) elements at the ends of descenders, especially of *rho*, *tau* and *phi*. Letters follow an upright and consistent pattern; only *omikron* is sometimes smaller and raised. *Alpha* is in 3 movements with horizontal bar and its rising diagonal longer than the descending one; the upper bow of *epsilon* nearly always curves down into the middle bar, with which it often forms a loop (ϵ); the second "legs" of *eta* and *pi* are elegantly curved; the middle part of *my* is a deep curve, its outer parts bend outwards; the cross-bar of *tau*, starting from a hook, is distinctly twisted; *tau* and *psilon* sometimes stand on small bases.

The tendency towards curvature can still be seen about a century later, and in a different stylistic context, in **66** (P.Lond. 732). This hand also shows a consistent pattern, with the letters leaning to the left. Although the shapes of individual letters have not changed, they appear stiffer, strictly bilinear (except *phi* and sometimes *rho*) and without ornamental hooks or serifs.

In the seemingly contrived regularity of the left-leaning letters of **67** (P.Oxy. 878) one might see a rather mannered and presumably therefore somewhat later representative of the same type of hand, datable to the (later ?) first century AD.



67
96%

68. P.Fay. 7 [Brit.Lib., inv. 817 = P.Lond.Lit. 31] edd. B.P.Grenfell, A.S.Hunt & D.G.Hogarth: Homer, *Odyssey* VI 201-328 with gaps; largest fr.(g): 11.8 x 16.8 cm. Arsinoites (Euhemeria/Qasr el-Banat), I^{ex} BC. MP 1064; LDAB 1383; Allen-Sutton p06. Image: P.Fay. pl. IV ; Roberts, *GLH* pl. 9b.

Medium-sized, awkward and uneven hand, bilinear except Φ (which has a relatively short descender) and the tops of Α, Δ, Λ; the middle bar of Ε is high and often slants upwards, forming a loop with the upper bow (Ε), as it does in **66**. Serifs appear at the feet of Α and most uprights. Both uprights of Η and Π are straight or only faintly curved; Ζ is Ξ (line 1). The pattern which most letters follow is oblong rather than square.

Fr. g (vv. 286-294):

.κ]αι δ αλλη[ι νεμεσω η τι]ς τοιαυτα γε ρεζοι
η] τ αεκητι φιλω[ν] πατ[ρ]ος και μητρος εοντων
α]νδρασι μιγνηται πριν γ αμφαδινον γαμον ελθειν
ξει]νε συ δ ωκ εμεθεν ξυνιει επος οφρα ταχις[
290 πομπης και νοστοιο τυχης παρα πατρος εμειο
δηιομεν αγλαον αλκο[ς] Αθη[[ναι]]ης αγχι κελευθ[
αιγειρων [εν δε κρ]ηνην' ναιει' αμφι δε λειμων·
]νθα δε π[ατρος] εμου τεμενος τεθαλυια τ αλωη
τοσσον α[πο πτ]ολιος οσσον τε γεγωνε βοησας

69. P.Oxy. II 212 [Brit.Lib., inv. 1180 = P.Lond.Lit. 85] edd. B.P.Grenfell & A.S.Hunt: Aristophanes (?), *Fabula incerta*. Height of column c. 23 cm; 20 lines/col. 3 fragments, fr. a: 21.9 x 12.5 cm. I^{ex} BC. MP 0156; LDAB 343; *CGFP* 233; *PCG* III 1111. P.Oxy. XXXVII 2808 [Sackler Library, Oxford] is part of the same roll, as F.Ronconi has shown, *APF* 51 (2005) 197-204 + pl. 16-17. Image: P.Oxy. 212: Cavallo, *Calamo* pl. 18b; P.Oxy.2808: P.Oxy. XXXVII pl. 5.

Upright, regular and well-controlled hand that aims to inscribe every letter except *iota* into a square. Strictly bilinear, except for Φ and Ψ. Some letters, notably Μ and Ρ (and sometimes Ι at verse-end) stand on small bases. In Α (mostly with straight cross-bar), Δ and Λ, the diagonals intersect, the right-hand one beginning higher. The end of the upper arc of Ε curves down towards the middle bar, sometimes touching it (e.g., P.Oxy. 212 fr. a, col. I 4]παγε). Ζ = Ξ; the inner strokes of Μ form an obtuse angle; Ρ has a small loop, and the arms of Υ are slightly curved outwards (fr. a, col. II 7 φλυαρια). Change of speaker is indicated by paragraphos, in mid-verse also by colon (:); punctuation is by middle or high stop; some letters were added above lines 1, 6 and 8 of fr. a, col. II.

P.Oxy. 212, fr. a, col. II

vv. 12-19:

υβριζομεναι: μα Δι ^{αλλ} εγω[
ην νουν εχωμεν σκεψ[. [
μηδεν πλεον τουτους . [
τι ουν γεινοιτ αν: εχ α . [
5 τι εστι τουθ ο λεγουσι τ[
παιζειν εχουσ αντιβολ . [
φλυαρια και ληρος υβρεω[
^λ
καλωσ ονειδος και κατ[

ΤΟΙΟΥΤΑΓΕΡΕΙΟ
 ΑΡΚΗΤΙΦΑ... ΕΣΚΑΙΜΗΤΡΟΣΕΟΝΤΟΝ
 ΒΑΡΑΣΙΜΟ... ΝΙΑΙΦΑΣΙΝΟΝΤΑΣΟΝΡΑ...
 ΝΕΣΥ... ΕΜΕΘΕΝΣ... ΝΙΕΙΕΤ... ΟΦΡΑΤΑ...
 ΚΑΙΝΟΣ... ΟΤΥΧΗΙ... ΑΡΑΠΑΤΡΟΣΕΜΠΙΟ
 ΑΝΙΟΜΕ... ΑΛΑΣ... ΑΒΗ... Η... ΧΙΚ... Ε...
 Π... ΚΙΑ... ΑΜΦΙ... Ε...
 Ε... Ε... Ε... ΑΥ... Α...
 Κ... Ο... Ο... ΤΕ... Ε... Ε... Β... Ο...
 Ε... Ο... ΜΕ... Α... Χ... Ο... Ν... Ρ... Ο... Ε... Ν... Η...
 Κ... Α... Τ... Ο... Ρ... Α... Δ... Ο... Α... Α... Α... Ρ...
 Ε... Η... Π... Ι... Δ... Ο... Α... Φ... Χ... Ο... Α...
 Ε... Ε... Ν... Ε... Ο... Λ... Η... Ι... Α... Ε... Ρ... Ε... Ο... Α...
 Ε... Ο... Ε... Α... Λ... Ο... Ρ... Α... Δ... Α... Κ... Ι... Ν... Ο...
 Α... Τ... Ν... Α... Κ... Ι... Τ... Α... Τ... Ο...

68
89%

272
 ΙΟΜΑΙ... ΥΒΡΙΤΟΜΕΝΑΙ... ΜΑΔΙΕΓ...
 ΕΥΧΕΤΑΙ... ΗΝΝ... ΥΝ... ΧΩ... ΜΕ... Ν... Κ... Ε...
 Η... Η... Χ... Ο... Λ... Η... Μ... Χ... Ε... Ν... Π... Λ... Ε... Ο... Ν... Τ... Ο... Τ... Ο... Υ...
 Τ... Α... Ε... Τ... Ι... Ο... Υ... Ν... Γ... Ε... Ν... Ο... Τ... Α... Ν... Ε... Χ... Α...
 Χ... Μ... Α... Ο... Τ... Τ... Η... Ε... Ο... Τ... Ι... Τ... Ο... Υ... Α... Δ... Ε... Τ... Ο... Υ... Ο...
 Τ... Υ... Ν... Α... Ι... Π... Α... Λ... Ε... Ι... Ν... Ε... Ο... Υ... Ο... Α... Ν... Τ... Ι... Β... Ο...
 Α... Τ... Ι... Φ... Χ... Α... Ι... Α... Κ... Ι... Η... Ε... Ο... Ο... Ε... Ο...
 Κ... Α... Ο... Ο... Ν... Ε... Ι... Ο... Ο... Κ... Α... Ι... Κ... Α... Τ...
 Ο... Ι... Γ... Α... Ο... Χ... Ε... Ρ... Τ... Ο... Υ...
 Α... Ν... Ε... Μ... Α... Ι... Ο... Ι... Ο... Ο... Τ... Ι... Ν... Ε... Ο... Τ...
 Ε... Ο... Κ... Α... Ι... Τ... Ο... Υ... Τ... Ε... Ο... Τ... Ι... Ν... Ε... Υ...
 Ε... Ο... Τ... Ο... Χ... Ι... Η... Ο... Ε... Ι... Κ... Α... Π... Ο... Ν... Ο...
 Ε... Η... Χ... Ε... Ρ... Τ... Α... Γ... Ε... Ο... Ο... Ε... Ο...
 Ε... Η... Π... Κ... Ο... Υ... Τ... Ο... Ν... Η... Χ...
 Ε... Η... Π... Η... Π... Κ... Ο... Υ... Τ... Η... Ν... Ε...
 Μ... Ο... Ο... Ν... Ε... Τ... Θ... Α... Ν... Τ... Ι... Α... Ο...
 Ε... Η... Α... Ι... Ε... Ρ... Α... Ι... Α... Τ... Ο... Υ...
 Ε... Η... Ο...

69
75%

70. P.Merton II 52 [Dublin, Chester Beatty Lib.] ed. B.R.Rees: Homer, *Od.* II 404-434 with gaps, III 1; 11.4 x 18.4 cm. Oxyrhynchos, I^{ex} BC (on the verso ↓ is a date: ετους κε Καισαρος Παουι = May-June 5 BC). MP 1033; LDAB 2265; Allen-Sutton, p138; Cavallo, *Calamo* 111-112. Image: P.Merton II pl. 2.

Large, very regular and formal hand of a well-trained scribe. Apart from ω, letters are taller than broad; serifs appear at the extremities of most letters. To the left of col. II, *Od.* II 434 and III 1, a coronis with paragraphos marks the end of book II. Here, at the end of the roll, the first line of the following book was added and marked by a curved paragraphos in order to make it easier (in the absence of any book-titles) to find the next roll. This practice, which anticipates that of the *reclamantes* in medieval mss., is already attested in P.Louvain gr. 1 (24); see J. Bingen, *JEA* 48 (1962) 178.

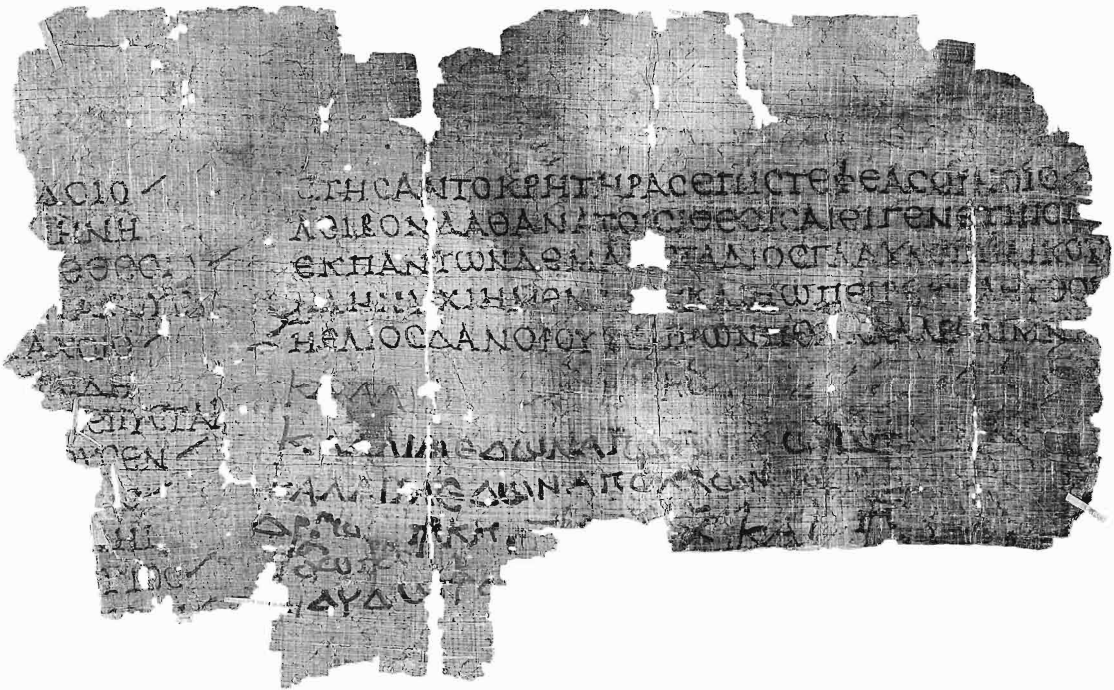
Col. II (*Od.* II 431-434, III 1):

στησαντο κρητηρας επιστεφεας οινοιο'
 λειβον δ αθανατοιαι θεοιαι αιειγενετηαι
 εκ παντων δε μαλιστα Διοα γλαυκωπιδι κουρ[ηι
 ✕ παννυχιη μεν ρ η[γ]ξ και ηω πειρε κελευθον
 ηελιοα δ ανορουαε λιπων περικαλλεα λιμνη[ν

