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LITERATE EDUCATION IN CLASSICAL ATHENS[1]

In the study of education, as in many more travelled regions of Classical scholarship, democratic Athens is something of a special case. The cautious formulation is appropriate: in the case of education, surprisingly few studies have sought to establish quite how special Athens was, and those which have, have often raised more questions than they answered. The subject itself is partly to blame. The history of education invites comparison with the present day, while those planning the future of education rarely fail to invoke the past. The place of Classical Athens in European culture has ensured a place for Athenian education in almost every debate from the relation between education and democracy to the value of education *versus* training, and as the original champion of causes as varied as mass education, co-education, and the national curriculum.[2] Desirable as it is to be in demand, such treatment is not calculated to produce the most circumspect account of the subject. The study of education is further hampered by the fact that our knowledge of Athenian culture is so vibrant and diverse in some ways and so partial in others. Plato and Aristophanes present a vivid fictional picture of education in the late fifth century. If we add a few passages from Xenophon and Aristotle, a large number of vases depicting men, women, and children reading, playing the lyre, and doing athletics, and one or two archaeological finds of an educational appearance, it is tempting to take the result as a clear portrait of a society at school.

A number of historians have taken this syncretic approach. The results, however, do less than justice to the diverse genres, content, and opinions of the sources, not all of which mean the same thing by 'education', include the same ingredients under the title, or hold the same opinion of them.[3] Nor do most modern accounts explore the taxonomy of education: which elements of it are deemed to belong together and which apart, which elements may or must be completed before others, and which, if any, are compulsory by law or convention.

Taxonomy is the focus of what follows: specifically, the development, out of traditional *mousikê,* of a type of education based on literacy. I have examined the content of this type of education in detail elsewhere, arguing that such evidence as we have points to an increasingly systematized repertoire of reading, writing, and arithmetical exercises being taught in increasingly well-defined institutions in the course of the fourth century.[4] My questions here are broader: is there a form of

[1] Prof. John Crook and Prof. Malcolm Schofield read an earlier version of this paper and their acute eyes and trenchant pens, as always, saved me from many errors.

[2] H. I. Marrou, *Histoire de l'Education dans l'Antiquité* (7th edn, Paris, 1975), pp. 142ff.; P. von Schmitter, 'Compulsory education at Athens and Rome?', *AJP* 96 (1975), 276–89; F. A. Beck, *Greek Education* (London, 1964), pp. 80ff.

[3] W. Jaeger, *Paideia*, trans. G. Highet (3 vols, Oxford, 1939–45) deals brilliantly with intellectual culture as a whole but only incidentally with education. R. Pfeiffer, *History of Classical Scholarship*, vol. I (Oxford, 1968) likewise only touches on education as an institution. Marrou (n. 2) deals with every form of education, including physical and professional, in necessarily summary form, but his is still the best monograph on the subject. Others include F. A. Beck (n. 2); J. Bowen, *A History of Western Education*, vol. I (London, 1972); K. Freeman, *Schools of Hellas* (London, 1907).

[4] T. Morgan, *Literate Education in the Hellenistic and Roman Worlds* (Cambridge, 1998), pp. 9ff.

education in Classical Athens which is based on literacy or for which literacy is necessary? If so, when does it first appear? What other elements of education belong with it? How does the pattern change over time? From the Hellenistic period right through the Roman empire we can observe, in literary and non-literary sources, something approaching a 'curriculum' surrounding literate and numerate education and definably separate from physical, technical, and professional forms of education.[5] How far did the Hellenistic period inherit its educational taxonomy from Classical Athens?

In comparison with many studies, this is a narrow definition of the problem, and it leads to a narrow use of the sources. There cannot be many written remains of the Classical period which were not, at that time or afterwards, used in one broadly pedagogic context or another. The concern here, however, is education perceived as a discrete social or cultural activity—not the sort of learning which happens everywhere all the time but that, like gymnastics, which can be defined by place, participants, or activities and which people opt to do rather than do inevitably as members of a culture. By the time of our earliest fifth-century sources this concept of education already exists—we constantly find pupils going somewhere special to learn something in particular from a certain teacher. In order to track its progress I have excluded a great deal of information about literary culture in Athens as a whole. When our sources are so limited, this may sound paradoxical, if not perverse. But it is necessary if we are to distinguish between education as a discrete phenomenon and its background culture—especially the fringe activities, so disproportionately represented in our sources, of a small number of intellectuals and professionals.

TAXONOMIES OF LITERATE EDUCATION

I have suggested that by the fifth century something definable as 'education' in this narrow sense already existed. The concept of 'education based on literacy', however, makes its first appearance in sources from the latter half of the century. It must be admitted that our information for this period is not good. There is little we can say about any part of the fifth century without backdating fourth-century practice, which we must avoid doing if we are to disentangle what little we do know from the seductive mass of what we should like to know. Such evidence as there is has its own problems, being dominated by Aristophanes in satirical mode and Plato in archaizing one. It is encouraging, however, to find these two often in agreement.

The debate of the two *logoi* in Aristophanes' *Clouds* (889ff.) provides some of our earliest explicit testimony about literate education. According to the *kreittôn logos*, gymnastics and the *kitharistês* were enough for the young in 'the old days'; now, the

[5] Cicero, *De Or.* 1.42; Philo, *De Cong.* 11–12; Quintilian, *Institutio Oratoria* 1 *passim;* cf. papyri from Graeco-Roman Egypt in T. Morgan (n. 4). Elements of the 'curriculum', identified with the phrase *enkyklios paideia* from the Hellenistic period onwards, include reading and writing, reading Greek and Latin authors, grammar, rhetoric, arithmetic, geometry, and sometimes music. I exclude philosophy, rhetoric in its most advanced stages, and astronomy on the grounds that educational material cannot be distinguished from that used by professionals, scholars, etc. The term 'curriculum' refers only to perceived regularity in the contents and order of exercises; it is intended to have no implications for other institutional features of education. Contrary to, e.g., R. C. Lodge, *Plato's Theory of Education* (London, 1947), pp. 11–12, there is no indication, at least in the vocabulary of the sources, that education *per se* was always defined as an institution separate from the rest of society.

young abandon gymnastics and lyre-playing in favour of Euripides.[6] The *kitharistês* taught *mousikê*, which probably included poetry, singing, dancing, and playing an instrument, and which evidently also had an ethical dimension.[7] Nothing suggests that literacy was fundamental, or even central, to this group of disciplines, though it might be included among them. As the *kreittôn logos* describes education, it could be entirely oral (*Knights* 188–93).

