

Chapter 1

The Technology of Writing in the Greco-Roman World

INTRODUCTION

To understand how Greco-Roman society made use of writing, we must first understand how written materials were produced, for the material and physical aspects of writing laid the foundation for communication. Indeed, as a technological process, writing is inconceivable without technology.¹ And since the implications of technology for interpretation are frequently neglected or taken for granted, interpretation can suffer. Tools are not neutral. Haas (1996, p. 21) warns, “Technology is implicated in every literate act, and to ignore this implication is to remain confused about the essential relationship of writing to technology, and about our relationship—as writers, as teachers, as scholars—to both of them”.² The tools and methods used to write constrain both writing and thinking. An interpreter must avoid either technological determinism or its opposite, instrumentalism.³

Because we remain in the dark about many issues, our conclusions must be tentative (Small 1997, p. 144); (Kenney 1982, p. 4); but as we begin to outline the writing process, it will become clearer how the technology of writing shaped and constrained communication in the Greco-Roman world. We are tempted to fill the gaps in our evidence and understanding by using what seems common sense, and since the technology of writing often is transparent to a writer, we tend to assume that our practices are universal and obvious. But this is not necessarily so. Frequently in what follows issues will arise that violate our common sense understanding of writing.

INSCRIPTIONS: A MODEL OF INTERACTING WITH WRITING

Discussions of writing materials in the ancient world normally do not consider inscriptions, probably because our eye unconsciously remains on the codex, book, paper, and the printing press.⁴ We assume that our own situation is the universal model. Yet in the ancient world, the most common forms of writing with which most people interacted

were inscriptions and engravings on coins. The Greco-Roman world was a literate society in the sense that, although most people were illiterate, everyone had to interact with writing.⁵

Who was literate in the ancient world? Harris's study of *Ancient Literacy* (1989) is well known. His general conclusion has stood strong scrutiny:

There was without doubt a vast diffusion of reading and writing ability in the Greek and Roman worlds, and the preconditions and the positive causes of this development can be traced. But there was no mass literacy, and even the level which I have called craftsman's literacy was achieved only in a certain limited milieu. The classical world, even at its most advanced, was so lacking in the characteristics which produce extensive literacy that we must suppose that the majority of people were always illiterate. In most places most of the time, there was no incentive for those who controlled the allocations of resources to aim for mass literacy (p. 13).⁶

The safest conclusion is that in major urban areas not more than fifteen percent of the population was capable of reading and/or writing.⁷ But the modern, western distinction between literacy and illiteracy should not be imposed on the situation. The ancient world attached no stigma to illiteracy, and the inability to read did not necessarily disadvantage the illiterate financially. "The stance of Greek and Roman governments toward illiteracy was one of casual indifference" (Hanson 1991, p. 162). Furthermore all social classes worked out ways to interact with writing and so the lines are fluid and at times inconsistent. Some folks' reading and writing ability extended only to writing their names, of which they were proud.⁸ Not only the upper classes wrote, although they were much more likely to be educated because they had time to send their children to school.⁹ As Small (1997)¹⁰ reminds us, most of our evidence comes from elites (see also Harris 1989, chapters 1 and 2). Yet slaves were often trained for the tasks of reading, taking dictation, and copying.¹¹ And even fewer women than men could read and write, though a famous image from Pompeii shows a young woman with stylus and wax tablet.¹² Ironically "One might almost say that there was a direct correlation between the social standing that guaranteed literacy and the means to avoid writing" (Bagnall 1995, p. 25).¹³ Elites had others to read to them and do their writing (see Pliny the Elder below). But even those in the lowest social classes could use the services of a village scribe to write letters, bills, or deeds for them—even if they could not read what the scribe had written for them.¹⁴

Inscriptions, either on stone or bronze,¹⁵ were ubiquitous, especially in cities. Like other forms of written Greek, they consisted of engraved lines of capital letters, with no division into words and no punctuation, although there sometimes appear word divisions with dots, but with no systematic approach.¹⁶

The most common sorts of inscriptions were epitaphs and epigrams, especially connected with funerary monuments. Dedications are the second most common form, and are found in temples, the agora, and other public spaces. Then follow decrees and royal/imperial letters and documents (Pleket 1996, p. 542). The range of inscriptions is quite diverse.