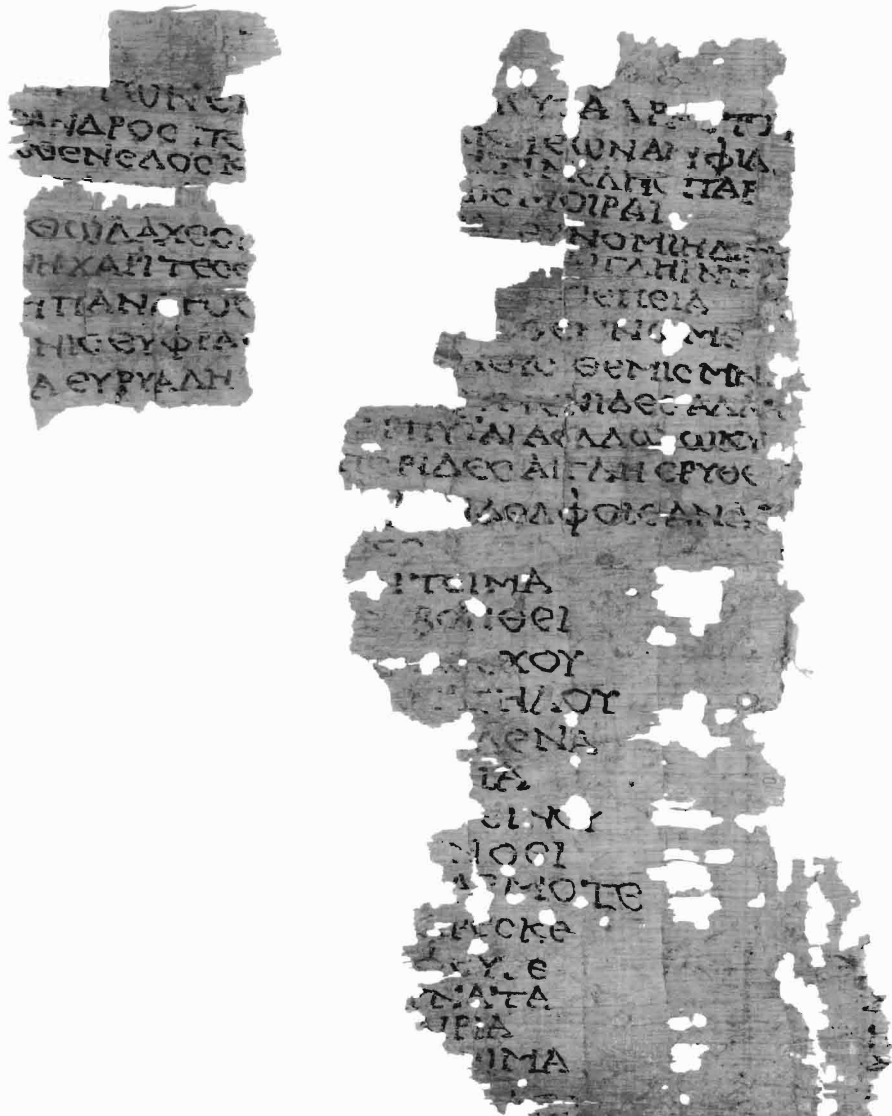
71. P.Oxy. LXI 4099 ed. R.L.Fowler: Mythological compendium, Sayings of the Seven Sages. 2 fragments; fr. b: 21.5 x 8 cm. I^{ex} BC/AD Iⁿ. Re-edited by M.Huys, *ZPE* 113 (1996) 205-212, who identified lines 13-28 = Sayings of the 7 Sages; LDAB 6828. Cf. Francesca Maltomini, 'Sulla trasmissione dei «Detti dei Sette Sapienti»', in: M.S.Funghi (ed.), *Aspetti di letteratura gnomica* II (Firenze 2004) 17-19. Image: P.Oxy. LXI pl. 8.

Fairly large hand on a square pattern, somewhat clumsy and irregular in size; interlinear spaces also vary. Bilinear except Φ; most angular letters have serifs at their extremities, mostly pointing right; the upper bow of Ε sometimes forms a loop with the middle bar; the middle part of Η is high, that of Μ is a flat curve or obtuse angle near the upper line (Μ); Ι bends left at the top and right at the foot. Most verticals stand on small bases.

Fr. b, 1-13:]λευα Αδραατου[
]λκμεων Αμφια [
]ηξιμεληα Παρ [
]ωα Μοιραι [
 5]ραι Ευνομια Δικη[
]Αιγληι Νυμφ[
]ελξιεπια [
]Cθεινω Με [
]ηθουα Θεμια Μινη[
 10]Ευμειδεα Αλλη[
]Αρπυιαι Αελλω ωκυ [
]περιδεα Αιγλη Ερυθρια[
]α[.] . δελφοια ανδ . [



70
77%



71
96%

72 P.Yale I 8v (P.Ct.YBR inv. 457, verso: description only): Homer, *Iliad* VI 232-248; 9.3 x 4.2 cm.

Provenance unknown, I^{ex} BC/AD Iⁿ. MP 0785.1; LDAB 2330; Allen-Sutton-West p0583. On the recto (→) are ends of 15 unidentified hexameters, I BC. Image: see APIS homepage or LDAB.

Strictly bilinear (except Φ), regular hand on a square pattern, similar to that of **71** but more uniform; the feet of A, Δ and of most uprights have serifs pointing right, as in **71**; a faint curvature can be seen in l and other uprights, and in the diagonals of A, Δ and Λ.

Lines 2-10 :]ν λαβετην κα[
 (vv. 233-241)]ι Κρονιδης φρ[
 (235)]Διομηδεα τε[
 5]ν εκατομβοι ε[
]αc τε πυλαc κα[
]ων αλοχοι θεο[
]c τε κασιγνητ[
 (240)]ιτα θεοιc ευχε[
 10]λλιcι δε κηδ[



72

110 %

68-72

68 is another example of a hand that is modelled on a predominantly oblong pattern; bilinearity is not consistently observed, as the tops of A Δ Λ regularly project above the line; in A, in particular, the diagonal descending from top left starts well before it meets the other diagonal; its middle bar is always horizontal. In Ε one notes the high middle bar, sometimes detached, which often touches the end of the upper arc; Θ Ο C are oval; M is in four strokes, with the middle ones slightly above the baseline; the vertical of Y is short.

The same style and letter forms can be seen in **69** (P.Oxy. 212), where they are, however, more regular and elegant, modelled on a square pattern. Here, too, the diagonals of A Δ Λ start from top left before they meet, or intersect with, the other diagonal; the middle bar of Ε is close to the upper arc but very rarely touches it; P has a very small loop (ΦΛΥΑΡΙΑ ΚΑΙ ΛΗΡΟC I. 7). Similar letter forms, though on an oblong pattern, recur in **70** (P.Merton 52). This hand is strictly bilinear; its regularity, and the small serifs at the lower ends of most letters, give it a very elegant appearance. It can be dated to the middle or the second half of the first century BC, as the documentary text on the back was written in 5 BC, which provides the *terminus ante quem*. **71** (P.Oxy. 4099) represents the same style, but it is written in a more uneven way; the letter forms and sizes as well as interlinear spaces are somewhat irregular, the serifs are clumsy and haphazardly applied. This hand falls far short of its stylistic model, which is better represented by **66** and **67**. It may be assigned to the Augustan period (late first century BC or early first century AD).

72 (P.Yale 8v) may be contemporary with it, as its letter forms are strikingly similar, but its general appearance is more accomplished, the spacing of letters and lines is uniform, and small serifs appear consistently at the bottom ends of most letters. The middle bar of Ε is always detached.

73. P.Berol. 9774 edd. W.Schubart & U.v.Wilamowitz-Moellendorff, BKT V 1, 18-20: Homer, *Iliad* XVIII 585-89, 594, 596-608a-d (608a-d adapted from [Hesiod], *Scutum* 207-213). 13 x 14 cm; provenance unknown, I¹ BC. MP 0962; LDAB 1276; Allen-Sutton-West p051; S.West 132-136 (132f. on the critical signs, *obelos* and *diplé*). Image: S.West, pl. 4.

Skilled, regular hand, strictly bilinear (only the upright of Φ exceeds the upper line). Serifs at the extremities of most letters; the diagonals of Α, Δ, Λ, Χ, the second uprights of Η, Μ, Ν, Π and the horizontals of Ζ are faintly curved; the middle bar of Ξ is reduced to a dot. Most verticals stand on small bases.

Col. II, 5-16: ρηα μα[λ ως ο]τε τις τροχον αρμεν[ο]ν εμ [παλαμησιον

(vv. 600-608c) εζομεν[οc κ]εραμευc πειρηcεται α[ι κ]ε θεη[ιcιον

αλλοτ[ε δ αυ] θρεξαcκον επι cτιχα[c] αλλ[η]λοιcι

(603) > πολλοc [δ ιμε]ροεντα χ[ο]ρον περιcτα[θ ο]μιλ[οc

> τερπομ[ενοι] δοιω δε κυ[β]ιcτητηρε κ[α]τ αυ[τουc

10 μολπη[c εξ]αρχοντεc εδινευον κατ[α] μεc[ουc

(606a) — εν δ εκ[αν c]υριγγε[c εκ]αν κιθαριc τ[ε κ]αι α[υ]λοι

· εν δε τ[ιθει] προταμοιο μεγα cθενοc ωκε[ανοιο

αντυγα παρ πυματην φακεοc πυκα π[οιη]τοιο

(608a) > εν δε λιμην ετετυκ[ο] ξανου καccιτεροιο

15 > κλυζ[ομ]ενωι ικε[λο]c δοιω δ αναφυcιοω[ντεc

> αργυ[ρεοι] δελφινεc [ε]φοινεον ελλ[ο]παc [ι]χθυc



74. P.Ianda 2 [Gießen UB, inv. P.Ianda 1, recto and verso] ed. E.Schäfer: Commentary on *Iliad* XI 677, 688, 699, 712, 730, 754; 10 x 9.1 cm; provenance unknown, I^{med} BC. MP 1194; LDAB 2273; Allen-Sutton-West h076; verso palimpsest. Ed. P.A.Kuhlmann, *Gießener literarische Papyri* (1994) 45-54 = P.Giss.Lit. II 8; Image: P.Ianda I pl. 2; P.Giss.Lit. pl. 3; Erbse, *Schol.* III (2 plates, = P.VIII).

Recto: Fairly large, skilled, very regular, bilinear hand, consistently serified; apart from I, P and Φ, most letters would fit into a square (only ω is slightly wider than tall, Ε a bit taller than wide); Θ with central dot. Verso: a much more rapid and informal hand. On both sides, *lemmata* are in *ekthesis* and followed by blank space.

Recto (→): ειλ Ηλιυ [(677) λη]ιδα δ εκ πεδ[ιου] ςυνελατταμ[εν ηλι]θα πολλην ηλιθα χυδην μ[α τ]ην ωτ και λεγομεν χυδαιοτ [αν 5 θ]ρωποτ και ηλιθιοτ οταν πλη[θοτ ε]μφαινειν θελωμεν η αταξιαυ[(688) δαι]τρευον πολετιν γαρ επειοι χρε[ιοτ οφει]λον εμεριζοτ τοιτ οφειλομ[ενοιτ τ]α οφειληματα εν Η[λι]δι οι α[γρωιω 10 τ]αι επειοι λεγονται ουτωτ εκα[λουντο] το αρχαιου

75. P.Berol. 9775 edd. W.Schubart & U.v.Wilamowitz-Moellendorff, BKT V 2, 131-135: Lyric verses (anapaests): praise of Homer and oracle of Cassandra; 18 x 28 cm; provenance unknown, I^{med} BC. MP 1925; LDAB 6814; Schubart, *Gr.Pal.* 112; Cavallo, *Calamo* p. 111. Image (col. II): Schubart, *PGB* pl. 11b; Cavallo, *Calamo* pl. 18a.

Fairly large, beautifully controlled hand of a highly skilled scribe. Strictly bilinear (only the verticals of Φ and Ψ, which stand on a small base, exceed the upper line); small serifs at the extremities of most letters, which follow a square or slightly oblong pattern. Sentence-end is marked by *dicolon*.

Col. I, 6-17: Λοκριδετ ακται: το τε Κριταιου ζαθεου
τριποδου υ[μ]νωιδου οροτ Τευμητιαδ[
τε ανετοι σκοπιαι το τ Εριχθονιου βλαττ[
αροτωυ ουτ Παλλατ αναττα εζοχα θνητω[
10 δορι καν σοφιατ ανεγραψεν: [ω]υ παντετ
Ομηρε αινετου υμνωυ φυτιν [ηρ]ωιωυ λο
γατιν μεροπωυ παραδεξαμενοι μεγαλυ
νοτιν την τ απο Μουτωυ αφθιτου αυθη
ην τυ μεριμναιτ ταιτιν ατυρυτοιτ καθυφη
15 ναμενοτ πουτωτ τιτ οπωτ επτυτατ αλ
λο]ιτ []υ . . [. . .] . . ς φωτιν επ ακτατ: τητ
]ενετ ουκ ακοφου λημα δε

76. P.Fouad inv. 266 ed. F.Dunand, *Ét. de Pap.* 9 (1971) 81-150 + 15 plates: LXX, *Genesis and Deuteronomy*. 115 fragments of 72 columns; height of column c. 18 cm, height of roll c. 25 cm; c. 33 lines/col. Provenance unknown (Arsinoites ?); I^{med} BC. van Haelst 56; LDAB 3453; F.Dunand, *Papyrus grecs bibliques* (Cairo 1966); W.G.Waddell, *JTS* 45-46 (1944-5) 158-161 (on the tetragram); Turner, *GMAW²* 56 (+ addenda 124-127 on p. 151-152). **Image:** *Ét. de Pap.* 9 (1971) pl. 1-15; Z.Aly & L.Koenen, *Three rolls of the early Septuagint* (Bonn 1980) 128-139.

Described by E.G.Turner, *GMAW²* p. 96: "Medium to large, formal, upright rounded capitals, written slowly. Contrast between thick horizontals and downward obliques, and fine verticals. Markedly bilinear, the lower line outlined by horizontal strokes on the feet of letters, the upper indicated by high horizontals; even P and Υ fall inside the parallels, only Φ protrudes. . . . In Π the second vertical curves, and runs along the lower line, T has a very wide cross-bar and a shorter horizontal to right and left. Broad A Δ K M (in 4 movements), ω. . . . No punctuation (except high dots before tetragrammaton)."

Frr. 105-106 (18.1 x 10.2 cm and 2.8 x 2.7 cm), col. 72 (*Deut.* 32. 1-7):

προσεχε ουρα[νε		θε]ος αληθινα τα [εργα αυ]του
και ακουετω η [γη	10	κ]αι πασαι αι οδοι [αυτου κ]ρις
προσδοκεισθω ω[ς		θε]ος πιστος κα[ι ουκ εστι]ν αδικια
και καταβητω ω[ς		δι]καιος και οσι[ος · ηοη'] . . . [] ..
5 ωσει δροςος επ [		η[μ]αρτοσαν ο[υκ
κ]αι ωσει νιφε[τος		γ[ε]νεα σκολια κ[αι
ο]τι ονομα · ηοη' [	15	τ[αυ]τα · ηοη' απ[ο]δοτε
δ]οτε μεγαλωσ[υνην τωι θε]ω[ι		

77. P.Heid. inv. G 4011 ed. R.Seider, *Paläographie der griechischen Papyri* II 2, p. 66: Homer, *Iliad* XI 819-832; 10 x 12 cm. Provenance unknown, AD I^{ex}. MP 0891.1; LDAB 2311; Allen-Sutton-West p0619. Verso blank. Re-edition: D.Hagedorn, *ZPE* 108 (1995) 189-192. On the date, see Cavallo, *Calamo* pp. 101 + 112. **Image:** Seider II 2, pl. IX 17.

Regular but rather clumsy hand writing with a thick pen; bilinear except for the vertical of Φ in line 12, which stands on a base and slightly exceeds the upper line, and the descender of P. The letters do not conform to a uniform pattern: ΕΘΟC are circular, Δ Κ Μ Ν Π Τ Υ fit into a square, while Α Η Λ are narrower than tall and ω is wider. Υ (with very short vertical) stands on a base. One letter is deleted by suprascript dot (v. 829).

