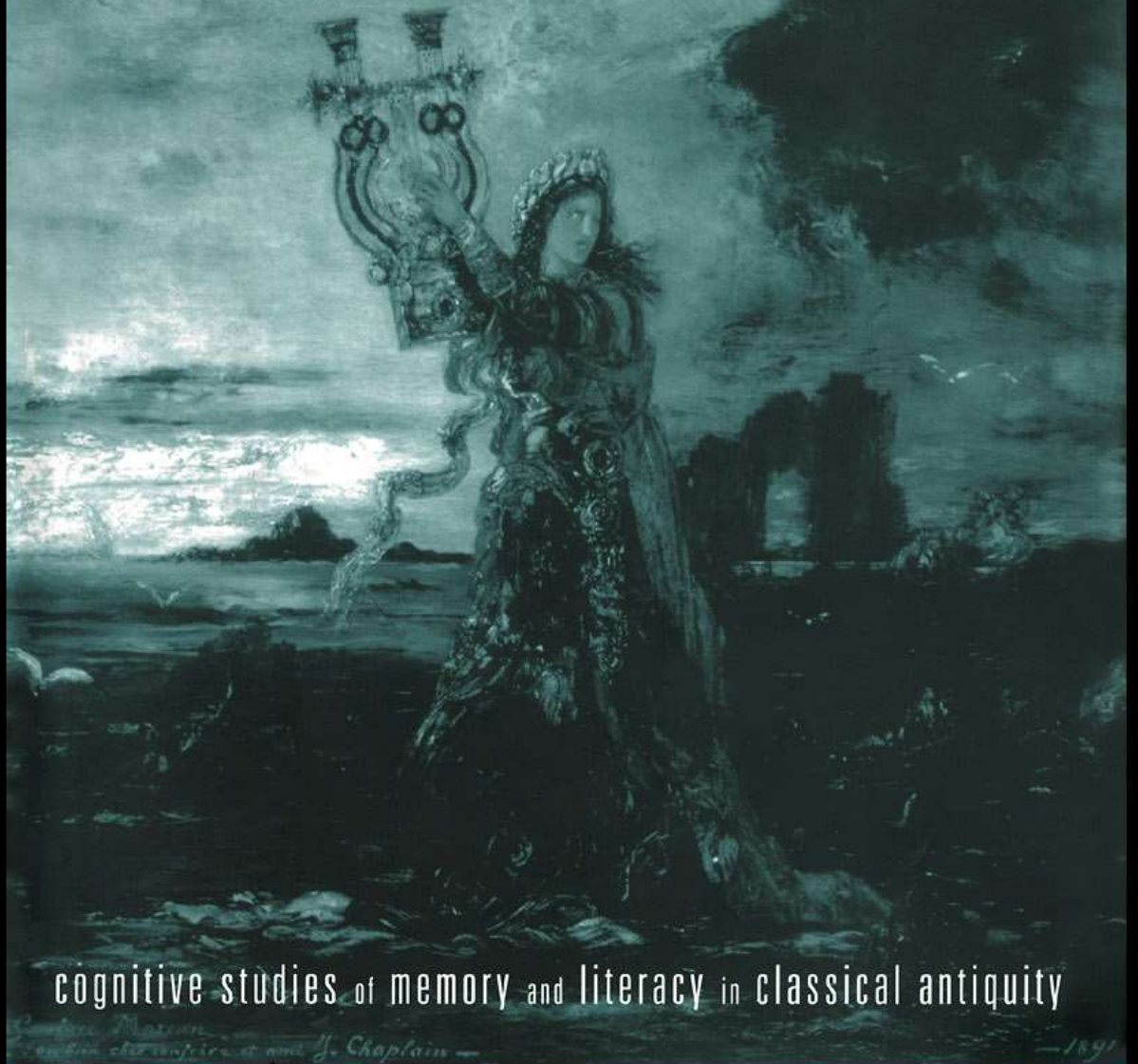


# WAX TABLETS *of the* MIND



cognitive studies of memory and literacy in classical antiquity



JOCELYN PENNY SMALL

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*Jocelyn Penny Small*



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*For Lance and Pam*

*forsan et haec olim meminisse iuvabit.*

Perhaps one day it will be pleasing to remember these things.

Vergil, *Aeneid*, 1.203

Write it on the memory wax tablets of your mind.

ἦν ἐγγράφου σὺ μνήμοσιν δέλτοις φρενῶν

Aeschylus, *Prometheus Bound*, 789

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## PREFACE

Once upon a time, all too many years ago, I started to write a conventional art historical book on time and space in pictorial narrative from classical antiquity. Somewhere along the way I had the ‘brilliant’ idea that you could not have a sense of time without memory. That Aristotle also thought of the same idea is merely, in Robert Merton’s astute words, anticipatory plagiarism.<sup>1</sup> The important thing is that I have been ‘side-tracked’ ever since, though I have every intention of returning, more or less, to the original topic. In the meantime I have decided to keep all discussion of pictorial aspects in this book to a bare minimum for two reasons. First, they deserve a book-length study of their own. Second, I hope that a narrower focus will make my argument easier to follow.