Nevertheless, tensions are apparent in this traditional taxonomy. Euripides is in some way ousting the lyre from education. Later in the play, Pheidippides recites Euripides at a symposium instead of singing Aeschylus or Simonides, who he claims are out of fashion (1361ff). The difference is not here expressed as a difference between oral and literate modes of culture, but elsewhere in Aristophanes, Euripides is specifically associated with reading and reading with the decline of gymnastics.[8] Aristophanes also implies rivalry between gymnastics and *mousikê* when he makes Socrates forbid the customers at his *phrontistêrion* to practise gymnastics (*Clouds* 412ff.). We need not assume that literacy in Athens had increased dramatically in the mid-fifth century to appreciate these signs of stress, but they imply the increased mediation of culture, and therefore very likely also cultural education, through the written word.[9] The way in which oral and literate modes of culture co-existed intimately at this period is captured in Plato's account of Socrates' early self-education. Socrates describes himself both talking to wise men, seers, teachers, poets, and craftsmen, and reading the works of Anaxagoras.[10]

Plato, in two passages describing the mid-fifth century, makes the same distinction between *mousikê* and physical training. In the *Meno* (94b) he claims that Pericles taught his sons horsemanship, wrestling, *mousikê* and the other *technai*. Thucydides is described as teaching his sons wrestling and 'everything else', which probably includes

[6] 'The old days' is supposed to refer to the Marathon generation; since the *Clouds* was first performed in 423 and appears to have a contemporary setting, there is room for two generations between 'then' and 'now'. When did what Aristophanes is calling the 'new education' come in? Sophists did not appear in Athens before *c.* 460 and later so it is unlikely that the 'new education' was perceived to make much impact until the 440s and perhaps not much negative impact until after the death of Pericles in 429, when their influence on the conduct of politics became more obvious. We may not be far out if we regard it as a problem, if not strictly a phenomenon, of the last third of the century at most.

[7] Immorality is supposed to have increased. On the ethical uses of literature from pre-Classical times, see Marrou (n. 2), pp. 9–13; Pfeiffer (n. 3), pp. 3–15. Cf. *Knights* 987–95.

[8] *Frogs* 52–4 (Dionysus sits on deck reading the *Andromeda*); 1113 (everyone has a book in his hand and no-one practises gymnastics any more).

[9] L. Woodbury, 'Aristophanes' *Frogs* and Athenian literacy', *TAPhA* 106 (1976), 349–57; more plausible than F. D. Harvey, 'Literacy in the Athenian Democracy', *REG* 79 (1966), 585–635, whose argument—though not his evidence—tends to the conclusion that Athenian literacy was widespread. The fifth century sees a sudden spate of vases with reading scenes, but this, too, should be interpreted with caution. Overall such scenes are not many in number compared with, for instance, athletic, military, mythical, or domestic scenes. Many of them are among the most sophisticated paintings we possess, suggesting a wealthy audience. And the fact that reading scenes became a familiar icon in the early fifth century attests the literate revolution in society which accompanied the democracy (or even slightly pre-dated it); it does not attest widespread literacy in practice.

[10] *Apol.* 20d6ff., 26. This might be any time from about the 430s. But we should not take this as evidence of widespread reading of Anaxagoras or texts in general at this period. That anyone can read them—they only cost a drachma in the agora—sounds like the arrogant élitism of Plato talking. A drachma at the time represented at least a labourer's daily wage: Socrates might have spent a day's wages on a book, but not many would. N. Lewis, *Papyrus in Classical Antiquity* (Oxford, 1974), p. 132; cf. A. H. M. Jones, *Athenian Democracy* (Oxford, 1957), ch. 4.

some form of *mousikê* (94c). In the *Republic* (376e) education is said to follow the 'time-honoured distinction' between physical training and mental or moral training, under which Plato goes on to include improving poetry, music, mathematics, and dialectic.[11] The same division is made in the *Laws* (764c–e, 795d–e).

Other fourth-century writers make the distinction too. Aeschines (*Tim.* 9–12) refers to a law concerning the regulation of palaestrae on the one hand and schools, which have festivals to the Muses, on the other, with the implication that that distinction covers all the places where children might be educated outside the home.[12] For Isocrates human nature is twofold, mental and physical, and that natural dichotomy is reflected in the division of education into gymnastics and philosophy (*Antid.* 180–1). Aristotle appears to recognize the same duality when he writes that if the state will not provide education (as he thinks it should), fathers will have to go on providing *mousikê* and *gymnastikê*.[13]

In some of the same writers we find a separate distinction being made between practical or technical education and what we might call a 'liberal' one. Plato and Aristotle occasionally differentiate the education suitable for a free man and a private citizen from that of a *dêmiourgos*.[14] Elsewhere letters, *mousikê*, gymnastics, lyre-playing, or a combination of them are specified as the education suitable for *eleutheroi* or *idiôtai*.[15] Aristophanes plays with the idea in the *Knights* (1235ff):

'To which *didaskalos* did you go as a boy?'
'I was educated by blows in the slaughterhouse.'
'. . . What wrestling did you learn from the *paidotribês*?'
'To steal and perjure myself and look the other way.'
'. . . What *technê* did you have on coming to manhood?'
'Sausage-selling.'

The joke lies in the inappropriate nature of the sausage-seller's responses, from which we infer that a practical education, one that equips the pupil to survive and make a living in a hard world, is the reverse of what one would expect from *didaskaloi* and *paidotribai*. We cannot be sure on the basis of this passage whether professional training is aligned with banausic, or whether it forms a third dimension of liberal education. Professions such as medicine are often distinguished from banausic skills and recognized in our sources as requiring special training, but it is rare for such training to be discussed in connection with literate or cultural education. It seems most likely that both banausic and professional training are to be distinguished from literate-based education, which in turn reinforces the élitist image of literate and literary education with consequences to which we shall return below.

The turning-point for the place of literacy in education is marked in our sources in the early fourth century. The dyad *gymnastikê* and *mousikê* is joined, and gradually overtaken, by a triad consisting of *gymnastikê*, *mousikê*, and *grammata*. From their

[11] Plato is being deliberately archaic—elsewhere we see him in radical form. His ambivalent attitude to letters often leads him to ignore their importance.

[12] The age of this law is unclear, though there is no reason whatsoever to think it Solonic, as Aeschines would like us to do. Plato (*Crito* 50c4ff.) has a different interpretation of the supposed law of Solon about *paideia*, no more authoritative than Aeschines'.

[13] *N.E.* 1180a25ff.; *Pol.* 1337a34ff.