Lines 4-11: τον δ αυτ Ευρυπυλος πεπνυμε[νος αυτιον ηυδα
 (vv. 822-830) 5 ουκετι διογενες Πατροκλεις [αλκαρ Αχαιων
 εσεται αλλ εν νευσι^η μελαινη[ιςιν πεσεονται
 ο
 ει μεν δη παντες οσοι παρος [ησαν αριστοι
 εν νευσι^η κεαται του δε ρθeno[ς ορινται αιεν
 α[λλ] εμε μεν συ σαωσον αγων ε[πι νηα μελαιναν
 10 μηρο]υ τ εκταμύ οιστον απ[]α]υτο[υ δ αιμα κελαινον
 νιζ υδατι λ]ιαρωι επι δ η[πια φαρμακα πασσε

ΠΡΟΣΕΧΕΟΥΡΑ
 ΚΑΙ ΑΚΟΥΕΤΩ
 ΠΡΟΣΔΟΚΕΙΣΩ
 ΚΑΙ ΚΑΤΑΒΗΤΩ
 ΩΣ ΕΙΟΜΒΡΟΣ Ε
 ΩΣ ΕΙΝΙΦ
 ΙΟΝΟΜΑ
 ΤΕ ΜΕΓΑΛΩ
 ΟΣ ΑΛΗΘΙΝΑΤ
 ΙΤΑ ΣΑΙΑΙΟΔ
 ΟΣΤΙΣ ΤΟΣΚΑ
 ΕΔΙΟΚΥ
 ΤΟΣΑΝΟ
 ΕΑΣΚΟΛΙΑΚ
 ΤΑ
 ΟΣΤΙΣ ΤΟΣΚΑ
 ΟΥΚ ΑΥΤΟ ΟΥΤΕ
 ΕΙΣΤΗΣΑΤΟ
 ΜΝ
 ΜΑΡΤΥΡ
 ΣΑΙΤΗΝΤΙ
 ΑΥΤΗΣ ΜΟΥ
 ΑΙ ΕΚΚΛΙΝΕΤΕ
 ΑΙ ΧΜΙΝ ΚΑΙ
 ΚΑΕΣΧΑΤΩΝ
 ΣΤΟΙΣ ΟΝΤΩΝ
 ΤΩΝ ΕΝ ΤΟΙΣ
 ΑΛΛΟΙΣ

ΟΥ
 ΙΣΙΣ
 ΝΑΔΙΚΙΑ

76
77%

ΗΡΕ
 ΜΗΔΕΥ
 ΤΟΝ ΔΑΥΤΕ
 ΟΥΚ ΕΤ ΔΙ
 ΕΟΟΕΤΝΑ
 ΑΙ
 6 ΝΕΥ
 ΕΜΘΑΜΕΝ
 ΧΤΕ
 ΑΡΧΙ
 ΟΙΡΟΤΙΦΑ

77
93%

73-77

73 and **74**, both datable to the first half of the 1st century BC, represent a style of bookhand which was in use both in Egypt and at Herculaneum from the 2nd to the 1st century BC. It is modelled on a square pattern; upright and diagonal strokes show a slight curvature. The ornamental serifs at the lower ends of verticals are extended into short horizontal dashes which emphasize the bilinear character of these hands. The middle bar of A is horizontal, H and Π are square, with faintly bending second verticals; the middle bar of Θ is reduced to a dot; M is in 4 movements in **74** with the middle strokes at an acute angle, in three movements in **73** where the middle element forms a bend; the vertical of Υ is very short.

75, assigned to the middle of the 1st century BC, shows this style in its maturity. The letters are neatly traced and often elegantly curved: see, for instance, the second vertical of Π, the crossbar of T, and the diagonals of A, Δ and Λ; Z appears in its 'modern' form with slanting middle stroke, Ξ with middle bar detached and very short (col. II l. 11). The round letters Ε, Θ, Ο, C are taller than wide, whereas ω is wider than tall. Bilinearity is strict: even Φ has its descender truncated and is standing on a short base (col. II l. 6).

76 may be assigned to the same period or little later. Here most letters, including Ε, Θ, Ο, C, are modelled on a square pattern, with the exception of the narrower B, P and some instances of narrower Ε and Θ, and again the wider ω. The elegance of this hand is due to its strict bilinearity (here, too, as in **75**, P, Υ, T and even Φ stand on short bases; of these, only Φ in line 6 extends slightly below the line) and to the consistency of its letter forms and the even spacing of the letters. The upper arm of K is quite flat, and the vertical of Υ is so short that the two arms seem to converge only just above the baseline.

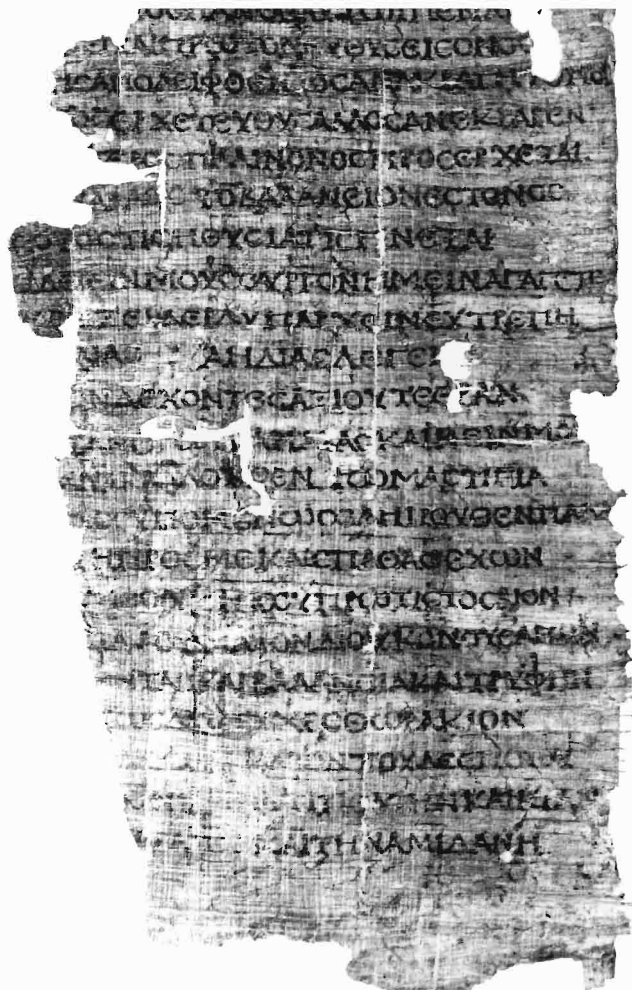
77 appears to be a later specimen of the same style, written with a thicker pen in crudely traced letters, which are not always neatly aligned on the baseline, nor are the spaces between them consistent. Although the letter forms are generally similar to those of **76**, there are some elements that seem to be alien to this style, such as the middle bars of Ε and Θ which are always detached and very short, but shaped as little hooks pointing down (ϵ); P and Φ extend slightly below the line. This hand may be assigned to the 1st century AD.

78. P.Berol. 9941 edd. W.Schubart & U.v.Wilamowitz-Moellendorff, BKT V 2, 113-114: New Comedy; 23 x 9.5 cm. Cartonnage (?), provenance unknown; I^{med} BC. MP 1673; LDAB 6768; CGFP 260; PCG VIII 1018; Cavallo, *CronErc* 4 (1974) 35 = *Calamo* 125. On the back (↓) is a text in Ptolemaic cursive. Image: *CronErc* 4 (1974) 35 fig. 2.

Medium-sized, very regular hand of a skilled scribe, strictly bilinear except Φ; most letters would fit into a square. Marked serifs appear at the feet of Α, Λ and most uprights; they can look like small, convex bows (see Π and ΤΙ in πρωτικτον I. 26); Υ, with very short vertical or V-shaped, stands on a base. The salient feature of this hand are the letters Ε, Θ and Ξ, which have their middle bar reduced to a dot. It is an early specimen of the "epsilon-theta style."

Lines 12-29:

]ειται πρωτον ευθυς εις ονος	]ν δ εχοντες αξιουτ εραν
]τις απολειφθειντος ανακραγη τοπου	]ταν αριαχας καιρειν μο[
]ροσερχετ ευθυς αλλος ανεκραγεν	]εν .. αλλ ουθεν ω μαστιγια
15]τερος παλιν ονος προσερχεται	]ος υπομεινω σε δηπουθεν παλα[ι
]ν αλλος τῷ βαλανειον εστ ονος	25]νη προς με και σπαθας εχων
]ποτος τις η θυσια τις γινεται	]ιθ ον ζητις ευ πρωτικτος βιον
]ριδ ερειν μουκουργον ημειν αγαγετε	]ταλου μα τον Δι ουκ ονους αγων
]ρεπιζει δει δ υπαρχειν ευτρεπη	]οντας και βαλανεια και τρυφην
20]νας: αηδιας λεγει[.] [	]ος δυστυχεσ θωρακιον



79. P.Oxy. XXXI 2545 [Sackler Lib., Oxford] ed. E.G.Turner: Aristophanes, *Equites* 1057-1076; 14 x 5.5 cm; I^{ex} BC; MP 0142.2; LDAB 388; *GMAW*² 37; Cavallo, *Calamo* 75, 110, 125, 127 n.20. Image: P.Oxy. XXXI pl. 4; *GMAW*² 37.

Description by E.G.Turner, *GMAW*² p. 72: "Medium to small, careful, round hand. Markedly bilinear except for Φ, Ψ. The presence of a lower line is suggested by e.g. the long base of Δ and the horizontal feet on the descenders of Ι, Π, Τ, Υ, etc., the upper alignment is stressed by the high horizontals, including the placing of the horizontal of Η and depression to horizontal of the upper rightward arm of Κ. . . . Some strokes (e.g., cross-bars of Α, Τ, Π) are finely drawn, Ε (often with central dot, like Θ) and C lean backwards, and both are well rounded, the circle of Ο and Θ is in 3 movements, Μ in 4, of which the central 2 meet halfway down."

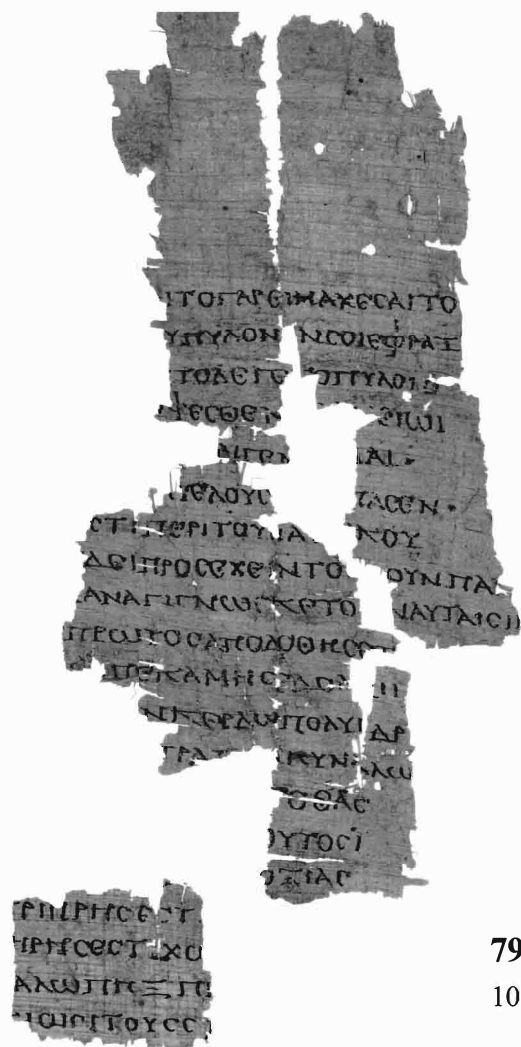
Lines 1-16 (vv. 1057-1072):

χεσ]αιτο γαρ ει μαχεσαιτο
 Πυλο]υ Πυλον [η]ν coi εφραζ]ε
 τι το]υτο λεγε[ι] το Πυλοιο
 (1060) καταλ]ηψεσθ εν [βα]λαμειωι
 5 τημερο]ν γεν[ησο]μαι·
 τας] πυελουc [αφηρ]πασεν·
 ε]στι περι του ναυ[τ]ικου
 c]ε δει προσεχειν το[ν ν]ουν παυ[ν
 (1065) συ] δ αναγιγνωσκε το[ιc] ναυταιci μ[ου
 10] πρωτοc αποδοθηcετ[αι
 κυναλ]ωπεκα μη ce δολ[ω]χη
 δολια]ν κερδω πολυιδρ[ιν
 Φιλοc]τρατ[oc] η κυναλω[πηξ
 (1070) εκασ]τοθ ac
 15]ουτοci
 ο Λ]οξιαc

78-79

78 and **79** represent the "epsilon-theta style", so called on account of the very short middle bars of these two letters. This style was widely used in Egypt and also, in two specimens written by the same hand, at Herculaneum [P.Herc. 1044 and 1746]; it is the most distinctive style from the 1st century BC to the beginning of the 1st century AD.

The hand of **78** follows a consistent square pattern, with strokes thickening slightly at the ends. In addition to the short middle bars of Ε and Θ often being reduced to a dot, one notes Α in three movements with horizontal or slightly sloping middle bar, Ζ in its older ('epigraphic') form with vertical middle stroke, Μ in 4 strokes, of which the outer ones are vertical, while the middle ones meet at an angle above the baseline; the middle bar of Ξ is reduced to a dot (line 21); Υ with short vertical stands on a base.



79

100 %

The hand of **79** is the small version of the "epsilon-theta style", with small serifs at the ends of some strokes. The letters are finely drawn; A is in 3 movements with horizontal middle bar, its diagonal descending from top left starts before it meets the other diagonal (this is also true of the diagonals of Δ and Λ), the middle bars of Ε and Θ are very short, sometimes just a dot; the flat, almost horizontal upper arm of K seems to sit on the lower one; Ε, Θ, Ο, C are oval rather than circular; Ι, Π, Τ, Υ and even Φ stand on short bases. The combination of these features marks the full bloom of this style towards the end of the first century BC.