It is, as always, a great pleasure to acknowledge those who have aided and abetted me. First and foremost, I am very grateful to Rutgers University. The University supported me with both research funds and a faculty leave and a half. Without that time off this book would have taken even longer to finish. I am also very appreciative of the encouragement I have received during the whole project from Ryoko Toyama, the Director of Alexander Library. I thank the graduate students in the Department of Art History for being willing guinea pigs and for inviting me to give a presentation in their annual symposium.

I am grateful to the following people for inviting me to lecture, while the project was *in medias res*: Roger Bagnall at Columbia University; William A. P. Childs at Princeton University; A. A. Donohue at Bryn Mawr College; Gloria Ferrari at the University of Chicago; and Susan I. Rotroff for the Princeton chapter of the Archaeological Institute of America. The audiences were lively and their questions helped me refine my arguments. I feel it only fitting to acknowledge the role of *Psychology*, one of the first refereed electronic journals. Not only did they allow me to lurk, but they also accepted two commentaries of mine despite the fact that I was not ‘one of them’. These commentaries generated responses from a number of people, with whom I would never have otherwise come into contact. I especially want to thank for their forbearance and willingness to help me Marilyn Jager Adams, James Hartley, and Bruce MacLennan. Barbara Tversky deserves a special acknowledgment for her time and patience in explaining rudimentary cognitive principles to a neophyte and steering me to so many helpful references. Almost all of our contact has been via e-mail. We live in a truly wondrous age.

I am particularly indebted to those outside my areas of expertise for discussing their fields with me: William A. P. Childs, Roger Bagnall, Robert Bianchi, Walter Burkert, Phyllis Culham, Gloria Ferrari, Eric Garberson, Deborah Goldstein, Archer Harvey, Robert Kraft, Elizabeth McLachlan, Susan I. Rotroff, Laura Slatkin, Peter White, and Froma Zeitlin. A number of people nobly went over parts and, in some cases all, of my manuscript, sometimes more than once. These stalwart souls are: Frank Abate, Dee Clayman, A. A. Donohue, Gloria Ferrari, Deborah Goldstein, Joel B. Goldstein, James

Hartley, Ian Hunter, Bruce MacLennan, Brunilde S.Ridgway, Cynthia Shelmerdine, James Tatum, and Barbara Tversky. An anonymous thanks goes to the anonymous friend who read an early draft and requested 'more trivia'. A special thanks goes to James Tatum. He forgave me for reading a manuscript of his too late for its time of publication by making me co-organizer with him of the panel, 'New Approaches to Memory', at the 1993 annual meetings of the American Philological Association. We then jointly published our contributions in *Helios*. He also suggested Routledge as a publisher and put us into contact with each other. Finally, as is customary after one's acknowledgments, I would like to make clear that any mistakes which remain are not my fault, but that of my colleagues. Lord knows I tried. Since it would otherwise be churlish and ungrateful, I have forgiven them. I very much hope that you do likewise.<sup>2</sup>

# INTRODUCTION

Major technological changes in the way words are processed provoke equally major changes in the way human memory is viewed and studied. Plato laments that writing will replace memory. Frances Yates, at the other extreme, wonders ‘Why, when the invention of printing seemed to have made the great Gothic artificial memories of the Middle Ages no longer necessary, was there this recrudescence of the interest in the art of memory ... in the Renaissance?’<sup>1</sup> Today we face the same issue with the same intensity: will the computer destroy our traditional memories, both in ourselves and in print? The past fifteen years have witnessed a wide and profound reconsideration of how human memory works by biologists, cognitive scientists, computer scientists working in artificial intelligence, psychologists, linguists, anthropologists, and historians. Here I explore some of the trends and conclusions that I feel have broad implications for the way we study classical antiquity.

In particular I focus on the continuum between literacy and orality as it is mediated by memory. While a continuum captures the idea that neither literacy nor orality is monolithic, it needs to be qualified, for everybody is ‘oral’, but only some are ‘literate’. We still conduct our lives orally not just for our daily living—buying food and clothing, negotiating housing, traveling back and forth to work—but even for our daily literacy. How many times do you read something, because someone told you orally to do so? Even if you look at *TV Guide* to plan your evening’s viewing, that viewing is not just visual but also very oral, whether you are watching situation comedies, the news, or sporting events. All of television depends on words. On the other hand, when I went downstairs just a while ago in my apartment building, I rode in an elevator that required me to read numbers and letters to choose L for lobby. A small door above the buttons was labeled ‘PHONE’. My mission was to get my mail, which is eminently textual, even if with a healthy dose of pictures in the advertisements. Because our daily lives so thoroughly mix the oral and the literate, we take both very much for granted. Rarely do we consider how one or the other works, much less how they interact with each other.