[14] *Protag.* 312a–b; Arist. *Pol.* 1337b23ff. dismisses *banausikê* education as cramping the intellect. Cf. Plutarch, *Eumenes* 1 on Eumenes of Cardia, who though poor received the education of an *eleutheros* in letters and the palaestra.

[15] Aristoph. *Kn.* 190–3; Plato, *Protag.* 312a–b; Xen. *Oec.* 4.2; Arist. *Pol.* 1332b12ff., 1334a23–4, 1337b4ff.; Plut. *Demos.* 4.3; *Solon* 1.3–4; *Eumenes* 1.1; *Phocion* 4.1–2.

earliest fourth-century appearance, *grammata*, originally 'letters', are associated with reading the poets and other writers.[16] We can see here the first step in a long process which culminates in the virtual exclusion of the 'musical' (in the modern sense) element in *mousikê*—playing and singing—from Hellenistic literate education.[17] During the rest of the Classical period, however, *grammata* and *mousikê* both claim to teach the poets and prose writers; how far they were seen as complementary and how far as rivals, we do not know.

Plato, writing in perhaps the 390s, backdates the triple division of education to the 430s, the dramatic date of the *Protagoras*. There he describes the education of Hippocrates (312a–b) as being under the supervision of a *grammatistês*, *kitharistês*, and *paidotribês*. Later in the dialogue Protagoras recounts how children learn their letters, read *(sic)* literature, and go to the *kitharistês* and the *paidotribês*, as if they are all separate activities (325e–326b). In the *Cleitophon* (407b–c) Socrates accuses the Athenians of thinking that children are well enough educated if they have *grammata, mousikê* and *gymnastikê*; what Socrates thinks should be added to these is not another subject but an education in virtue, permeating all the rest. A passage in the *Charmides* (159c) includes the exchange:

'Is it best at the *grammatistês*'s to write the same letters quickly or slowly?'
'Quickly.'
'And to read? Quickly or slowly?'
'Quickly.'
'And so to play the lyre quickly and to wrestle with agility is better than to do the one lazily and the other slowly?'
'Indeed.'

Letters and reading may or may not be separate elements of education here, but together they are described in triple formation with playing the lyre and physical education.

All Plato's dialogues have dramatic dates in the fifth century, for the sufficient reason that Socrates and most of the other characters who appear in them were either dead, fled, or disgraced by the 390s and later. We cannot therefore pin many chronological statements about the fifth century on Plato with any confidence: it is too easy for him to talk with knowledge of later events. If there is an exception, it may be

[16] Nowhere in the sources is it stated, as often assumed, that *grammata* constitute purely the earliest, mechanical stage of education and that once pupils begin to read literature it counts as *mousikê*. The distinction between the two is consistently blurred; reading literature is often referred to directly after learning to read and write with no indication of a change of discipline or teacher; *grammatistai* and *grammatodidaskaloi* both taught literature; later we have abundant evidence that lines from literature were used among the earliest writing exercises: Pl. *Prot.* 325d–326a; *Charm.* 159c; Isoc. *Antid.* 267; *Soph.* 10. A. D. Booth ('Douris' cup and the stages of schooling in Classical Athens', *EMC* 19 [1985], 275–80) argues on the too-slender evidence of the *Laws* and a doubtful passage in the *Protagoras* that pupils went first to the *grammatistês*, then the *kitharistês*. Across the range of references no such clear pattern emerges, though he is right to refute a simply synchronic interpretation of the Cup itself. The early Hellenistic inscription from Teos (*SIG* 3.578.8–20) which he cites in support of his argument is itself ambiguous; even if it clearly supported sequential teaching of letters and music it would be no help for the Classical period, since it is precisely the institutions of education which develop over time. The meaning of the inscription may be that letters are fundamental, so come first, while music is an optional extra; this would fit with the evidence of literary sources and papyri from the Hellenistic period onwards.

[17] 'Music' in later authors seems to refer to music theory rather than practice; it was relatively rare and probably confined to the very wealthy, being absent from schooltext papyri altogether. Singing could be used to teach vocal pitch in oratory, however; viz. Quintilian, *I.O.* 1.10.27.

the kind of statement made in passing about particular individuals such as Pericles or Thucydides: Plato may have had information, through tradition or aristocratic memory, about Pericles' actual practices. The speeches he gives to his protagonists in order to further the main argument of a dialogue are another matter. Aristophanes, writing in the 420s, nowhere gives any indication of a well-formed triple division in education such as appears time and again in Plato. We should probably date this development, therefore, to some time between the two writers: that is, around the end of the fifth century.

Other fourth-century writers take the triple division of education for granted. Xenophon states in the *Spartan Constitution* (1.10) that in other Greek states parents send boys to *didaskaloi* to learn *grammata*, *mousikê*, and what is done in the palaestra. Aristotle's analysis (*Pol.* 1337b23ff.) follows the same pattern—*grammata, gymnastikê*, *mousikê*, except that he adds the discipline of drawing, *graphikê*, an innovation apparently ignored by his contemporaries and later followed only by the philosopher Teles.[18] There is no reason to assume that the triple division of education ousted the binary one altogether—Aeschines' reference to the law which divides education into two implies that it was still serviceable in the 340s. But by the time the fourth century was under way the triple division was the more common.

At the same time we increasingly find the elements of education discussed separately and even with hints of mutual hostility. By around the end of the fifth century the divide between culture and physical education appears to be becoming, if not clearer, perhaps rather more barbed, with *grammata* lining up with what was formally *mousikê*. Our rare references to the 'old days' of the early and mid-fifth century generally mention *mousikê* and *gymnastikê* together, as though they were complementary elements of a single phenomenon. In the fourth century we find the first references to *mousikê* and *grammata* on their own. Socrates' school in the *Clouds* hints at what is to come.[19] At *Protagoras* 326cff. and *Euthydemus* 276a *grammata* and *kitharisis* are mentioned together but separately from gymnastics. In the *Republic* learning letters, poetry, and music are discussed individually but sharply distinguished as a group from gymnastics (376e1ff.). Isocrates in the *Antidosis* (266–7) specifies *grammata* and *mousikê* among intellectual subjects, which he distinguishes as a group from gymnastics. Of these writers only Plato expresses any interest in physical training, and even he is no supporter of the contemporary cult of athleticism.

By the early Hellenistic period, this trend will have developed to the point at which the 'musical' side is regarded as a wholly autonomous dimension of education, separate from gymnastics. By that time, too, *mousikê* and *grammata* will to a significant degree have parted company. We have seen how in Plato, Xenophon, and Aristotle letters take their place beside *mousikê* and *gymnastikê*, and how in the *Republic,* the *Laws,* the *Politics*, and Isocrates' *Antidosis* they are discussed as separate components of a general cultural or intellectual education. At the very end of the Classical period, if we can trust accounts which are themselves later still, we find a contrast made not

[18] Stobaeus, *Flor.* 98.