<p> ΕΚΤΑΣΤΟΥ ΔΙΟΣΦΑΝΤΙΚΕΦΑΛΑΣ ΑΠΟΛΕΣΑΙ ΠΡΑΤΙΣΤΑΓΑΝΤΩΝ ΔΗ ΠΑΧΑΙΤΑΙ ΕΝΟΜΕΝΑΙ ΚΑ ΤΑ ΚΡΟΝΟΝ ΚΑΜΑΝΤΑΤΟ ΔΕ ΤΟΥ ΤΗ ΔΕΡΟΣ ΠΟΤΤΟΦΟΒΕΡΑΝΕΥ ΘΥΣΕΙΜΕΝΤΕΡΕΒΑΛΕΙΝΑΥΤΑΣΚΥ ΚΩΙ ΔΙΟΠΕΡΕΥΤΑΝΤΑ ΔΑΛΛΟΝΟ ΚΑΘΗΜΕΝΥΠΟΚΑΝΤΩΝ ΤΟΚΑ ΠΕΡΙΕΤΕΣΟΜΕΝ ΕΠΟΙΗΜΑΣΙΝ ΕΦΗΜΗΝ ΕΣΤΕ ΤΡΑΦΗΜΕΡΟΤΕΣ ΟΥΑΝ ΤΥΣΑΤΟΝΤΟΝΟ ΠΕ ΤΟΥΙΣ ΑΛΛΟΙΣ ΜΡΟ ΕΤΗΚΩΙΑΙ ΚΑΤΑΡΙΘΜΟΥΜΕ ΝΟΙΣ ΕΝ ΚΑΤΑΣΤΕΡΟΝ ΥΓΑΡ ΧΕΙΡΕΣ ΑΦΕΙΤΟΥ ΤΟΝ ΔΕΙΝΑΙ ΜΑΧΙΜΟΝΤΙΝΑ ΚΑΙ ΔΥΝΑΤΟΝ ΕΠΙ ΔΕ ΑΥΡΩΤΟΝ ΕΠΙ ΤΟΥ ΘΥΝΗΡΑ ΚΑΝΗΝ ΕΙΣ ΤΗΝ ΚΩΙΑΝ ΠΑΡΑΤΕ ΚΟΑΙ ΚΑΤΕΘΕΛΕ ΟΙΣ ΟΙΣ ΕΥΤΗΣ ΕΦΑΤ ΕΛΙΘ ΤΩΝ ΔΕ ΑΥΤΩΝ ΤΙΣ ΤΟΥ ΑΣ ΟΥΤΗΝ ΑΘΗΝΑΝ ΕΠΙΒΟΗ ΣΑΙ ΕΔΥΙΑΝ ΟΣ ΤΥΠΟΜΕΝΗΡΑ </p>	<p> ΔΑ ΤΑΤΟ ΤΡΙΣΤΑΡΕΤ ΗΚΕ ΔΙΑΝΝΕΥΡΗΣΑ ΧΡΟ ΑΥΤΗΝ ΟΣΙΚΑΝΕΝ ΚΑΘΗΡΗΣΙ ΕΤΡΗΣΕ ΔΑ ΤΕ ΔΡΗΜΥΒΕΛΟΤΙΚΙ ΧΟΣ ΕΣΧΕΘΕΝ ΤΑΕ ΤΑ ΔΕ ΦΟΛΙΤΑ ΚΕΝ ΚΡΑΚΕΙΑ ΚΑΤΕΚΤ ΕΙΡΟ ΤΗΝ ΕΛΑΒΡΟΝ ΤΗΣ ΕΔΕΤ ΝΕΦΕΩΝ Κ ΣΑ ΤΩΝ ΕΑΜΕΝΗΝ ΘΕ ΔΑ ΔΛΟΝ ΧΡΩΑΤΡΟΣ Θ Θ Η ΗΡΑΚΛΕΙΟΣ ΑΝΑΚ ΣΙΑ ΕΝΑΣ ΘΗΑΤΙ ΘΥΣΙ Θ ΕΟΝ ΕΙΤΕΝ ΜΕΙΛΙΤ ΤΑ ΥΕΙΤΟΝ ΜΕΝ ΗΡΑ ΡΗΝ ΕΑΛΛΟΥΣ ΓΙΝΕΣ ΠΑΣ ΤΗΝ ΔΕ ΤΟΝ ΑΣ ΘΕ ΤΑΙ ΕΝΘΟΜΕΥΕ ΕΥ ΜΕΡΟΣ ΩΝ ΚΙΣ ΠΡΟΚΗΜΗΙΣΤΗΘΟΙ ΣΑ ΕΣΚΥΤΟΥΤΑΡ ΘΑΝ ΤΑΙΘΝΗΤΑΙΣ ΤΒΘ </p>
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80
73 %

ΤΟΥ ΑΥ
 ΜΑΤΕΣ
 ΤΡΑΜΜΗ
 ΤΟΥ ΕΙΝΑ
 ΘΕΛΕΜΕ
 ΜΕΝ ΚΑΙ
 Η ΣΑ ΔΕ
 ΤΟΝ
 ΚΥΝΟΣ
 ΤΟΥ ΑΥ
 ΕΡΩΝ ΚΑ
 ΟΙΝΤΕ

81
82 %

82. P.Oxy. XXIV 2399 [Sackler Lib., Oxford] ed. E.G.Turner; Duris (?), *History of Sicily*; 16.5 x 23.5 cm. I BC. MP 2194; LDAB 823; Turner, *GMAW²* 55 + Addenda 122-123 p. 151; S.Berger, *ZPE* 71 (1988) 93-96; C.O.Pavese, *Minima epigraphica et papyrologica* 4 (2001) 209-228. On the date, see Cavallo, *Libri ... Ercolano* 51. Image: P.Oxy. XXIV pl. 14; Cavallo, *Libri ... Ercolano* pl. 61a.

Description by E.G.Turner, *GMAW²* p.94: "Rounded, somewhat flattened, capitals, slowly written with a crudely cut pen. Bilinear (except Φ), the lines being adumbrated by high horizontals and link-strokes, and low horizontal serifs (note Λ, Π, Υ); but the scribe has not succeeded in making letters uniform in size and stance. B hangs from the upper line and therefore projects below (cf. H, K); first two movements of A and Δ often in one looped sequence (A, A, Δ); Θ with central dot, M in four movements, 2nd limb of N often raised, T has heavy cross-bar, often with initial and closing vertical. Punctuation is by paragraphus and space. . . . One *diple* (opp. II 35) as critical sign."

Col. II 4-21 (lines 31-48):

	τες αυτην [τ]ην πο	(40)	δυνηται μεταστη
5	λιν ετηρουν τοιαυ		και την πολιν εκκλη
	της δε της καταστασε	15	κιαζοντων των Κυ
	ως ουσης Δι[ο]γνητος		ρακοσιων υπερ του
(35) >	ο φαλαιμος επικαλου		πολεμου του παρε
	μενος διεφθαρμενος	(45)	στωτος εξαιφινης
10	υπ Αμιλκου και των		αναστας και προανα
	φυγαδων και πα	20	κρουσαμενος επι
	ρεσκευασμενος αν		του βηματος οτι βου

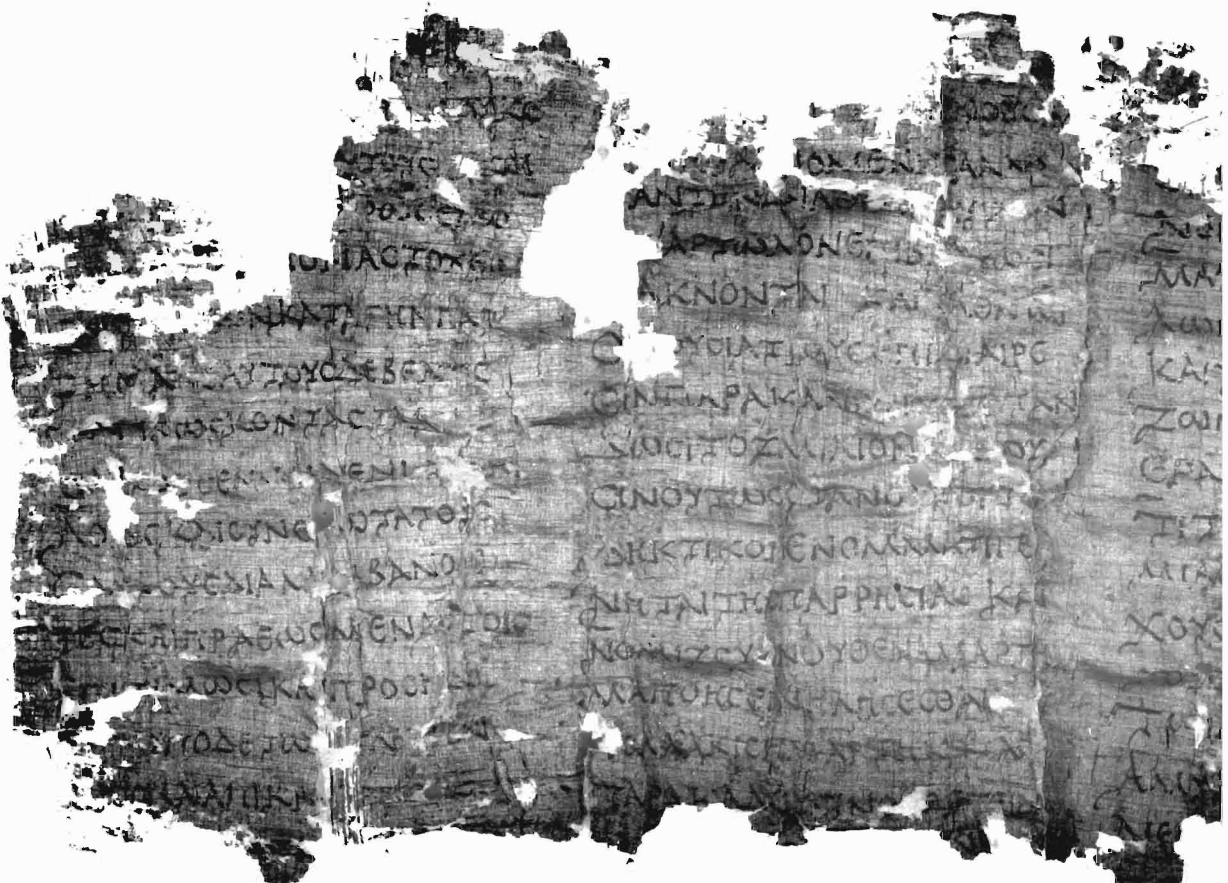
83. P.Herc. 1471 [Napoli, Bibl.Naz.] ed. A.Olivieri: Philodemos, *De libertate dicendi* = π. παρρησίας (Leipzig 1914). Maximum height of col.: c. 10 cm; I¹ BC. LDAB 3652; Gigante 1471; D.Konstan-D.Clay-C.E.Glad-J.C.Thom-J.Ware, *Philodemus, On frank criticism* (Atlanta 1998). Cavallo, *Libri ... Ercolano* 16; 75; idem, *Calamo* 115. Image: Cavallo, *Libri ... Ercolano* pl. 36; idem, *Calamo* pl. 21b.

Medium-sized, bilinear hand, richly decorated not only with the usual serifs at the ends of uprights, the first diagonals of A and Λ, and the arms of K and X, but also with three sets of rather mannered and idiosyncratic ornamental flourishes, most conspicuous at line-beginnings: (1) The descender of P turns left at a right angle at the bottom; (2) T, Υ and sometimes the first verticals of K, M, N stand on bases in the shape of convex bows which curve down to the left (T, Υ), sometimes even forming a loop (K : και line 10); similar bows can be seen at the left feet of A, M, X; (3) in A (A) and Z (Z), the diagonals descending from right to left turn upwards and back, forming a loop with the horizontal bar; even N can have a similar loop (N in l. 10 νηται).

Col. XVIIa, 2-14:	ταν την διαθε[σιν] αυτ[ω]ν		δηκτικον εν ομματι γε
	αμ[αρτω]λον επιβ[λεπ]ωσι	10	νηται της παρρησιας και
	δακνουνται και [κ]αθαπερ		νομιζουσιν ουθεν αμαρτη
5	σ[οφ]ους ιατρους επι διαιρε		μα ποιησειν η λησεσθαι και
	σιν παρακαλουντες οταν		πολλακις ημαρτηκοτας
	δωσι το ζμιλιον νο[σ]ου		παρακαλουσι νο[σ]υθετειν
	σιν ουτως οταν ο[υ]τοι το		



82
100 %



83
115 %

84. P.Oxy. IV 659 [Brit.Lib. inv. 1533] edd. B.P.Grenfell & A.S.Hunt: Pindar, *Partheneia*; 12.8 x 49 cm; 28 or 29 lines/col. I^{ex} BC/AD Iⁱⁿ. MP 1371; LDAB 3742; P.Lond.Lit. 44; L.Lehmus, *Mus.Phil.Lond.* 2 (1977) 227-231; idem, *BICS* 31 (1984) 61-92 (+ bibliography). Turner, *GMAW*² 21 + add. 37 p.149; Cavallo, *Libri ... Ercolano* p. 54. Image: P.Oxy. IV pl. 3; Seider II 2, pl. IX 16.

Description by E.G.Turner, *GMAW*² p. 50: "Fair-sized, round, upright capital, slowly written . . . Serifs on feet of some verticals (I, Υ, markedly on T, P, Φ). Bilinear except P and Φ. M is in 4 movements and deep; the cross-bar of Ε and Θ often contracts to a dot. A is triangular, the cup of Υ often carried well above the line. The two strokes of K tend to come apart. Z is in the form of a central vertical connecting upper and lower horizontals (⊥)." End of triad marked by coronis, ends of strophe and antistrophos sometimes by paragraphos. Some accents by the original scribe (III 8, 20), quantity marks (III 9, 10), breathings, middle and high stops. Stichometric Γ̄ (col. IV 6 = v. 300).