Literacy and orality are an exchange that uses the currency of memory. Memory is what enables us not to live in a time warp of repeated actions. You do not need to be introduced to your friends every day or to your parents once a week. You remember who they are. This kind of ‘oral’ memory depends only on what you can ‘carry around’ in your head. Literacy extends that ‘oral’ memory to an external store outside of you. You can record things you need to remember in a variety of ways on a variety of media. You can tape the voice. You can videotape the voice and the person. You can scribble a note on a napkin. You can write a reminder in the computer. You can commemorate a worthy event in stone or bronze. What I have said so far is well known and obvious.

Also well known today to both classicists and cognitive psychologists is the phenomenon of oral composition, because Milman Parry revolutionized not only classics

but other fields, when he demonstrated the oral basis of the Homeric poems. Today classicists, who have argued over his theory for more than half a century, tend to forget how unsettling an idea it was that Homer was not a writer. Only very close examination of the text and a modern analogue revealed that what looked like, sounded like, and read like a text was not produced in the same way as a text. But how is a text written? Can you tell whether I have written this introduction in longhand, at the typewriter, or at the word processor? And in the case of all three did I do it seated at a desk, at the dining-room table, or lying sprawled on the couch? Does it matter? When I quoted Frances Yates, did I do it off the top of my head because I knew it by heart? Did I look it up in the book or in my notes? Does it matter? In short, does technology affect the product? This is one of the broader issues I investigate.

One aspect of the nexus of literacy, orality, and memory that has received scant interest among classicists is retrieval. We just assume that what was written in antiquity could be found, even though we know in our heart of hearts that we can't find what we ourselves have written much less what others have written. Anyone can store something. Finding it at a later date is a totally different problem. Everyone knows that the one item they will need in the future is the one item they can't remember where they cleverly put it. We are particularly bad at finding words as compared to objects. The techniques for finding words developed alongside the techniques for recording them, but retrieval has always lagged behind, because not until you have accumulated more words than you can retrieve do you realize that you have an unmanageable situation. Today we are aware of the problems without necessarily realizing it consciously. We learn at a young age about libraries and their catalogues, whether on cards or online. We know that books and magazines have tables of contents. We expect dictionaries to be in alphabetical order down to the very last letter of the word, even if it is *'floccinaucinihilipilification'*, the longest word in the first edition of the *Oxford English Dictionary*. Today science produces the longest words, such as *'pneumonoultramicroscopicsilicovolcanoconiosis'*. In other words, retrieval is intimately connected to research tools, all of which have taken centuries to develop and refine.

Defining literacy is a moving target, because what entails literacy changes with time and context. Scholars tend to consider literacy in antiquity solely as a greater or lesser ability to read and write rather than as a multi-faceted skill. Aimée Dorr gives one of the better accounts:

An exact, widely accepted definition of literacy is hard to find, as is well illustrated by the chapters in this book. Traditionally, however, every definition centers on the ability to read and write text, to encode and decode the symbol system of text, and to interpret meaning in textual representations.<sup>2</sup>

Notice how even she leaves out the issue of retrieval. Here I do not consider the numbers of the literati. Others have done that better than I can.<sup>3</sup> Instead I focus on the nature of the literacy of the very highly literate in classical antiquity for two reasons. First, only the fully literate face a massive problem of retrieval. Second, they provide a relatively large amount of evidence, especially from the Roman period, on how they worked. As writers, they were more likely to comment in both formal and informal ways about their writing

habits. For this body of material I take a traditional, indeed, ancient approach. I use anecdotes, whenever possible, to illustrate my points, because they offer proof of those points and are in themselves quite wonderful. I find it appealing to know that Augustus wrote bad tragedies in his bath, that Titus had speedwriting contests with his scribes, that Cicero fussed over the decoration of his villas.

Next I combine this philological approach with a much more recent discipline, cognitive psychology, with its interest in how and why people think the way they do. Specifically, I consider the ancient techniques for improving memory in light of modern research on how memory works. I examine in detail precisely how and why the systems of the *topoi* and *loci* work. The ways the memory systems are used raise questions about the other tools used by the highly literate in the process of writing, for I believe that memory is a tool. In particular, I am concerned with how tools affect output. While it is obvious that reading a roll written in *scriptio continua* is different from reading a printed book, I discuss what those differences are and the kinds of effects those differences might make in both reading and writing in classical antiquity.