[19] Cf. a fragment of Sophocles (*P. Oxy.* 1083.1) in which a satyr chorus advertizes its suitability to marry a king's daughter: the members are accomplished not only in games, poetry, music, and dancing (the conventional components of *mousikê* and *gymnastikê*) but *also* in science and scholarship, which are evidently felt to be distinct—though whether because they are not a normal part of education or because they are a separate part of education is unclear. On verbal skill characterized as 'verbal wrestling' and an alternative in competition with physical prowess, especially in the Sophists and fourth-century writers, see D. O'Regan, *Rhetoric, Comedy and the Violence of Language in Aristophanes' Clouds* (Oxford, 1992), pp. 11–17, 39.

between *mousikê* and *gymnastikê* but between *grammata* and *gymnastikê*.[20] In the Hellenistic period and later, practical music (excluding the study of harmonics) no longer appears as part of the literary education based on literacy.

What of the other elements of the 'intellectual' or 'cultural' side of education in this development? Our information is scanty. The curriculum of Socrates' *phrontistêrion* in the *Clouds* (143ff., 637–871) is a medley of all the teachings of all the Sophists available in Athens at the time including natural science, mathematics, geometry, astronomy, literary criticism, meteorology, grammar, rhythm, dialectic, and rhetoric.[21] There is no suggestion in any other source either that it was normal or even possible to try all these disciplines, or that any one of them constituted a normal or necessary part of the education of an *eleutheros* in the way that *mousikê* and *gymnastikê* did. Most of the Sophists only practised one or two disciplines and the wealthy minority of young men who had finished their *mousikê* and *gymnastikê*[22] and had an intellectual turn of mind seem normally to have attached themselves to one or two teachers for whatever course took their fancy. There is no evidence that even rhetoric was taught universally to the wealthy at this time, in contrast with the central position it later attained in *enkyklios paideia*.

The exception to this picture of deregulation was probably mathematics. Among non-literary elements of education, our ignorance of mathematics and mathematical education in the Classical period constitutes a problem in a class of its own. References to mathematical education outside the *Clouds* and Plato's *Republic* and *Laws* are rare, yet it is likely that where literacy is, numeracy is also. It is too useful and too closely bound up with the practical functions of literacy not to have gone hand in hand with it, and I know of no example of a literate society which could not read or write numbers. The *Clouds* illustrates the paradox neatly. As the play opens Strepsiades is doing his accounts, but there is no mention that old-fashioned education includes mathematics and the only mathematics done in Socrates' school is very advanced and technical. There is, disappointingly, no mathematics in the discussion of education at the end of Aristotle's *Politics*. Even Plato in most of his dialogues does not refer to the teaching of mathematics except by a few Sophists (e.g. *Protag.* 318e–19a). At *Republic* 536d–e he stipulates that all children in his utopia will learn elementary arithmetic in infancy. Earlier, at 522b–c, Socrates has introduced mathematics as the complement of physical and literary training, to the surprise of his interlocutor, who cannot think of anything which is not covered by those two subjects and clearly has not considered mathematics. The implication is that mathematics was not a regular part of Athenian education. The famous mathematical illustration in the *Meno* does not show that elementary mathematics was regularly taught to anyone, only that it was known by a few.

Among the scattered and inadequate references outside the works just mentioned are *Antidosis* 259–61 and 266–7 where Isocrates writes that astronomy, geometry, letters, *mousikê*, and so on, while not as useful as their teachers claim, are nevertheless a good grounding for rhetoric because they sharpen the mind. These passages are

[20] Plautus, *Bacch.* 420ff., probably after Menander. The rest of the description is much like e.g. Aeschines, *Tim.* 9–11. Cf. Plutarch, *Eumenes* 1. Aristotle claims (*Poet.* 6.1450b18–19) to prefer reading drama to seeing it.

[21] Cf. G. B. Kerferd, *The Sophistic Movement* (Cambridge, 1981), pp. 34–41 and 42ff., though he presses Pl. *Protag.* 318d7ff. too far (p. 38) in deducing a 'curriculum' of sophistic studies. The passage makes as much sense and fits the other evidence better if taken as rhetorical hyperbole.

[22] Plato, *Protag.* 318e–19a: Sophists teach *technai* just when young men think they have escaped from learning *technai*.

almost unique; nevertheless, it is likely that it is Isocrates who represents actual practice in this case. Nor is this assertion quite insupportable. The same phenomenon is observable in writings on Hellenistic and Roman education: references to mathematics are rare and discussions of it abbreviated, though it generally appears in summaries of the whole *enkyklios paideia*.[23] Nevertheless, we can assume that it formed an important adjunct to literate education because among schooltext papyri from Graeco-Roman Egypt, which display the same taxonomy of education (the same elements in the same order) as élite writings of the period, mathematical schooltexts not only appear but are as many in number as all literary-type texts put together.[24] The likely explanation of this misfit between literary texts and papyri is that mathematics is a casualty of the particular works of educational theory which have survived to us. Most of the literary sources for education below the specialized level of the sophists or the philosophers are interested in literary criticism, oratory, or philosophy. They probably take a degree of mathematical education for granted; they occasionally mention it; but they do not have a professional interest or expertise in it so they never discuss it at length. It is a matter for regret that we have no work by a mathematician which includes descriptions of elementary mathematical education, if such ever existed.[25] But though we should not on that account assume that mathematics was not taught, we should perhaps assume that it was regarded as being outside the normal taxonomy of literate education in the Classical period, as it was later. Perhaps, like reading and writing in the early fifth century, it had a reputation as a practical skill, not one with widespread cultural implications and hence not one which invited discussion in our sources.

So far, we have identified two strands in education in the earlier fifth century, *mousikê* and *gymnastikê*, neither of which required learners to be literate, but under the first of which literacy could have been taught, perhaps at first mainly for practical purposes, though how widely it was we have no means of knowing. Our first indications that *grammata* and reading were beginning to challenge singing and recitation within *mousikê* come from Aristophanes; by the early fourth century the process had accelerated so much that education was commonly described in three parts: *gymnastikê*, *mousikê*, and *grammata*. Apart from the diminution of what we should call the 'musical' element of reading and reciting literature and the fact that *grammata* involve an elementary stage of learning to read and write, there does not seem to have been any clear distinction in content between *grammata* and *mousikê*; the distinction depends rather on the amount of reading involved and indicates that literacy was becoming more important to the 'cultural' side of education. It would be rash to assume, however, that reading literature was the only or even the main purpose of literacy in any sector of society by the fourth century. It is time to look in more detail at what are described as the uses of literacy among the educated.