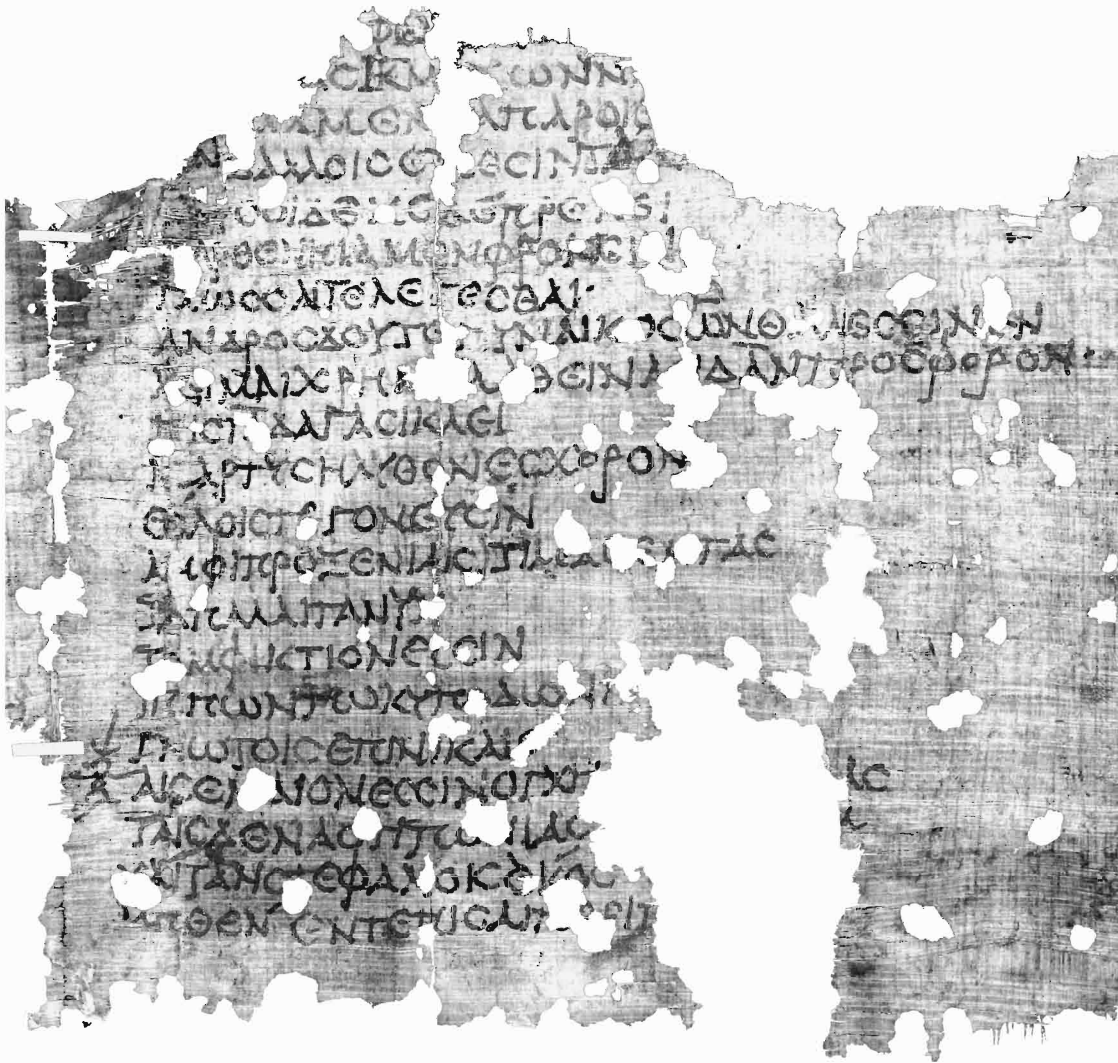
Col. III 3-21 (*Partheneion* 2, vv. 31-49):

- (31) πολ]λα μεν [τ]α παροιθ[
 δ]αιδαλλοις επεειν τα δ α[
 5 Ζευς οιδ εμε δε πρεπει
 παρθηνηια μεν φρονειν
 (35) γλωσσαι τε λεγεςθαι·
 ανδρος δ ουτε γυναικος ω̄ν θαλεσσειν εν
 κειμαι χρη μ[ε] λαθειν αριδαν̄ προσφορον·
 10 πιςτᾶ δ Αγαρικλει
 μαρτυς ηλυθον εκ χορον
 (40) εκλοις τε γονευσιν
 αμφι προξενιαισι τιμαθεντας
 τα παλαι τα νυν
 15 τ αμφικτιονεσσειν
 ιππων τ ωκυποδων πο[λυ
 (45)
 1
2
3
4
5
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9
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11
12
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100

 γνωτοις επι νικαις·
 αις εν αιονεσσειν Ογχη[ςτου κλυ]τας
 ταις δε νασῖ Ιτωνιας α[... ..]α
 20 χαιτᾶν στεφανοις εκός
 μηθεν· εν τε Πισαι π[ε]ριπ[

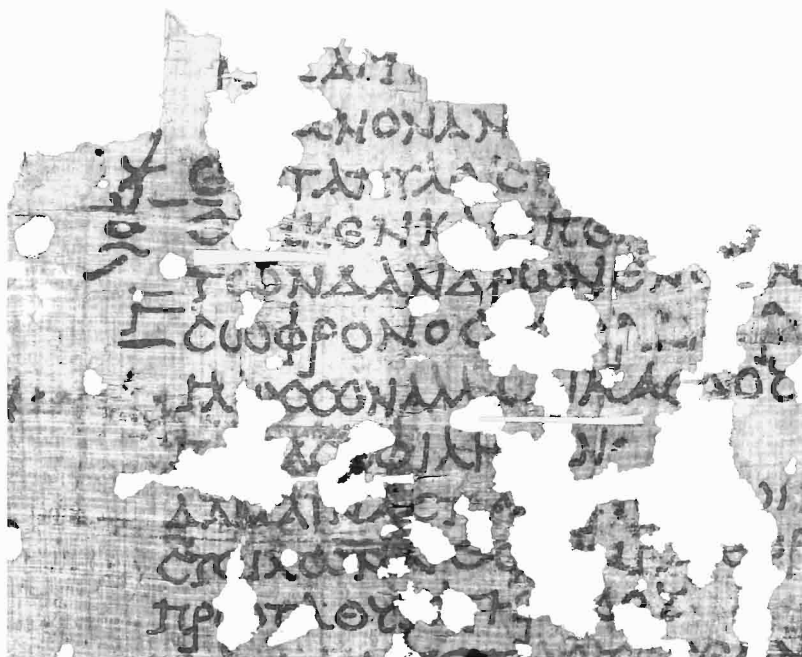
Col. IV 1-8: ριζαι τε[

- (vv. 58-65) [σε]μνον αυ[
 ε[π]ταπυλοισ Θ[
 ε]νηκεν και επειτ[α]λοσ
 τωιδ ανδρων ενε[κε]ν μεριμνας
 Γ̄ σωφρονος εκθραν εριν ου παλιγ
 γλωσσειν αλλα δικας [δ]ιδους
 π[..]τας εφιλη[..]ν·



84 Col. III

108 %



84 Col. IV

80-84

80 (P.Köln 126), which can be dated to the beginning of the first century BC on account of its close resemblance to **59** (P.Ryl. IV 586) of 99 BC, represents the so-called "round/square style"; nearly all the letters, apart from I and the wide ω , fit into a square, while their shapes appear smooth, with a preference for curved and rounded strokes: see, in particular, the vertical strokes of H, I, M, N, Π and the diagonals of A, Δ and Λ . The hand is strictly bilinear, only Φ extends beyond the lines both ways. Small ornamental hooks, blobs or short dashes appear irregularly at the ends of strokes. A is made in 3 strokes, the first two forming in most cases an acute angle, but occasionally the middle bar is separate and horizontal; the middle element of M is a soft gentle curve inscribed into the upper half of the notional square; the middle bar of Ξ is detached and very short (col. III 4 and 11).

In some respects, the hand of **81** (P.Oxy. 1453) of 30/29 BC can be seen as the documentary counterpart to that of **80**. Although bilinearity is frequently broken and the letters lack uniformity in size and shape, the model which this hand rather imperfectly and haphazardly imitates must have been similar to the hand of **80**, characterized by curving strokes and the presence of small ornamental hooks or blobs at their ends. The middle bar of ϵ is detached and stretches to the right, yet without linking up with the following letter. Essentially the same is true also of **82** (P.Oxy. XXIV 2399), but this hand appears mannered because this scribe exaggerates both the curving of strokes (see, for instance, $\Pi\text{O}\Lambda\epsilon\text{M}\text{O}\Upsilon$ in col. II 17) and the hooks at their extremities. The middle bars of ϵ and Θ are just dots, O and C are smaller than average, the arms of Υ bend strongly outwards. If we are right in seeing the hand of **82** as a mannered imitator and descendant of the ideal exemplified by **80**, this might suggest a date nearer the end of the first century BC or perhaps even the beginning of the first century AD.

Curvatures in the strokes like those observed in **80** and **81** can also be seen in **83** (P.Herc. 1471), which may be dated to the first half of the 1st century BC. This is an elegant bilinear hand with very slight contrast between thin and broader strokes; the letters are evenly spaced and finely drawn, often with feet ending in hooks or even small loops, e.g. in some *alphas* ($\alpha\mu\text{]}α\rho\tau\omega\lambda\omicron\nu$ l. 2) or *kappas* ($\kappa\alpha\iota$ l. 10); in Δ and Λ , the diagonals descending from top left start before they meet the other diagonal; the second verticals of H and Π are elegantly curved; the outer strokes of M diverge bending outwards.

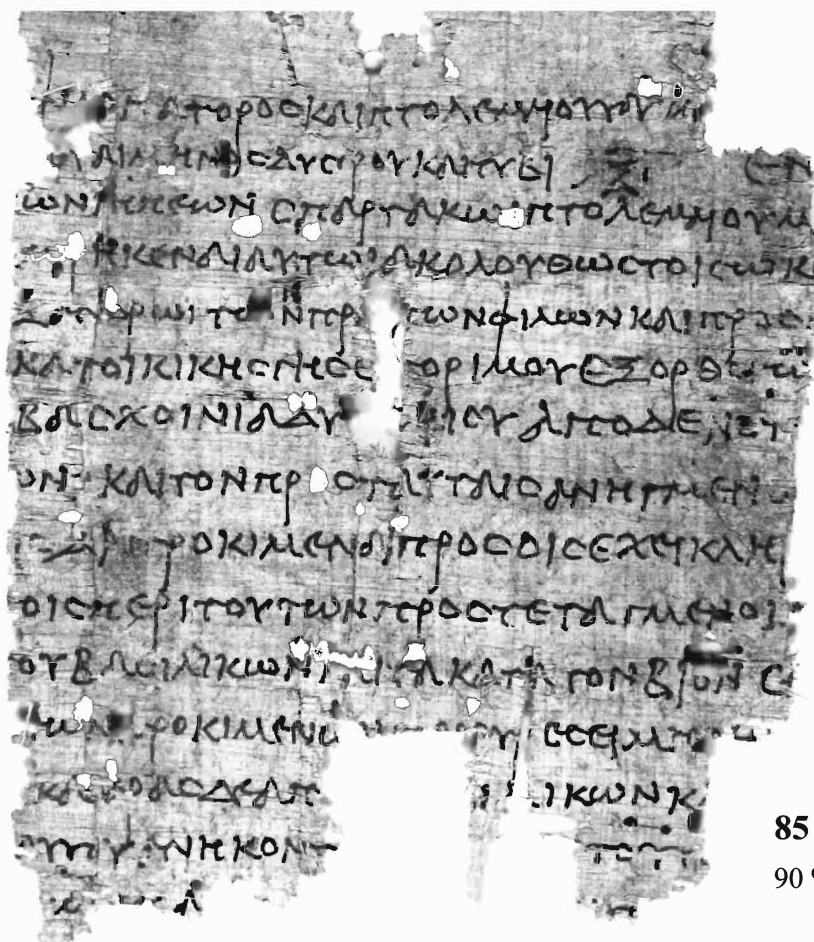
Although the hand of **84** (P.Oxy. IV 659) represents the same round/square style also observed in **80**, the curving of some letters, such as X, appears excessive (col. III 9 and 11); spacing and letter forms are not consistent; descenders end in feet pointing left; A, Δ , Λ resemble those in **80** and **83**; the middle bars of ϵ and Θ are very short or reduced to a dot. As the hand of the epigrams on the *verso* (P.Oxy. IV 662) appears to belong to the Augustan period, **84** can hardly be younger than the second half of the first century BC.

85. P.Oxy. XIV 1635 [Gent inv. 65] edd. B.P.Grenfell & A.S.Hunt: Cession of land; 14 x 11.3 cm; 44-30 BC; cf. *BL* VII p. 140. Image: P.Oxy. XIV pl. 2.

Fairly large, semi-documentary hand with numerous ligatures (e.g. line 1: Πτολεμαιοῦ) and cursive letter forms: A with loop (Α), Ε often with upper bow and middle bar in one sequence (Ε), V-shaped T (Δυστροῦ) alongside conventional T (Τυβί, line 2). On the other hand, bilinearity is evidently aimed at, even if broken by Β, Ρ, Φ and occasionally Α and Ι, and letter sizes vary. Apart from those just mentioned, most letters correspond fairly closely to their counterparts in book-rolls such as, e.g., P.Köln 126 (80).

Lines 1-10:

]Φιλοπατορος και Πτολεμαιου του κ[αι
 γραφ]εται μηρος Δυστροῦ και Τυβί Ζ' εν [
 κατο]ικων ιππεων Σπαρτακωι Προλεμαιου Μα[κεδονι
 παρακε]χωρηκεναι αυτωι ακολουθως τοις ωκο[νομημενοις
 5 Αλε]ξανδρωι των προ[ω]των φιλων και προς τ[οις
] κατοικικης γης σποριμου εξ ορθογωνιου
 εις λι]βα σχοινα δυ[ο η]μιςυ απο δε νοτ[ου
]ων και τον προς ταυταις ανηγμενο[ν
 -μενο]ις αι προκιμεναι προς οις εχει κληρο[ις
 10] τοις περι τουτων προστεταγμενοις [



85

90%

86. P.Oxy. LXII 4313 ed. J.E.G.Whitehorne: Demosthenes, *Olynth.* 2, 4-5; 30-31. Fr.1: 7.5 x 5.5 cm. AD

I. MP 0256.13; LDAB 667. Image: <http://www.papyrology.ox.ac.uk/POxy>

Medium-sized, rounded hand, bilinear except for Φ. The letters are plain with hardly any serifs; the first two strokes of A form either an acute angle (Λ) or a loop (λ); the middle bar of E is always detached and quite short; no curvature, except in the second upright of Π. Elision marks (lines 5 and 6) by a later hand.