The earliest form of an inscription is the funerary memorial. The function of these monuments is “a public memorial of honour” (Thomas 1994, p. 40), and this honor aspect of inscriptions remains dominant. As Thomas concludes about later inscriptions, “So while these documents would also function to preserve or convey information, their public and visible nature is enlisted in a sense quite close to that of the memorial.” It is not so much the content of the writing that is important, but as Bowman and Woolf (1994, p. 8) argue, “What the text says may, in any case, not be the whole, or even the primary, point if most people could either not see the writing or could not read it anyway. Monumental texts may exercise power through their location in space and the way they look.”¹⁷

Because most inscriptions have survived apart from their contexts, there is a tendency to consider only what the inscription says, without recognizing its visual impact *in situ*.¹⁸ In this regard, the discoveries at Pompeii offer an important corrective, because the inscription and context are often preserved together. Franklin (1991), in a discussion of Pompeian inscriptions and graffiti, gives a good example of how these monuments function *in situ*:

Indeed, for all the major varieties of inscriptions, the most important reading was visual, not literate. Whether lapidary or parietal, the type of inscription was immediately clear to any passer-by from visual clues. For example, first one noted that it was an honorary inscription, for it was on an honorary gate and identified an impressive statue; secondly, a capable reader noted the name of the honoree, which could be read rapidly without stopping; finally the interested (normally an educated preserver of or striver for social status) could pause to decipher the detailed and abbreviated *cursus*. General cognition was not dependent upon reading ability (p. 86).¹⁹

Inscriptions are public, visual signs of honor and authority. “The use of inscriptions for power and display stands out dramatically: the name of the man who financed the erection or restoration of a building would be displayed prominently” (Thomas, 1994, p. 164).²⁰ Their content is secondary. This remains true in both the Greek and Roman contexts. The following two examples help illustrate the function of inscriptions.

Suetonius, in his description of Vespasian’s restoration of Rome following the great fire at the end of Nero’s reign, describes the emperor’s effort to restore “the three thousand bronze tablets which were destroyed with the temple, making a thorough search for copies: priceless and most ancient records of the empire (*instrumentum imperii*), containing the decrees of the senate and the acts of the commons almost from the foundation of the city, regarding alliances, treaties, and special privileges granted to individuals” (Suet. *Vesp.*, 2, 8.5). While bronze tablets may seem to us an odd way to store an empire’s archives,²¹ this “archive” was not meant primarily to be consulted, although it could be, but its very existence is what is important. These are not so much documents but memorials. The material, bronze; the place, Capitoline Hill; and the age of the inscriptions all attested to their authoritative character. That is why they are “*instrumentum imperii*.” When Julius Caesar removed a tablet from the Capitoline Hill, Cicero argued that he had cancelled several grants of Roman citizenship. As Thomas (1994, p. 165) maintains, “the removal of a bronze tablet seems to have been tantamount to a repeal of its written contents.”

Towards the end of his reign, Augustus left with the Vestal Virgins three scrolls, one of which was “an account of what he had accomplished (*indicem rerum a se gestarum*), which he desired to have cut upon bronze tablets and set up at the entrance of the Mausoleum” (Suet. *Aug.* 1, 101.5). These bronze tablets were then reproduced in stone and set up in various places around the empire. A nearly complete copy in Latin and Greek has survived from the temple of Augustus and Rome at Ancyra in modern day Turkey. From these stone copies *Res Gestae* has been reconstructed (Brunt and Moore 1967). This example illustrates the complex interaction between memory, writing, and honor. Augustus’ Mausoleum is his monument to his honor, to what will ensure his memory. *Res Gestae* posted at the entrance to the monument ties writing to inscription to monument. Reading it would have been difficult, but one visually sees the record

and knows that it honors Augustus. Copying *Res Gestae* in stone in both Greek and Latin and displaying it in various Temples of Rome and Augustus render it a sacred text.

Inscriptions, one of the most common forms of writing in the ancient world, remind us that writing is a way of exercising authority²² and that regardless of how many or how few people were literate, everyone in this society had to interact with writing and adjust to it. As Bowman (1994, p. 112) argues, even the portion of the population that was illiterate “lived according to rules and conventions established on the presumption that written communication was a normal and widespread form of regulating and ordering (in the broadest possible sense) its life.”

While inscriptions help us understand the social context of writing, manuscripts give evidence of writing in contexts more familiar to us, i.e., literary works. Like inscriptions they functioned in their public environment, and just as inscriptions can be misinterpreted when separated from their monumental context, so manuscript writing is easily misinterpreted when separated from its context.