THE USES OF LITERATE EDUCATION

The most obvious stimulant to the explosion of literacy in Classical Athens was

[23] E.g. Philo, *De Cong.* 25–18; Quintilian, *I.O.* 1.10.34ff. Note, though, both writers concentrate on the spiritual benefits of geometry and astronomy.

[24] There is no comprehensive catalogue of mathematical schooltexts but many are included in G. Zalateo, 'Papiri scolastici', *Aegyptus* 41 (1961), 160–235 and *MPER* n.s. XV.

[25] Euclid does not count, though he was used in education, at least occasionally (e.g. *P.Mich.* 3.143: bk. 1 definitions 1–10 [3rd century C.E.]) because he is usable material; he does not discuss or reflect on mathematics.

democracy, followed by empire.[26] Athenians used the written word in temples, in the *boulê*, and the law courts; to mark boundaries, publish laws, and ostracize politicians; to record dedications, contracts, accounts, banking transactions, and the tribute of their allies; to conduct personal, professional, and diplomatic relations. The evidence for all these and more is all around us in the shape of inscriptions and literary texts.[27] It is odd, therefore, that educational writings rarely refer to the many practical or political uses of literacy.

Aristophanes provides a rare direct comment on the relationship between *grammata* and democracy. In a passage in the *Knights* the sausage-seller, pressed by Demosthenes to enter politics, says he hasn't much *mousikê*—barely his letters—and is assured that you don't need *mousikê* to run the state nowadays (188–93). We learn from this that letters are part of *mousikê*, but Aristophanes stops short of saying that one needs literacy to run, much less take any other part in, the democracy. It is *mousikê* as a whole that Demosthenes says used to be necessary to run the state. If *grammata* had been the crucial element of *mousikê* in this context we might have expected Demosthenes to assure the sausage-seller that if he knew his letters he knew enough, rather than saying that one didn't need any *mousikê* these days to run the state. Demosthenes is harking back to a time when the democracy was dominated by men of general culture—no doubt aristocrats like Pericles—but he makes at best a weak and imprecise connection between democracy and literacy.

In Plato's *Lysis*, Lysis is portrayed writing letters and reading for his parents (209b), activities which combine the practical with the cultural. In the *Laws* literacy is taught to all, presumably because it is of some political use (e.g. 810a). Xenophon implies that education has political implications in the *Spartan Constitution* (1.10) but he does not spell them out, merely observing that the practices of most states include literacy. In the *Memorabilia* Socrates teases Euthydemus for keeping a library of books and thinking himself learned in consequence. What, Socrates asks, is he going to learn from them? Medicine? Mathematics? Architecture? Astronomy? Rhapsody? (4.2.9ff.) This implies, interestingly, that by the 350s it was considered appropriate to use books in learning practical or professional skills,[28] but Socrates' point is that Euthydemus cannot learn from books what he ought most to desire, namely virtue. In the *Oeconomicus* (9.10) literacy is regarded as essential to domestic management—albeit of a highly aristocratic household described in idealistic terms.[29]

For Aristotle in the *Politics*, *grammata*, along with *graphikê*, are 'useful for life' (1337b23ff.). The presence of *graphikê*, which Aristotle subsequently praises because it enables us better to appreciate the works of artists (1337b25ff.), rather undermines the otherwise practical sound of this statement; better is 1338a16ff., where *grammata* are assessed as useful for *oikonomia*, *mathêsis*, and *politikai praxeis pollai*. The first corroborates Xenophon's claim that literacy is useful for domestic management, but its scope is limited in the same ways. The last is another of the rare explicit statements in our sources about the political functions of literacy. Aristotle admits, however, that

[26] By distinguishing between practical and cultural uses of education I do not imply that culture was not functional.

[27] Harvey (n. 9); R. Thomas, *Oral Tradition and Written Record in Classical Athens* (Cambridge, 1989).

[28] Though Aristotle denies it at *N.E.* 1181b1ff.

[29] On the (atypical) education of Ischomachus' wife and on the education of women in general, see S. B. Pomeroy, *Social and Historical Commentary on Xenophon Oeconomicus* (Oxford, 1994), pp. 38–9, 267–9; S. G. Cole, 'Could Greek women read and write?', in H. P. Foley (ed.), *Reflections of Women in Antiquity* (New York, 1981), pp. 219–46.

while education ought to be both state-run and common to all, whatever the constitution, it is neither common nor state run in Athens in his day (*Pol.* 1337a22ff.). So while it is encouraging to have Aristotle's statement that letters are useful in politics, we do not know how important he thought them to the fourth-century democrat, nor how many of those active in politics he would have expected to be literate.

In sum, we have few references in educational literature to the domestic uses of literacy and even fewer to its political uses, not one of which can be linked straightforwardly to the political situation in Athens at the time.[30] For the great many assumptions about its uses in law, diplomacy, trade, the empire, and so on, which we make partly *a priori* and partly on the basis of speeches, inscriptions, and other archaeological material, we are forced back to deductions based on statistical assessments of levels of literacy. Much work has already been done in that direction and I shall not add to it here.[31] I turn instead to the positive things the sources have to say.

Most authors take a much livelier interest in the cultural uses of literacy. We have already seen *grammata*, *mousikê*, and *gymnastikê* characterized as the education of the free man and private citizen, and literacy described in the fourth century as the normal preliminary to reading the poets or other writers. There are intimations of it in Aristophanes; in the fourth century references multiply. Plato's Protagoras begins his description of education (more likely that of Plato's day than Protagoras' own) with children learning their letters and being give the works of good poets to read, memorize, and imitate (*Protag.* 325e–326a). Isocrates approves of the elements of *paideia*, including learning to read and write and reading literature, on the grounds that they increase the pupil's aptitude for studying oratory (*Antid.* 259–67). This passage is also notable for implying that learning letters and the other elements of early education cause a cognitive change in the pupil, increasing his aptitude for oratory. The idea that literacy produced cognitive change was to have a long history in educational theory; the fourth century sees its first clear exposition. In *Against the Sophists* (10ff.) Isocrates complains that Sophists confuse *logos* with *grammata*, suggesting that in some circles at least by his time literacy was seen as a necessary preliminary to speaking or reasoned discourse of any kind.[32] Aristotle says much the same when he states (*Pol.* 1338a16ff.) that *grammata* are useful, among other things, for *mathêsis*—that is, for the rest of education. The chronological development in