Fr. 1, lines 1-6 (*Olynth.* 2. §§ 4-5):

νοικ ορθως δ]οκιμαζε[ι]ν ταυτ ειπε[ι]ν πει
 §5 ρασομαι το] μεν ουν επιορκον και απιστον
 καλειν ανευ τ]ου τα πεπραγμενα δει[κ]νυ
 ναι λοιδοριαν] ειμαι τις αν φησειεν κε
 5 νην δικαιως το] δε πανθ' οσα πωποτ'
 επραξε διεξιον]τ' εφ απα[ci]ν [του]το^c ε[

87. PSI I 11 [P.Laur. inv. 19663] ed. M.Norsa: Homer, *Iliad* IV 50-66.; 15.4 x 11.7 cm, Oxyrhynchus.

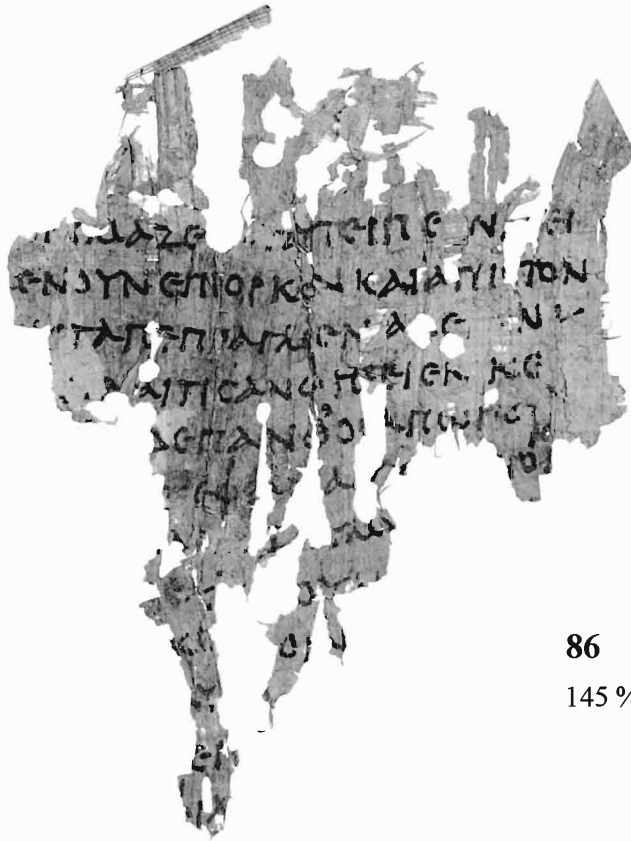
AD Ist (P.Degni in *Scrivere libri* p. 90). MP 0709; LDAB 2145; Allen-Sutton-West p097. On the verso (↓) are traces in a documentary hand of the 2nd (?) century AD. Image: *Scrivere libri* no. 8 pl. 6; CD-ROM Papiri letterari della Biblioteca Medicea Laurenziana.

Medium-sized, unsteady hand of a not very skilled scribe. Letters of varying sizes stand on uneven lines. Few ligatures (from the middle bar of E, and λI in Αχαιων line 15); bilinearity is broken conspicuously by P and Φ, less so occasionally by K, T and Υ. The feet of uprights sometimes bend to the left or right; there are no serifs. Some oblique strokes are faintly curved, whereas most upright or horizontal strokes are quite straight. One *diaeresis* (l. 3 -γυια).

Lines 1-15 (vv. 50-65):

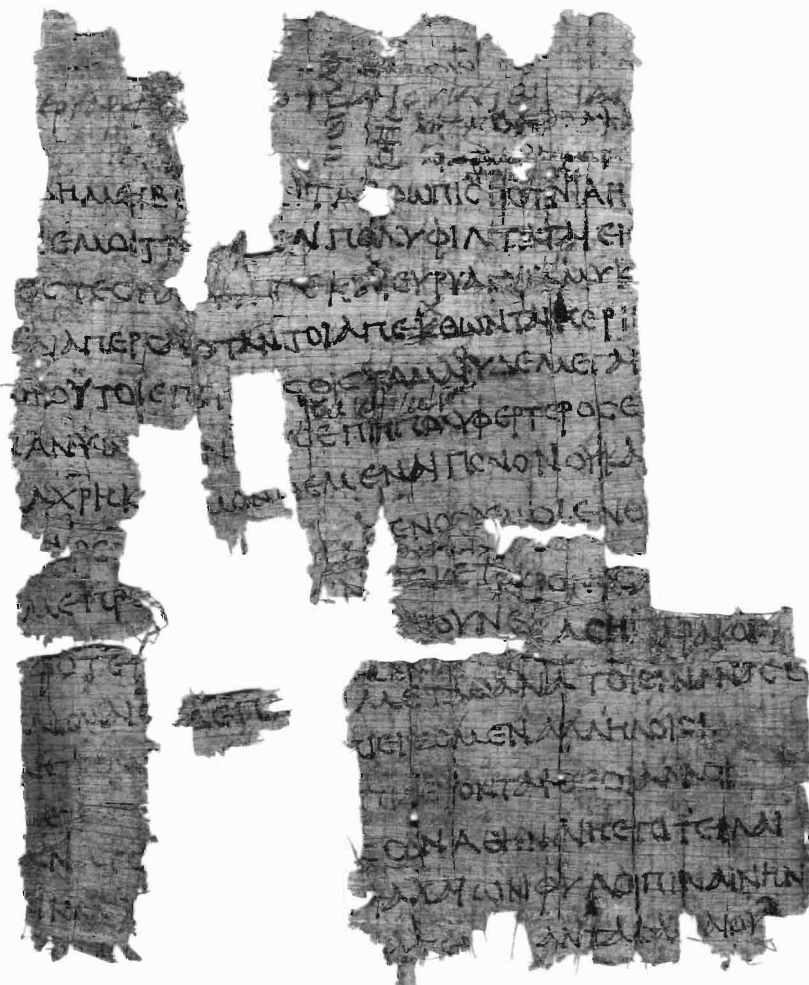
top margin (v. 55): ειπ]ερ γαρ φ[θοιε]ω τε και ουκ ειω διαπ[ερσαι

(50) 1 του] δ ημειβε[τ επι]ειτα βοωπις ποτνια Η[ρη
 ητο]ι εμοι τρε[ι]ς [μ]εν πολυ φιλταται ει[ci πολ]ης
 Αργ]ος τε Σπαρ]τη τε και ευρυαγυια Μυκ[ηνη
 τας] διαπερσαι οτ αν τοι απε[κ]θωνται περι κ[ηρι
 (54) 5 τα]ων ου τοι εγω π[ρος]θ ισταμαι^oυδε μεγαι[ρω
 (56) ου]κ ανω φ[θο]ν[εου]υς επ^ει η πολυ φερτερος ε[ccci
 αλλ]α χρη κ[αι ε]μον θεμεναι πονον ουκ α[τελεστον
 και γ]αρ εγ[ω θεος ειμι] γενος δε μοι ειθ[ειν οθεν σοι
 και] με πρε[cbυτατη]ν τεκετο Κρονος α[γκυλομητης
 (60) 10 αμ]φοτερ[ον γενεη τε και ουνεκα] ση παρακοιτ[ις
 κεκ]λημαι ς[υ δε π[ac]i μετ] αθανατοιςιν ανασσ[εις
 αλλ] η τοι μ[εν ταυτ ε]πιειξομεν αλληλοισι
 σοι] μεν εγω [cu δε εμοι ε]πι δ εψονται θεοι αλλοι
 αθ]ανατο[ι cu δε θα]ccον Αθηναιη επιτειλαι
 (65) 15 ελθ]ειν ες [Τρωων και Αχαιων] φυλοπιν αινην



86

145 %



87

89 %

88. P.Lond. II 354 (p. 163-165) ed. F.G.Kenyon: Petition to the Prefect; 34 x 22.5 cm. Arsinoites, 7-4 BC; C. Tyrranius was Prefect of Egypt in 7-4 BC. Another copy of this petition is CPR XV 15 (Soknopaiu Nesos), in cursive. Image: P.Lond. Facs. II pl. 6; Norsa, *Scr.lett.* pl. 7a; *GLH* pl. 9a, etc. Very similar is P.Lond.Lit. 30 (*Odyssey*) = Pack² 1039; LDAD 1382; Kenyon, *Pal.* pl. 15; *Pal.Soc.*, ser. 2, II 182.

Medium-sized, very regular, skilled hand of a professional scribe. Bilinear except Φ (Ψ hardly exceeds the two parallel lines); most upright and oblique strokes are curved; small serifs appear at the ends of many uprights; the first two elements of A usually form a loop (λ), sometimes an acute angle (Λ); the middle bar of Ε is always detached and short, often little more than a dot, occasionally linked to the upper bow (e.g. in line 5 γεγονοτες); the arms of K are sometimes detached from the vertical. Sentence-end is marked by space.

Lines 1-7:

Γαιωι Τυρρανιωι

παρα Καταβουτος του Πισοιτος και του τουτου υιου Π[ι]σοιτος των απο [του Αρ]ειν[ο]-
 ειτο[υ]
 δη[μο]σιων γεωργων και εγλημπορων τινων ιερατικων εδαφωι τελουντ[ων υ]περ
 ων εχο-
 με]ν δημοσιων εδαφων αιει κατ ετος [ε]ις λογον Ϝ ω και αρϚ Ϛ Αφ και εν τη ολη
 5 ανεγκλητοι μεχρι του νυν γεγονοτες δια δε το μηδεν οφειλειν επεφ
 τ]ινων εκ του νομου αδωσιδικων και αιει αποστατικωτερον φρουουντω[ν]των
 .. προς την ημων επηρειαν ικανως απηδικημενοι επι την εξου δικα[ιοδοσιαν

89. P.Amst. inv. 1 ed. P.J.Sijpesteijn, *Mnemosyne* 24 (1971) 162-168: Homer, *Iliad* IV 340-365. 22.5 x 14.5 cm; provenance unknown, AD I¹. MP 0720.1; LDAB 2302; Allen-Sutton-West p0472a. On the back are traces of washed-out writing. Image: *Mnemosyne* 24 (1971) after p. 162.

A very regular, stylized hand, rigorously bilinear except for Φ, Ψ and the descender of P. The loop of λ is flat and small, the middle bar of Ε always detached and often linked to the following letter; the "feet" of H, M, Π bend outwards, the verticals of K, N, T, Φ and Ψ bend left at the end; the middle element of M slopes towards its well-curved second "leg" (); Ξ is made in one sequence (Ξ: οξυν I. 13); the cross-bar of T starts from a hook. Oblique strokes to the left of vv. 349 and 350 seem to indicate change of speaker. Punctuation is by heavy dots (άνω, κάτω, and μέση στιγμή, cf. Lameere, *Aperçus* 74-92); other diacritics apparently added by a later scribe: marks of quantity and word-division (347 φίλωτ), word-division also in 351 and 361. The hand strongly resembles those of **84** (P.Oxy. 659), **87** (PSI 11) and particularly **88** (P.Lond. 354).

Lines 8-15 : νυν δε φίλωτ χ ορωτε και ει δεκα πυργοι Αχαιων
 (vv. 347-354) υμειων προπαροιθε μαχοιατο νηλει χαλκωι•
 10 / τον δ αρ υποδρα ιδων προσεφη πολυμητις Οδυ[σσευς
 / Ατρειδη ποιον σε επος φυγειν ερκος οδοντων
 (351) πωτ δή φητ πολεμοιο μεθειεμεν οποτ Αχαιοι
 Τρωσιεν εφ ιπποδαμοισιν εγειρομεν οξυν Αρ[η]α
 οψεαι ην εθελησθα και αι κεν τοι τα μεμηλη•
 15 Τ[ηλ]εμαχοιο | φιλον πατερα προμαχοιει μιγεντ[α

90. P.Oxy. II 278 [Brit.Lib. 795] edd. B.P.Grenfell & A.S.Hunt: Lease of a mill. 34.4 x 11.9 cm.

AD 17. M.Chr. 165. Image: P.Lond.Facs. III 18.

The large hand which wrote the main text is a kind of hybrid between documentary and bookhand. Although it uses a fair number of ligatures and cursive letter forms, such as ϵ and γ in one movement (ζ , ψ), it does show a marked affinity to informal bookhands like those of **86**, **87** and **91**: letters are often unconnected, most of them (except Δ , M and ω) are taller than broad and fit into an upright, oblong pattern. Initial ϵ tends to have its cross-bar well detached from its curve and linked to the next letter ($\epsilon\kappa\alpha\tau\omicron\upsilon$ lines 10 and 22, $\epsilon\kappa\alpha\tau\omicron\Nu$ line 21, etc.). Other features it shares with contemporary bookhands are the serifs at the ends of verticals and even some diagonals, e.g. of N whose diagonal starts from a hook (see the *nys* in $MANHC$ 1. 17 and in $\epsilon\kappa\alpha\tau\omicron\Nu$ 1. 21: $\overset{\curvearrowright}{N}$), and the curvature in most uprights and diagonals. By contrast, the second hand links the letters quite consistently wherever possible, and although it appears to be roughly bilinear, it is essentially a documentary hand.

Lines 8-33:

- (m.1) Τιβ[ερ]ιου Κ[α]ι[σα]ρος Σεβαστου ενοικιου
του εσταμενιου προς αλληλους
10 υπε[ρ] του σημ[αι]νομενου μυλου εκαστου
μη[νο]ς αργ[υ]ριου δραχμας δυο τριωβολ
α[ποδ]ιδωτ[ω] δε ο μ[ε]μ[ι]σθω[μ]ενος
τω[ι] Ι[σι]δωρ[ω]ι το κατ[α] μ[η]να του μυλου
ενο(ι)κιον αν[ε]υ πασης [υ]περθεσ[ε]ως
15 ακινδυνος δε ο μυλ[ο]ς και το ενοικιον
παν[το]ς κινδυνου και μετα τον χρονον
αποκα[τα]στησατω ο μαινης τον μυλον
υγιη και ασινη οιον και παρειληφεν
οπου [ε]αν συντασσει ο Ισιδωρος εν Ο
20 ξυρυγγων π[ο]λει η την εσταμενην
τουτου τ[ι]μην αργυριου δραχμας εκατον
εκαστου δε μ[η]νος ου εαν μη αποδωι
το ενο(ι)κιον μεθ ημιολιας της πρα
ξεως [ο]υσης [τ]ω Ισιδωρω εκ τε του
25 μεμισθωμενου κα[ι] εκ των υπαρ
χοντων αυτω παιτων καθαπερ
εγ δικη[ς] κυρια η μ[ι]σθωσις παιταχη
επιφερομενη

└ γ Τιβεριου Καισαρος Σεβαστου Μεχ α

- (m.2) Ηρα[κλε]ιος Σω[τ]ηριχου μεμισθωμαι
31 τον μυλον εως επαγομενω
πεμπτης και αποδωσω το κα
τα μ[η]να ενοικιο[ν] etc.

Fragmentary papyrus scroll with Hellenistic cursive script. The text is arranged in approximately 18 horizontal lines, though many characters are obscured by significant damage and missing sections of the scroll. The script is characterized by its fluid, connected letters and a mix of uppercase and lowercase forms typical of the period. Some legible fragments include:

... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...
... οτι ...

90
80%

91. P.Oxy. II 225 [Brit.Lib., inv. 784] edd. B.P.Grenfell & A.S.Hunt: Thucydides II 90.5 - 91.2.

13 x 5.4 cm; 25 lines/col. AD I^{med}; MP 1520; LDAB 4034; P.Lond.Lit. 105. Image: P.Oxy. II pl. 5.