THE TECHNOLOGY OF MANUSCRIPT PRODUCTION

At a technical level writing involves a device for inscribing and something on which to inscribe.²³ The choices are, of course, interrelated and both affect writing.²⁴

WRITING INSTRUMENTS

The choice of writing instruments was twofold: the metal (or sometimes ivory) stylus or the sharpened reed.²⁵ These two instruments account for the vast majority of manuscripts, although charcoal and chalk were occasionally used on wooden boards. The metal stylus was employed for writing on wax tablets. Often made of bronze, it was normally shorter than a modern pencil or pen. One end was sharp for the incision, while the other was flat for erasure. Writing on papyrus or parchment was done with a sharpened reed that became an ink pen.²⁶ The reed was normally prepared by the scribe, who would also prepare the ink. A knife was needed to sharpen the reed to a point and then split the sharpened end so as to hold and spread the ink. Ink requires both various substances and media for its manufacture, and inkwells or pots for the ink.²⁷ When writing with ink, a sponge was used for erasure.

WRITING SURFACES

Although the content of what one wrote was remarkably similar across the Empire (Bowman 1991, p. 130), writers wrote on whatever materials were readily available. In Egypt papyrus was most common, but in such far reaches of the empire as Britain and on the frontiers, wooden tablets made from local trees were employed.²⁸ Bagnall (1995, p. 10) points out that all the standard materials—ostraka, tablets, papyrus, parchment, etc.—were considered temporary by the ancients.²⁹ Furthermore, things were not always written in order to be read or consulted; sometimes the writing itself was of primary importance, as in the case of inscriptions.

OSTRAKA

Ostraka (broken pottery) were the cheapest writing surface and the most common. The found nature of this material would lead one to believe that it was used for unimportant things, but that was not always the case. The sheer number of ostraka that turn up in archaeological sites testifies to their widespread use. Cockle (1996, pp. 1082–3) lists tax receipts, orders, lists, notes, school exercises, letters, and religious texts; these are the same types of writing that are found on papyrus.³⁰ Ostraka were either incised, especially in Greece, or written on using pen and ink, as was typical in Egypt. A famous example involves their use for ballots used to expel (ostracize) citizens from Athens. Excavations there have turned up over ten thousand such ostraka, many with the same handwriting, indicating that they were either distributed by politicians to voters, or else voters who could not write got them pre-inscribed (Camp 2001, p. 56 with illustrations). Sometimes even an extended passage was written on ostraka. Diogenes Laertius reports that the philosopher Cleanthes was so poor he wrote on ostraka (Diog. Laet. 7.174).³¹

WAX TABLETS

The wax tablet is another relatively cheap³² writing medium and was widely and continuously used until the widespread availability of paper in the 18th century. Roberts and Skeat (1987, p. 11) provide a good description of the wax tablet:

It was commonly formed of two or more flat pieces of wood, held together either by a clasp or by cords passed through pierced holes; the central area of the tablet was usually hollowed slightly to receive a coating of wax, while a small raised surface was often in the centre to prevent the writing on the wax being damaged when the tablet was closed.

The tablets were normally made of wood, sometimes ivory, and tablets were bound together into diptych, triptych, etc. The largest number of bound tablets so far discovered is ten. The hollow tablet was covered with wax, normally dyed black (with pitch) or red, and the wax was inscribed with a metal stylus. The shape of the stylus and the character of the wax made for angular writing (Bischoff, p. 13).

The wax tablet is well attested in Greek. In the only passage in Homer that indicates the existence of writing, tablets are mentioned. The wife of King Proetus had fallen in love with Bellerophon but could not seduce him. So she deceived her husband by telling him that Bellerophon had tried to seduce her, so that the king would kill Bellerophon. He could not kill him,

but he sent him away to Lykia, and handed him murderous symbols, which he inscribed in a folding tablet, enough to destroy life (*Iliad* 6.168–9).³³

The Romans distinguished between *codex* or *tabula*—the two words are used interchangeably to refer to large tablets used for formal records—and *pugilaris*. The latter word, which means “something in the hand,” refers to a small, hand-held wax tablet. The so-called Sappho from Pompeii shows a young woman holding a stylus in her right hand with the tip to her lips in a meditative pose. In her left hand she holds a *pugilaris* with four leaves.³⁴

The wax tablet was very common in schools for taking dictation or notes and for making drafts, and it was widely used by government officials. While wax tablets appear to us as temporary, they were often used for official government³⁵ and business records. The wax tablet and the stylus were normal gear in the forum and other situations requiring writing. Suetonius notes that when Julius Caesar was attacked in the forum, “one of the Cascas stabbed him from one side just below the throat. Caesar caught Casca’s arm and ran it through with his stylus” (Suet. *Iul.* 82. 2). This use of the stylus as a weapon is not unique. For the literate, then, the stylus and wax tablet were likely common, even daily implements.³⁶