[30] Three myths of the invention of the alphabet current in the fifth and fourth centuries uniformly stress the practical uses of writing (Gorgias, *Pal.* 30/Stobaeus, *peri grammaton* 7; Aesch. *P.V.* 459–62; Pl. *Phaedr.* 274d1–2), which suggests that the absence of practical uses of literacy in educational texts does not reflect the attitude of society as a whole. Cf. many statements of the practical uses of literacy to be found in schooltext papyri: e.g. *P. Bour.* I; *Mon. Epiph.* 2.615; D. Hagedorn and M. Weber, 'Die Griechisch-Koptische Rezension der Menandersentenzen', *ZPE* 3 (1968), 15–50 (several quotations). Knowing your letters can be a help in life, a means of livelihood, and a source of wealth as well as wisdom. Many of these quotations are certainly or putatively taken from lost New Comedies. There is no reason, however, to assume with von Schmitter (n. 2), pp. 276–89 that such texts depend on a degree of literacy in their entire audience, much less with A. Burns ('Athenian literacy in the fifth century B.C.', *JHI* 42 [1981], 371–8) that the scattered references to letters in fifth-century sources indicate that the vast majority of Athenians were literate from the end of the sixth century.

[31] K. Robb, *Literacy and Paideia* (Oxford, 1994); R. Thomas (n. 27); W. Harris, *Ancient Literacy* (Cambridge, MA, 1989); cf. M. Beard *et al.*, *Literacy in the Roman World*, *JRA* suppl. 3 (Ann Arbor, 1991); A. E. Samuel, *The Shifting Sands of History* (London, 1989), p. 35.

[32] Isocrates must mean 'literacy' by *grammata*, not simply being able to speak. *Grammata* are not used of the spoken word except occasionally in grammatical theory. Everyone can speak and the Sophists did not teach speaking in a non-technical sense, so the point is meaningless unless the distinction lies between literate education in general and reasoned discourse in particular.

these passages is clear, from the fifth century where learning letters is given no specific consequences, via the late fifth and early fourth centuries where literacy is said to lead to reading literature, to the mid-fourth century where learning to read and reading literature are necessary preliminaries to a whole range of higher studies, intellectual and political.

This development, however, was not uniformly welcomed. The encroachment of literacy on culture came in for some stringent criticism, and from many of the same authors as we have already cited. In the fifth century the mathematician Oenopides was already credited with the opinion that knowledge should reside in the heart, not on the shelf.[33] Antisthenes in the late fifth or early fourth century took the opportunity to edify a friend who had lost his *hypomnêmata,* telling him that knowledge should be graven on the soul, not the writing tablets.[34] Socrates made the same point to Euthydemus.[35] Plato prefers learning orally from a teacher to reading texts and devotes part of the *Phaedrus* to the subject.[36] In the *Laws* universal literacy is taken for granted but Plato gives no indication that any of the later stages of education are performed through the written word, even at the most advanced level where it is hard to imagine otherwise. In the *Republic* he does not even bother to legislate for basic literacy, though it is difficult to imagine the philosopher kings, at least, being trained without it.[37] Xenophon, in archaizing and idealistic mood in the *Cyropaedia,* stresses Cyrus' training in justice, self-control, and physical fitness and ignores his literacy (13.11); elsewhere he claims that the Sophists' *grammata* do not, as they assert, have the power to produce virtue (*Cyneget.* 13.1–3).

The increasing mediation of culture through the written word was not, of course, as universal, inexorable, or complete as its critics sometimes made out. Poetry continued to be performed and sung in public and private until the end of antiquity.[38] Teachers did not go out of business, any more than it is likely that they will be rendered obsolete by information technology or distance learning. But some people clearly felt it worth while to protest, and the most striking thing about these protests is the identity of the protesters. All those whose objections to the increasing prevalence of reading survive

[33] Diels–Kranz 1.41.4. [34] Diogenes Laertius 6.5.

[35] Xen. *Mem.* 4.2.9–10 and above p. 54.

[36] Though for the view that Socrates only warns against reading, not condemns it, see G. R. F. Ferrari, *Listening to the Cicadas* (Cambridge, 1987), ch. 7; cf *Leg.* 810e–811b: 'those who have heard [*sic*] much have learned much'.

[37] Perhaps because he has no interest in educational skills, only in the virtue they produce, and reading and writing are morally neutral; on which see J. Annas, *An Introduction to Plato's* Republic (Oxford, 1981), pp. 83ff.

[38] Isocrates, who in other passages is keen to stress the importance of literacy, can still say in *To Nicocles* (11–14) that it is *listening* to poets which will teach his future ruler what he needs to learn. On the continuing importance of orality and personal relationships in teaching into the fourth century, see Robb (n. 31), pp. 197ff., 214. Scepticism towards the written word and the pedagogical text was still lively in the Roman period (L. Alexander, 'The living voice', in D. Clines *et al.* [edd.], *The Bible in Three Dimensions, JSOT* suppl. 87 [1990], 221–47). Nor, for that matter, was the idea that poetry and other things could be read as well as heard and recited new to the Classical period. Most obviously, we possess in written form a great deal of poetry from before the fifth century, beginning with Homer. Peisistratus' campaign to educate the Athenians, according to Plato, included not only compelling rhapsodes to recite Homer at the Panathenaea but also setting up herms inscribed with moral maxims in the countryside. Vases of the early fifth century show people reading; where the writing is decipherable it is almost always poetry (H. Immerwahr, 'Book rolls on Attic vases', *Classical, Mediaeval and Renaissance Studies* 1 [1964], 17–48; 'More book rolls on Attic vases', *Antike Kunst* 16 [1973], 143–7). References to pre-Classical literary criticism suggest something written. Cf. Marrou (n. 2), pp. 41–3; Pfeiffer (n. 3), pp. 3–15.

to us are intellectuals and/or aristocrats; all appear in favour of literacy in other passages of their works, where we have them, and what they claim to teach, or know, without the aid of writing is in many cases something extremely sophisticated and specialized. It is overwhelmingly likely both that they themselves were highly literate and that many, if not all their subjects were taught at least with the aid of the written word.[39] Why do they—sometimes—claim to object so strongly to writing?