Medium-sized, regular hand, bilinear except P and Φ (the vertical of K also descends a little below the line). The first two elements of A form a loop (λ). A number of ligatures can be seen: the middle bar of Ε is sometimes linked to the next letter (e.g. ΕΡ in υστερον col. II 12), as is the cross-bar of Γ; that of Τ can also be linked to both the preceding and the following letter (e.g. ΥΤΟ in col. II 3 αυτου). Ε Ο C are well-rounded; most upright and oblique strokes are curved.

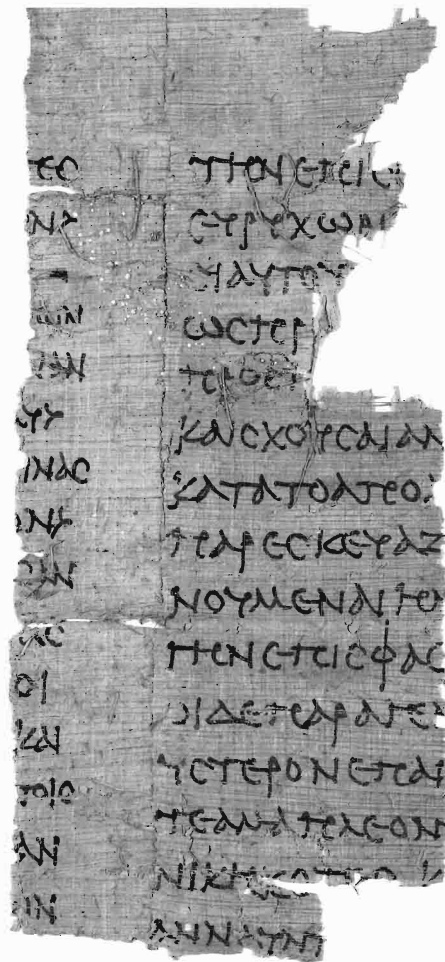
Col. II (§ 91.1-2):

<p>την επιε[τροφη]ν εκ την ευρυχωρι[αν και φθανου- σι αυτου]ε πλην μιας νε- ως προ[καταφυγουσαι 5 προς τ[ην Ναυπακτου και εχουσαι αν[τιπρωροι κατα το Απολ[λωνιον παρεσκευαζ[οντο αμυ- νουμεναι ην [εκ την 10 γην επι εφας [πλεωσιν</p>	<p>οι δε παραγειν[ομενοι υστερον επαι[ωνιζου τε αμα πλεοντ[ε]ς ως νε- νικηκοτεσ κ[αι την μι- 15 αν ναυν τ[ων Αθηραιων</p>
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85-91

85 (P.Oxy. 1635), datable between 44 and 37 BC, can be seen as a precursor of a style which became extremely common for both literary and documentary texts between the end of the 1st cent. BC and the beginning of the 2nd cent. AD. This is a fluent and rapid hand which here and there admits cursive forms and a tendency towards irregular patterns with the axis sometimes shifting from upright towards leaning to the right. Bilinearity is broken by P, Φ and sometimes A, B and I. The course of the fast-running pen alters the standard design of letters, such as A, in which the first two strokes are merged into a wide loop which then continues in a sharp right-hand bend into the diagonal descending from left to right, so that the design of this letter resembles that of a minuscule δ; the diagonal of Δ descending from top left starts before it meets the other diagonal; the middle bar of ε is often detached, but it can also appear in its cursive form, i.e. as a curve attached to, or rather descending from, the end of the semicircle (as in ΠΤΟΛΕΜΑΙΟΥ line 1, ΠΡΟΚΙΜΕΝΑΙ line 9, etc.); the last stroke of H and Π is curved; the arms of K are usually detached from the vertical; M has its outer strokes bending outwards and the inner ones merged into a curve; Ξ is drawn in one zig-zag movement (ξ); the descenders of P and Π are very long; the upper arc of C bends down towards the lower one.

In **88** (P.Lond. II 354), the steadier *ductus*, the smooth shapes, the regular pattern and the well-controlled bilinearity (broken only by Φ and Ψ) produce an elegant design with no contrast between thin and broader strokes and few ornamental elements. The shapes of individual letters differ little from those of **85**, except that A is in 2 movements, the middle strokes of M meet at an acute angle, and Υ has a longer vertical.



91

105 %

In both its letter forms and in its ductus and general appearance, the hand of **88** is very close to that of **89** (P.Amst. inv. 1), which likewise leaves little or no space between letters and sometimes links the crossbar of ϵ with the next letter: compare, for instance, $\epsilon\rho$ in $\Pi\alpha\tau\epsilon\rho\alpha$ in line 10 of **88** and in v. 354 of **89**. Both hands also share the tendency of the other hands in this group to bend the verticals outwards, especially those of H, M, N and Π .

Similar letter forms can be seen in **87** (PSI 11), but this hand is stiffer and less fluent, with uneven alignment of letters on the baseline; descenders often end in small hooks pointing left or right. The inconsistent design of some letters, such as A (which appears in 3 strokes with horizontal middle bar, or in 2 movements with the first two merged into a loop, or in one movement as in contemporary informal hands) may be due to the scribe's inexperience. By comparison with the even more cursive hand of **90** (P.Oxy. 278) of AD 17 and mid-first century hands, such as P.Oxy. XXV 2435 (Turner, *GMAW*² 57), one can assign **87** to the first half of the 1st century AD.

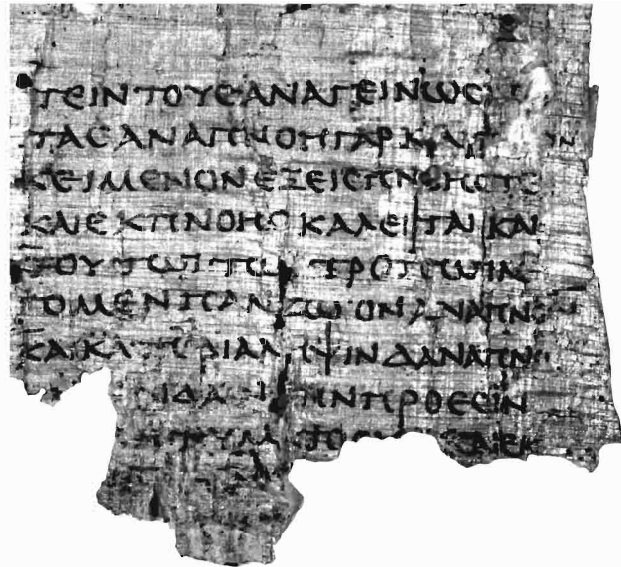
The letter forms of **91** (P.Oxy. 225) are very similar, particularly to those of **85** and **88**. This hand is more fluent than that of **87** and shows a very regular design: again, bilinearity is broken only by P and Φ , the loop of A is flat, sometimes even "blind", Υ has a marked vertical stroke. This hand must be contemporary or not much younger.

92. P.Herc. 1012 [Napoli, Bibl.Naz.] ed. E.Puglia, *Demetrio Lacone, Aporie testuali ed esegetiche in Epicuro* (Napoli 1988): Demetrios Lakon, *Opus incertum*. Remains of 74 cols.; average height of col.: 16.5 cm. II^{ex} BC. LDAB 606; A.Martin, *CronErc.* 33 (2003) 43-52 (on col. XL 1-13: Emped. fr. 142); G.Del Mastro, Demetrio Lacone e la correzione degli errori nei testi epicurei (P.Herc. 1012, col. XXXIV 3-9 Puglia), *CronErc.* 34 (2004) 206-7. Image: Cavallo, *Libri ... Ercolano* pl. 26.

Small to medium-sized, very regular, skilled hand, bilinear except P, Φ and Ψ; some upright and oblique strokes appear slightly curved; small serifs at the ends of some descenders; € sometimes seems to lean back; the central part of M forms a deep curve touching the baseline, the outer strokes divaricate in elegant curves.

Col. LXIV:

ΤΕΙΝ ΤΟΥΣ ΑΝΑΓΕΙΝΩΣΚΟΝ
 ΤΑΣ ΑΝΑΠΝΟΗ ΓΑΡ ΚΑΙ ΤΟ^{ΩΝ}
 ΚΕΙΜΕΝΟΝ ΕΞ ΕΙΣΠΝΟΗΣ ΤΕ
 ΚΑΙ ΕΚΠΝΟΗΣ ΚΑΛΕΙΤΑΙ ΚΑΙ
 5 ΤΟΥΤΩΙ ΤΩΙ ΤΡΟΠΩΙ ΛΕ
 ΓΟΜΕΝ ΠΑΝ ΖΩΙΟΝ ΑΝΑΠΝΕΙΥ
 ΚΑΙ ΚΑΤΑ ΔΙΑΛΗΨΙΝ Δ ΑΝΑΠΝΟ
 ΗΝ [Λ]ΕΓΟΜΕΝ ΤΗΝ ΠΡΟΕΣΙΝ
 ΤΟ[Υ] ΠΝΕΥΜΑΤΟΣ Η[Υ] ΚΑΙ ΕΚ
 10 ΠΝ[ΟΗ]Ν ΦΑΜΕΝ
 ΤΡΟ[ΠΩ]Ι
 - - -

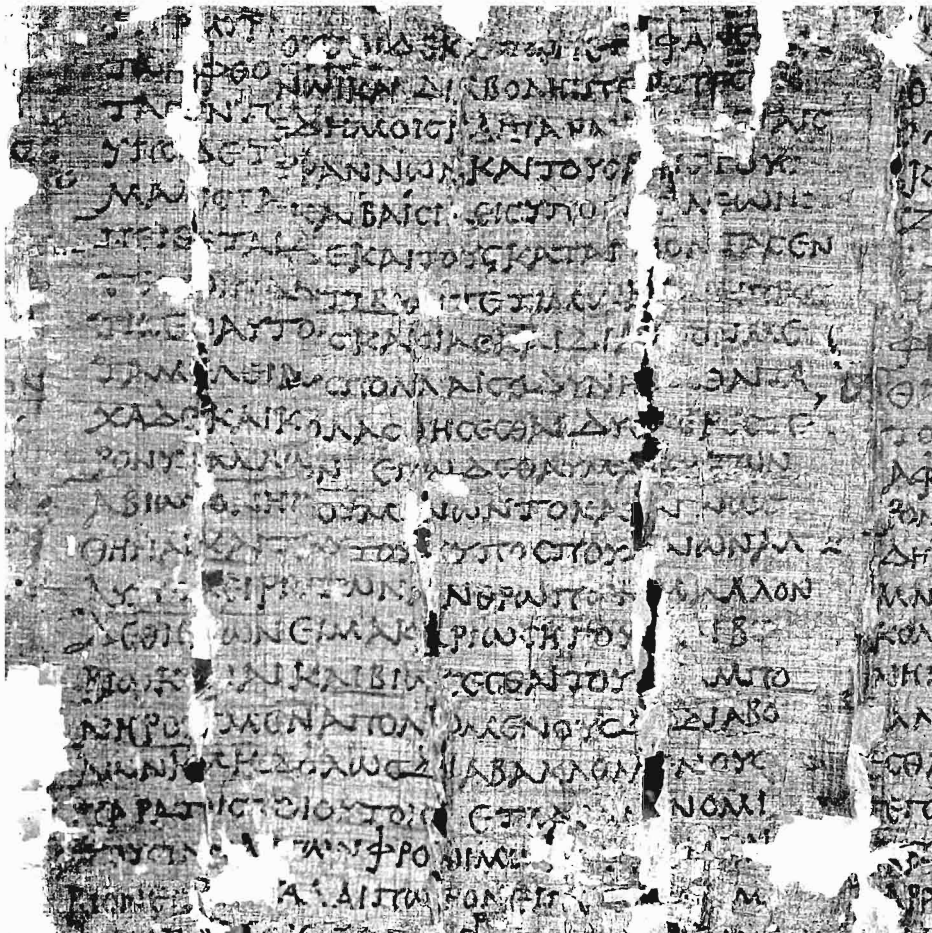


92
100 %

93. P.Herc. 1050 [Napoli, Bibl.Naz.]: Philodemos, *De morte* IV (VH IX, 13-48: 118 cols., of which 39 preserved, with end title), column height c. 20 cm. I BC. LDAB 3617; T.Kuiper, *Philodemus over den dood* (Amsterdam 1925); Norsa, *Scr.lett.* pp. 13-15; M.Gigante, *Parola del Passato* 10 (1955) 357-389 (cols. 37-39); idem, *Ricerche filodemee* 115-234 (cols. 1-9); Cavallo, *Libri ... Ercolano* 15 and 52; G.B. d'Alessio, *ZPE* 134 (2001) 39-40 gives a concordance of the layers ("sezioni") and volutions ("volute") in the frames of P.Herc. 1050 and four other Herc. rolls. Image: Norsa, *Scr.lett.* pl. 6 (cols. 37-39); Cavallo, *Libri ... Ercolano* pl. 28 (cols. 34-36); idem, *Calamo* pl. 21a (cols. 34-35).

Small, very regular hand, bilinear except B, Φ and Ψ; sometimes the verticals of K and P descend a little below the line. Apart from I and P, most letters conform to a square pattern, some (B, € , H, Θ) to an oblong one, only ω is broader than tall. Verticals often have small serifs at their feet or at both ends; the first two elements of A join at a sharp angle, sometimes in a loop (A); the second diagonal of Δ starts well before it meets the first (Δ); the middle bar of € is nearly always detached, but rarely touches the following letter; the cross-bar of T is straight (not split). Section-end is indicated by a short space and paragraphos. Letter deleted by suprascript dot (col. 35 line 5).