Because the vast majority of early New Testament manuscripts are on papyrus, we should not too easily dismiss the possibility that early drafts of New Testament writings were recorded on wax tablets. This is particularly the case since, as we shall see, writing often involved two people. For dictation, wax tablets were frequently used because of easy correction. Although they concern a student, Quintilian’s remarks on this point are interesting:

It is best to write on wax owing to the facility which it offers for erasure, . . . we must leave blank pages that we may be free to make additions when we will. For lack of space at times gives rise to a reluctance to make corrections, or, at any rate, is liable to cause confusion when new matter is inserted. . . . Space must also be left for jotting down the thoughts which occur to the writer out of due order, that is to say, which refer to subjects other than those in hand. For sometimes the most admirable thoughts break in upon us which cannot be inserted in what we are writing, but which, on the other hand, it is unsafe to put by, since they are at times forgotten, and at times cling to the memory so persistently as to divert us from some other line of thought. They are, therefore, best kept in store. (*Inst.* 10.3.31–33)

Pliny the Younger's description of his uncle's writing and research habits is well known, but again it accents the place of the wax tablet. Responding to Baebius Macer's request for all his uncle's works, Pliny describes his uncle's working habits. When he was resting, a book would be read to him "from whence he made extracts and observations, as indeed this was his constant method whatever book he read" (*Ep.* 3.5). This process of a book being read and his taking notes appears to be his normal process. Even while he was being rubbed down following his bath, "he was employed either in hearing some book read to him, or in dictating himself. In his journeys, as though released from all other cares, he found leisure for this sole pursuit. A shorthand writer, with book and tablets, constantly attended him in his chariot, who, in the winter, wore a particular sort of warm gloves, that the sharpness of the weather might not occasion any interruption to his studies." When in Rome, he was carried in a chair so that this process could continue. He even upbraided his nephew for walking and so wasting time! All of this reading and note taking produced a hundred and sixty scrolls of abstracts or excerpts, written in a small hand on both sides.³⁷ These were the foundation on which Pliny the Elder built his scholarship. While Pliny tells this story to indicate his uncle's prodigious work habits, it also points out that research and composition is a multi-person project. Someone reads aloud, while another person takes notes or dictation on wax tablets. As we will see, this process of two people involved together in writing continued until the fourteenth century.

PAPYRUS

The other two major options for writing material were papyrus and parchment.³⁸ Of the two, papyrus was more available and less expensive—although since a roll cost two or three days labor, it was not

cheap (Bagnall 1995, p. 13). The reeds that constituted the raw material were grown in Egypt and then manufactured into scrolls.³⁹ Pliny the Elder has an elaborate description of the process of preparation, and a number of his comments are important for our discussion.

Before we leave Egypt we shall also describe the nature of papyrus, since our civilization or at all events our records⁴⁰ depend very largely on the employment of paper [papyrus]⁴¹ (*HN* 13.21.68).

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The process of making paper from papyrus is to split it with a needle into very thin strips made as broad as possible, the best quality being in the centre of the plant (13.23.74).

...

Paper of all kinds is 'woven'⁴² on a board moistened with water from the Nile, muddy liquid supplying the effect of glue.⁴³ First an upright layer is smeared on to the table, using the full length of papyrus available after the trimmings have been cut off at both ends, and afterwards cross strips complete the lattice-work. The next step is to press it in presses, and the sheets are dried in the sun and then joined together . . . There are never more than twenty sheets to a roll (13.23.77).

...

Roughness is smoothed out with a piece of ivory or a shell, but this makes the lettering apt to fade as owing to the polish so given the paper does not take the ink so well, but has a shinier surface (13.25.81).

...

The common kind of paste for paper is made of fine flour of the best quality mixed with boiling water, with a very small sprinkle of vinegar. . . . Afterwards the paper is beaten thin with a mallet and run over with a layer of paste and then again has its creases removed by pressure and is flattened out with a mallet (13.26. 82–3).

Pliny's description indicates the amount of work and care necessary in the manufacture of papyrus rolls, and thus accounts for its expense. He also indicates the emperor's concern for and involvement in the production of papyrus, for the government was the largest user of this important product (Bagnall 1995, p. 13). The two finest grades of papyrus were named after Augustus and his wife Livia (13.23.74). Claudius (emperor 41–52 CE) set a new standard for the finest grade of papyrus:

The reason was that the thin paper of the period of Augustus was not strong enough to stand the friction of the pen, and moreover as it let the writing show through there was a fear of a smudge being caused by what was written on the back, and the great transparency of the paper had an unattractive look in other respects. Consequently the foundation was made of leaves of second quality and woof or cross