The explanation of all these unexpected and apparently contradictory phenomena—the emphasis on the cultural uses of literacy at the expense of the practical, the increasing use of literacy in education, and the concomitant suspicion of it—may lie in the context in which such passages occur. All appear in works of political theory: Plato's *Republic* and *Laws,* Aristotle's *Politics,* Xenophon's *Cyropaedia,* Isocrates' *Panegyricus* and *Panathenaicus.* In these works education is presented as a preparation for political life and the disciplines which are placed at the top of the educational ladder are always those most important for political leadership: philosophy in the case of Plato and Aristotle, rhetoric in Isocrates. The relative value of different educational disciplines is therefore related to the person who learns them and his position in the state. In all these authors, literary culture is downgraded in relation to other disciplines to make the other disciplines seem higher, harder to attain and accessible to fewer learners.

When criticizing literate education and culture authors take one of two lines. The first is to inflate the definition of culture. By the mid-fourth century, therefore, we find Isocrates and Aristotle writing of literacy and reading literature, not indeed as irrelevant, but as only necessary preliminaries to more advanced forms of education. At the same time they deny that rhetoric, philosophy, and so on can be learnt by any means *other* than a literate education. In other words, in order to consider himself culturally educated the pupil must be literate, but being literate and reading literature in themselves no longer amount to being educated. The pupil must go on to higher things in order to be regarded as really educated.[40]

Isocrates and Aristotle frame their ideas in different literary forms: Isocrates in published orations, Aristotle in the *Politics.* Nevertheless, their prescriptions are not widely different and we can take their arguments together on the grounds that both are interested in how things ought to be under an idealized democracy—not a utopia, but not simply Athens as it is at the time. The effect of both their prescriptions is to limit access to education, and to limit it on the twin grounds of ability and wealth. Obviously a pupil must have a high degree of ability to complete the education either describes. The able, however, will be taken from the ranks of the wealthy because neither author, even when recommending that the state should organize education, ever suggests that education should be free.[41]

According to Aristotle and Isocrates, therefore, the cultural uses of education are not alternatives to the practical ones. They are thoroughly practical in the political context, because they equip individuals to act as political leaders, but they represent a practical training on a higher level than that required for signing documents or casting votes or doing accounts. Both authors, as political theorists, are concerned to control those who, within the framework of a democracy, have access to political power. Both

[39] Not perhaps virtue, at least on their own claims, but certainly maths, oratory, etc.

[40] At the same time merely being able to read and write was downgraded as a skill and we have comments such as 'he can barely read', meaning 'he's a boor', and 'he's either dead or a teacher of letters' (A. D. Booth, 'Some suspect schoolmasters', *Florilegium* 3 [1981], 1–20.)

[41] *Pol.* 1337a11ff.; *Antid. passim.*

use cultural education as a regulatory mechanism, arguing that education gives individuals the tools they need to become good political leaders, and limiting access to education to those who are wealthy, able, and educated. Simply being able to read and write, in the scheme of Aristotle and Isocrates, will get an Athenian nowhere in politics. Both attempt to keep the power which both want to derive from literacy within the smallest possible group of people, and both promote the view (long familiar in Athenian politics) that within a democratic framework the state is best run by a narrow social and intellectual élite.

The way in which Aristotle and Isocrates formulate their hierarchies of educational disciplines had wider implications than their immediate political context required. Between them they sketch for the first time an educational system in which literacy is the fundamental requirement, Greek literature and literary culture an essential part, and political power the final aim. Isocrates expresses it most clearly. At *Antidosis* 296–7, he writes, 'Never forget that our city is regarded as the teacher of all able speakers and teachers . . .' on the grounds that Athens offers to the aspiring orator the best intellectual environment in Greece, the most subtle language and the most opportunities to practice and excel in public speaking. At *Panegyricus* 51 the point is made slightly differently: 'Our city has left the rest of mankind so far behind in thought and speech that her pupils have become the teachers of others, and the name "Greek" refers no longer to a race but to a way of thinking and those who share our education are called "Greeks" rather than those who share our nature.' In these passages Isocrates is not merely numbering cultural decoration among his achievements or the achievements of the city. He is claiming, for himself and for Athens, the first political ascendancy based on a system of literate cultural education. For the first time literacy and politics are not just co-existent or correlated but intimately, necessarily linked.

Plato's reaction to the growth of literacy is different but no less polemical.[42] Rather than relocating education and culture to increasingly élitist activities, Plato denies that texts can teach anything: what the learner needs, to learn important things like virtue, is an authoritative teacher. Superficially less élitist than Aristotle or Isocrates, this is in practice even more so, since the instruction in virtue which Plato describes in fact requires a high degree of literacy and a highly intellectual preparatory education. Moreover, Plato would regard few teachers as authoritative teachers of virtue—probably only Socrates, himself and some of his followers—and from what we know of the pupils they accepted, particularly in the Academy, the educational project was anything but democratic.

Both these approaches to education and politics make sense against a late fifth- and fourth-century background in which literacy was increasingly used in public life and was growing steadily among an ever-wider section of the population.[43] We have plentiful evidence of the increasing use of writing in every aspect of life through this period. Aristophanes jokes about the growth of cultural reading. Our evidence for libraries and the book trade is slender but there are indications that both increased in

[42] Though the *Republic* and *Laws* have much in common with and may have inspired some of the prescriptions of Aristotle or Isocrates, or both.

[43] Note that conflicting opinions are often expressed by the same writers in different contexts, reflecting the turmoil and divergence of opinion in society at large. Cf. Eurip. fr. 370 Nauck—from the writer whom Aristophanes characterizes as the far wing of the new education. A soldier, returning from the wars, looks forward to spending his old age, 'unfolding the voice of the tablets which wise men recite'.

the late fifth and fourth centuries.[44] Increasing too were the numbers of written contracts, mortgage *horoi*, and written court pleas, and public archives were expanding both the quantity and range of the material they stored. The statesman and orator Lycurgus, in charge of public finance from 338 to 326, had the first official copies of the great dramas lodged in the public archives, where actors were compelled to consult them before staging new productions.[45]

Moreover, literacy was probably growing most among people by whom our literary sources, aristocratic, oligarchic, and intellectual as most of them are, feel worst threatened. Numerous studies have shown that the politically influential in the late fifth and fourth centuries were not likely to come from the ranks of the poor but from the moderately to very wealthy, and often from the *nouveaux riches*.[46] This period saw considerable social mobility based on wealth, with many families coming to (usually brief) political prominence after two or three generations of money-making in trade, manufacturing, banking, and similar occupations. As a group these *nouveaux riches* are the likeliest candidates to have acquired literate education, which would fit the fact that education has to be paid for, so is still unlikely to be available to the poor, and the fact that literacy overall remained very low in Classical Athens.[47] If such people acquired the political influence and the social and cultural armoury of the élite while retaining many of the political interests and attitudes of those lower down the social scale, it is not hard to imagine that they were no favourites of our authors. They need not have been very numerous at any one time—indeed, the evidence is that they were not—to have spread literacy beyond the bounds of the élite, to have used it for cultural and political leverage and to have incurred dislike for doing so. Cumulatively their impact on society and politics was vast; the response of élite intellectuals was proportionately vigorous.