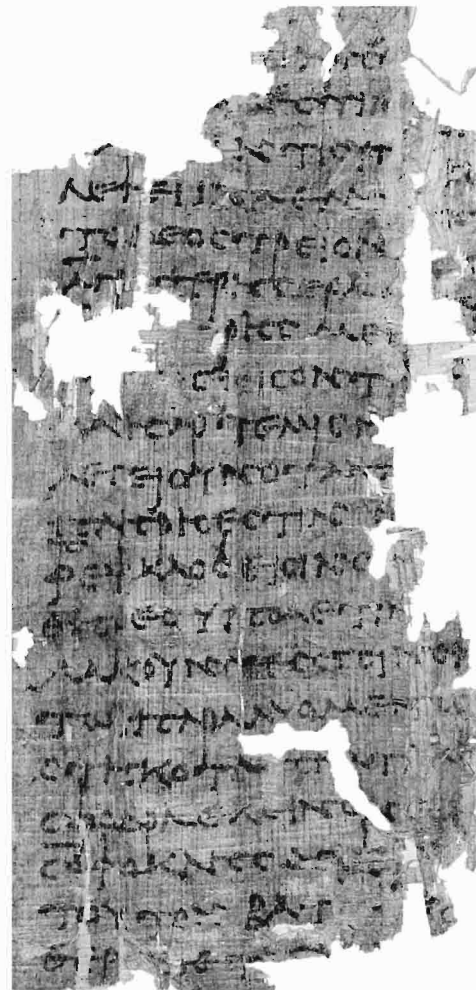
Col. XXXV 1-20: γαρ μυριους οιδε και των επιφανεστα
των φθονωι και διαβοληι περιπεσον
τας [ε]ν τε δημοις και παρα δυνασταις
υπο δε τυραννων και τους αριστους
5 μαλιστα και βασιλεις υπο βαϊσιλεων
πειθεται δε και τους καταγνοντας εν
τε τω παντι βιωι τετιμωρηθαι προσ
της εν αυτοις κακιας και δι αυτον με
ταμελειαις πολλαις οδυνησεται τα
10 χα δε και κολασθησεται δυσχερεστε
ρον υπ αλλων εγω δε θαυμαζω των
αβιωτων ηγουμενων το καταγνωσ
θηναι και ταυτ ουχ υπο σπουδαιων αλ
λ υπο χειριστων ανθρωπων μαλλον
15 δε θη[ρ]ιωιν ει μακαριως ηγου[ν]ται βε
βιωκεναι και βιωσεται του[ς] παμπο
νηρο[υ]ς μεν απολυομενους δε διαβο
λων η μηδ ολωσ διαβαλλομ[ε]νους
20 παρα τοις τοιουτοις ετι δ ει μη νομι
ζουσιν [κ]α[ι] των φρονηματα[των] του



94. P.Louvre E 7733v ed. K.Wessely, *WS* 13 (1891) 312-323: Epigram on an oyster: riddle with commentary; Sophocles, *Inachos* ? = *TrGF* IV 966a; Diphilos, fr. 59 (*PCG* V p. 86). 15.5 x 36.8 cm. Memphis/Saqqara, I^{ex} BC/AD Iⁱⁿ. MP 2911; LDAB 7038; (Verso of MP 2579 = **55**); F.Lasserre, *QUCC* 19 (1975) 145-76; M. Marcovich, *ZPE* 23 (1976) 219-220; P.J.Parsons, *ZPE* 24 (1977) 1-12; *SH* 983-984; L.Sbardella, *Filita: Testimonianze e frammenti poetici* (Roma 2000) 179-184. Image: *QUCC* 19 (1975) facing p. 160; Cavallo, *Calamo* pl. 19b (col. II).

Medium-sized, rounded, semi-documentary hand, roughly bilinear but irregular in size and spacing; bilinearity is broken not only by P and Φ, but also sometimes by B, I and the descenders of T and Υ. Ligatures are frequent; serifs appear at the feet of some descenders (P, T, Υ, Φ); the split cross-bar of T starts from a hook; the middle part of A is sometimes absorbed into its first diagonal (Λ, e.g. in παρα- in line 16). Paragraphos, high stop + blank space mark quotations (col. II 12).

Col. II (left-hand part):] ..ερ.[
] ...ρη ..[
], εστιν[] ..[
] ..[...] ντιςυπ[] ..[
 5 λεγει ινα ελδ[] ..[
 το] δε οστρειον ..[
 Αγρο]τερης εραταις [
 αγροτ]ερης με ..[
 ..[...] ε .. ιςοντ[] ..[
 10 και η Αρτεμις []
 λεγει ουν οταν []
 πληρη εστιν θ[]
 φεψαλοι ειςιν ο[ι] ς[]
 θηρες υπο δε τινω[]
 15 λακουντες σπιθηρ[ε]ς[]
 τω Παραλυομενω []
 ετηκοτα[] ... τ[] ..[]
 ςφοδρα εκεινον ...[]
 Σοφοκλης δε Ιναχ[ωι] (?)
 20 τουτον βατ ...[]
 θερ ... ετ ...[]



94

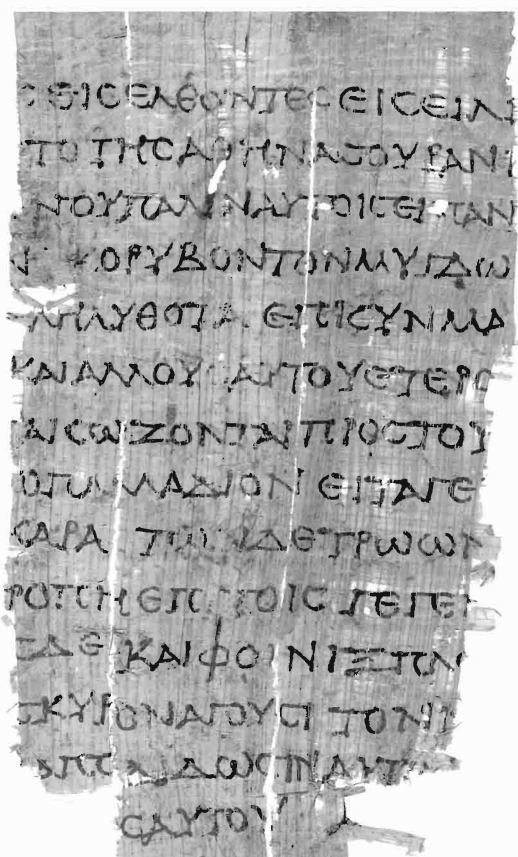
110 %

95. P.Ryl. I 22v ed. A.S.Hunt: *Homerica* (events at Troy after the death of Achilles); 19.2 x 7.4 cm; Oxyrhynchos, AD I. MP 2457; LDAB 4329. P.Yale II 110 [New Haven, Yale Univ., Beinecke Library inv. 420] is part of the same papyrus, cf. W.Luppe, 'Das mythologische Fragment P.Yale 110', *Pap. Lup.* 1 (1992) 267-271. On the recto is "an account dating probably from the latter part of the first century B.C." (Hunt). Image: P.Ryl. I pl. 5; P.Yale II pl. 10; Cavallo, *Calamo* pl. 20a.

Fairly large, very regular bilinear hand; even P is confined between the two parallel lines, only the vertical of Φ exceeds them. Nearly every letter except I, P and the wide ω, would fit into a square, even the circle of Φ, only H, Θ and Υ can be marginally taller than wide. Serifs at the extremities of some verticals and the arms of K and Υ; short horizontal dashes, sometimes curved, point left at the feet of P, Υ, T and of the first vertical of Π. A often combines its first two strokes in a tiny loop (Λ). A pause is indicated by a short blank space in l. 14.

Lines 1-14:

Οδυσσευς και Διομηδη]ς εισελθοντες εις Ειλι[ον
 οπως εκκληψωσιν] το της Αθηνας ουραι[ον
 αγαλμα τουτο Ελ]ενου παλιν αυτοις ειπαν[τοσ
 αποκτεινουσι]ν Κορυβον τον Μυγδω[νοσ
 5 τον εκ Φρυγιασ] εληλυθοτα επι συμμα[χι
 αν τοις Τρωσιν] και αλλουσ αυτου ετερο[υσ
] και σωζονται προς του[σ Ελ
 ληνας εχοντες] το παλλαδιον ειτα γε[ινε
 ται τουτοις μεν] χαρα των δε Τρωων [...
 10] τροπη επι τοις γεγεν[η
 μενοις Οδυσσεν]ς δε και Φοινιξ πλε[υ
 σαμενοι εις την] Σκυρον αγουσι τον Ν[εο
 πτολεμον ηδη κα]ι αποδιδωσιν αυτω [Οδυ
 σευς τα οπλα του πατρο]ς αυτου α[.....



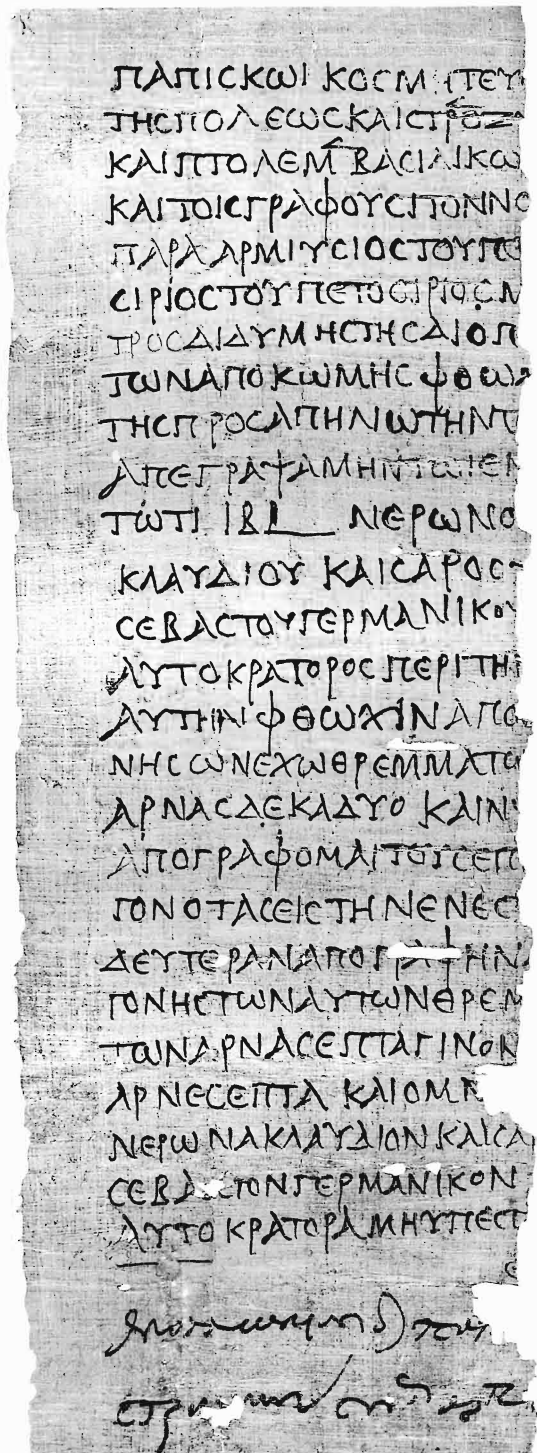
95

89 %

96. P.Oxy. II 246 [Cambridge Univ.Lib., Add.ms. 4053] edd. B.P.Grenfell & A.S.Hunt: Declaration of sheep. 34.3 x 8 cm. AD 66. W.Chr. 247. Image: P.Oxy. II pl. 7; Norsa, *Scr.lett.* pl. 7b; Roberts, *GLH* pl. 10c; Menci, *S&C* 3 (1979) pl. 5.

Fairly large, somewhat stiff hand, bilinear except for P, Φ and Ψ. Most letters conform either to an oblong or (more rarely) to a square pattern; apart from O, which is sometimes small; they are quite regular in size and shape, less so in their spacing. The middle bar of E is always detached and often reduced to little more than a dot; A combines its first two strokes into a sharp angle (Λ), sometimes in a small loop (Λ, e.g. in l. 10 απεγραφαμην), or even into one oblique stroke descending from right to left (l. 23 αρνες). M is in 4 movements, with the inner ones at a sharp angle almost touching the baseline. Serifs are rare.

Lines 1-27: Παπισκωι κοσμητευσ[αν]^τ
της πολεως και στρ^α Οξυ[ρυγ]^χ
και Πτολεμ^α βασιλικω[ι γρ^α
και τοις γραφουσι τον νο[μον
5 παρα Αρμιυσιος του Πε[το
σιριος του Πετοσιριος μη
τρος Διδυμης της Διογε[νους
των απο κωμης Φθωχ[ιος
της προς απηλιωτην το[π^α
10 απεγραφαμην τωι ευ[εσ
τωτι ιβ L Νερωνο[ς
Κλαυδιου Καισαρος
Σεβαστου Γερμανικου
Αυτοκρατορος περι την
15 αυτην Φθωχιν απο γ[ο
νης ων εχω θρεμματω[ν
αρνας δεκαδυο και νυ[ν
απογραφομαι τους επι[γε
γονοτας εις την ενεστ[ωσαν
20 δευτεραν απογραφην α[πο
γονης των αυτων θρεμ[μα
των αρνας επτα γινου[ται
αρνες επτα και ομν[ω
Νερωνα Κλαυδιου Καισαρ[α
25 Σεβαστου Γερμανικου
Αυτοκράτορα μη υπεστ[αλ^θ
ε[ρρω



92-96

The hand of **92** (P.Herc. 1012), of the end of the 2nd century BC, represents a style of bookhand which is common at Herculaneum and in Egypt from the turn of 3rd to the 2nd century BC to the end of the 1st century AD, the so-called "round/square style" (see above, p. 128). Letter forms are regular and carefully drawn, upright, on a consistent square pattern; they show faint contrast between broad and fine strokes and occasionally small hooks pointing left at the ends of some verticals. The middle bar of A, which forms an acute angle with the first stroke, slants at different degrees; in some cases, it is almost horizontal (e.g. in ANAΓΕΙΝΩC col. 44 line 1). In A, Δ, Λ, the diagonal descending from top left starts just before it meets the other diagonal; Θ (with middle bar reduced to a dot) and O are often marginally taller than broad; H and Π have elegantly curved second verticals; there is also curvature in the outer elements of M, while the inner ones merge into a curve; P and Φ only slightly extend below the baseline.

In **93** (P.Herc. 1050), assigned to the middle or the third quarter of the 1st century BC, one can see the mature stage of this style: the tracing of the letters is fine and uniform, the pattern and spacing are consistent; serifs at the ends of verticals are frequent. The first and second strokes of A and Δ sometimes intersect to form a small loop (A : ΔC col. 35 line 15; also Z : ZOYCIN line 20); the middle bar of C is detached and quite short.

The hand of **94** (P.Louvre E 7733v) can be assigned to the Augustan period on account of its affinity to **93**, even though it appears to have been written more rapidly and less regularly, with less regard for bilinearity, which is broken by the descenders of P, Y and sometimes I. The first two strokes of A are so close together that they practically merge into one; the second verticals of H, N and Π are well curved.

95 (P.Ryl. 22), written on the back of a document of the second half of the 1st century BC, should be dated to the first half of the 1st century AD. This is a tightly controlled and somewhat stiff hand of the same type, with frequent ornamental hooks but also with some unevenness, which betrays the influence of other contemporary styles: the alignment of the letters on the baseline is not always quite regular, and not all the letters are quite upright, although bilinearity is almost perfectly observed.

96 (P.Oxy. 246), dated AD 66, also shows this style, written in a fine hand with some irregularity in the shapes of letters (e.g., O is often small and sometimes raised, as in ΑΥΤΟΚΡΑΤΟΡΟC l. 14). The first and second strokes of A sometimes intersect to form a small loop, as in ΑΠΕΓΡΑΨΑΜΗΝ in l. 10; the middle bar of C is detached; the middle elements of M meet at an acute angle; the loop of P is very small, and the arms of Y often bend downwards at the ends (as in ΑΡΜΙΥCΙΟC line 5).

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