Underlying all fourth-century writings is the assumption that whatever happens, literacy cannot be rejected or ignored. In Isocrates and Aristotle this assumption takes the strong form that it is necessary to be literate in order to acquire or practise even skills, such as rhetoric, which do not directly involve reading or writing. This development—placing literacy at the bottom of all cultural or intellectual education—is crucial to the history of education.[48] Difficult as it is to quantify and to date, and even granting that it never took over completely, its importance can hardly be overstated. It was one of the factors which made possible a sense of cultural community right across

[44] Ar. *Frogs* 943, 1114, cf. Harris (n. 31), p. 87, n. 6; *Birds* 1288; Xen. *Anab.* 7.5.14 appears to regard ships carrying many books as normal; on the fifth and fourth centuries, see the summaries of F. G. Kenyon, *Books and Readers in Ancient Greece and Rome* (2nd edn, Oxford, 1950) and E. G. Turner, *Athenian Books* (2nd edn, London, 1977).

[45] Thomas (n. 27), pp. 38–42. Note too the strong growth in the *authority* of the written text. On Aristotle's reading, see Strabo 13.608; Pfeiffer (n. 3), p. 67; cf. Eupolis fr. 304KA (cf. Lewis [n. 10], p. 74).

[46] E.g. J. K. Davies, *Wealth and the Power of Wealth in Classical Athens* (New York, 1981); M. H. Hansen, *The Athenian Democracy* (Oxford, 1991), pp. 266ff.; A. Boeckh, *The Public Economy of Athens* (London, 1842), pp. 116–23.

[47] Harris (n. 31), pp. 3–24.

[48] On Isocrates as 'the ancient author who more than any other establishes writing as a medium of political expression and activity', see the discussion of Y. L. Too, *The Rhetoric of Identity in Isocrates* (Cambridge, 1995), ch. 4. Cf. Pl. *Phaedr.* 264b7ff. where the organization of a speech is described as being ordered by logo*graphic* necessity—the requirements of correct speech are dependent on writing. This principle is implied, though never explicitly stated, throughout Aristotle's *Rhetoric* where proper speaking is characterized as the product of education (e.g. 1408a30ff.) and rhetorical education heavily based on literate-dependent grammatical analysis of language.

the Hellenistic, and later Roman world, in despite of all the boundaries of place, time, society, and ethnicity.

That being the case, it is ironic that the written record of the Classical period preserves no explicit reference to texts being used for teaching.[49] We have seen a large number of passages where letters are deemed the first step of a cultural education and passages where reading is described as teaching virtue,[50] or practical or professional skills,[51] or as being fundamental to later education.[52] These are all things which had traditionally been taught orally in Greek society and continue to be so taught in the fifth and fourth centuries. But though we see individuals reading texts with the aim of self-improvement, we never discover a Sophist, for example, actually recommending his writings to would-be pupils, nor does any teacher, not even Isocrates, ever state explicitly that he uses texts in teaching.[53]

There is no indication that at the time when the role of literacy in cultural education was first growing, if that was around the mid-fifth century, such teaching was felt to be in itself a social or political threat. That is not surprising if reading was still at that time confined to relatively few people—as we have suggested that it was, the expansion in reading coming not until the end of the century. The growth of literate culture and the growth of literacy in general can thus be seen as two separate developments, one confined largely to the élite and the other more widespread. But once the connection between reading and culture had been made it could be used by anyone as literacy spread. Accordingly, in the early fourth century we see a sudden rise in the concern of intellectuals and aristocrats about the status of education acquired from texts, leading in some quarters to inflation in the definition of culture and in others to claims that education is not really a matter of reading at all. Those who were increasingly reading for cultural purposes, we may assume, had begun to encroach on the status, and worse, the political authority of the élite. The problem was not, in fact, due to increase indefinitely: after the fourth century literacy rates did not continue to rise and literary culture and its associated disciplines remained the preserve of élites. But for a moment at least, in the early fourth century, it may have looked as if literacy and the culture, the status, and the power that it engendered might have been in danger of following Athenian politics into a state of radical democracy.

I began by referring to the importance of literate education in the Hellenistic period and later. The association forged by fourth-century writers between writing, social and cultural authority, and political power was to have more than local political consequences. (If indeed it had any significant consequences in Athens at all. There is little sign—even if there had been more time—of socio-political power reverting to

[49] In particular we have no indication whether sophists used the texts they wrote for teaching. The few descriptions of sophists teaching are always oral: cf. W. K. C. Guthrie, *The Sophists* (Cambridge, 1971), pp. 41–4; Kerferd (n. 21), pp. 28–33, though his statement 'It is clear that sample speeches . . . were provided for students to study and imitate' is only an inference. Xen. *Mem.* 4.2.9ff. (n. 27 above) implies that handbooks were used for teaching, but *contra* see Arist. *N.E.* 1181b1ff.: we do not find men becoming expert physicians by reading medical handbooks; they are only useful to those who are already experts.

[50] Plato, *Protag.* 325aff; *Hipparchus* 228b–229a; Xen. *Cyneget.* 13; that is the implication of Isocrates sending 'letters' of moral instruction (highly gnomic in form) to Nicocles, Nicocles' subjects, and Demonicus.

[51] Xen. *Mem.* 4.2.1. [52] Isoc. *Antid.* 259ff,; Arist. *N.E.* 1181b9ff.

[53] Two anonymous *technai* of the late fifth or early fourth century, *Airs, Waters, Places* and the 'Anonymus Iamblichi', may indicate that texts were already used for teaching: they share what may have been a stereotypical opening: 'Whoever wishes to learn . . . let him . . .' (Cole [n. 29], p. 86).

intellectual oligarchs as a result of the activities of Plato, Isocrates, or Aristotle. Outside Athens, of course, their influence was of another order.) The achievement of Hellenistic Greeks was to turn literacy and literate education into a state-encouraged instrument of socio-political regulation, which fed the bureaucracies of the Macedonian kingdoms and encouraged a sense of social and cultural identity among widely disparate peoples. In democratic Athens there was no need for such an instrument. Athens was a small state; the democracy could be run with limited literacy; Athenians suffered from no internal identity crisis. But though the status of education in the early Hellenistic kingdoms changed significantly, its contents and taxonomy did not. Those had all been put into place by the mid-fourth century.

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