Because this is a book about technology and work habits, I think some comments about my own may be useful, because they set the stage. I am very much aware of the major changes our literate tools are undergoing, and I find the process fascinating. This interest has led to this book. At the same time, I could not have written the book that I have if I had not been forced to learn Greek and Latin. That was my feeling at the time, since I am by inclination a classical archaeologist, not a philologist. Despite the existence of most of the sources I quote in ‘standard’ and not so standard translations, this work would have been vastly different without a knowledge of the original languages. Too often the ‘best’ translations try to impart a modern flavor with the result that ‘Cicero holds the book in his hand’ rather than ‘the roll in his hands’. The worst, however, is the translation of the lengthy but extremely crucial passage from the Auctor ad Herennium on the system of *loci* where the translator used the word ‘background’ rather than ‘place’ for *locus*.<sup>4</sup> My adaptations are nearly always in the direction of the more literal, because it is in the mundane, literal use that the classical writer reveals his work habits. If no translation is cited in a note, then I have translated the whole passage myself. ‘Adapted from’ means that I have changed a word or two. While I do not give the original Greek or Latin, I do put the words I think crucial between brackets.

Does it make a difference that the advent of the computer has meant that I have all of Greek literature and most of the inscriptions and papyri, as well as Latin up to AD 200, on CD-ROMs at home? Does it matter that I was an early surfer of the ‘net’? On the whole, I am ending this project with a very healthy respect and, indeed, gratitude for my old-fashioned training. Modern technology does not supplant the old, it complements it.

At the same time my attempts at working within two distinct scholarly disciplines, classics (I don’t count archaeology and philology as *that* separate) and cognitive psychology, have led to a recognition that each field has not just its own jargon, but its own work methods. These habits range from relatively minor ones like the fact that the psychological literature always includes the publisher in a bibliographical citation, and the classical fields not only do not, but also sometimes omit the place of publication. The philologist absolutely revels in abbreviations for journals, the more arcane the more delight. The psychologist always uses full titles. Since I find full titles useful and had not

quite taken in the magnitude of the task of citing the publisher until well along the way, I have adopted a mixed system here. Psychologists are generally content to cite the whole work, even if they are making a specific quotation. My favorite example was the broad citation to Aristotle's works, numbering nearly 2000 pages in the Bollingen edition, for 'The mind is like a catapult'. Fortunately I was able to use the Greek CD-ROM (the *Thesaurus Linguae Graecae*) to find out that what Aristotle really said was something quite different:

But of what he is doing a man might be ignorant, as for instance people say 'it slipped out of their mouths as they were speaking', or 'they did not know it was a secret', as Aeschylus said of the mysteries, or a man might say he 'let it go off when he merely wanted to show its working', as the man did with the catapult.<sup>5</sup>

And yes, this is one of the references that got away. I didn't jot down who misquoted Aristotle, but I certainly remembered it. Classicists wince at such behavior, often publicly in reviews. I follow the classicists in citing chapter and verse. I follow the classical archaeologists and the medievalists in giving all the particulars to identify an object: city, collection, inventory number, provenience—the use of 'provenience' distinguishes me from art historians who study later periods; they use 'provenance'.

More significant are the dissimilarities in the way the two disciplines organize their published work. Classicists have total freedom, with one minor exception. Abstracts are slowly creeping in. Psychologists have a set format in which they say everything four times: once in the abstract, once in the introductory discussion to the experiment, once in the discussion of the individual experiment, and once again in the summary of the results. The most important difference between the two fields lies in their concepts of what constitutes proof. Cognitive psychologists divide roughly into two camps: the experimenters and the ecologists. The first group tests their hypotheses in the laboratory. The second group believes that the really interesting questions about how we think cannot be tested only in the laboratory, but must be examined in natural, and hence ecological, settings. This second group deals with evidence in ways very similar to classicists, with one major exception. As far as the psychologists are concerned, there is a right answer. There is a truth. And that truth is attainable...eventually. Classicists live a Zeno paradox. No matter how hard they try they will never achieve the truth, much less even know if they have. Like Zeno's arrow that logically never arrived, classicists get closer and closer to the truth, but never quite get there. Some practitioners view all as interpretation. I give a personal example. An art historian published an article in which she applied the system of the *loci* to a set of paintings from one house in Pompeii.<sup>6</sup> Unfortunately, she misunderstood the system and believed that you could 'read' the paintings in any order, when the system depends on sequence. When I wrote to the editor of the journal in which the article was published, the editor treated my information as my interpretation. Since all interpretations are equally valid, the editor saw no need for a correction of what I and the cognitive psychologists consider fact.<sup>7</sup>

Straddling two disparate fields has affected not just my thinking, but also a good deal of the way the book is cast. I consider the jargon used in each field as equally abstruse and obfuscatory. As a result, I have tried to keep both jargons to a minimum. I have tried

to define alien terms, many of which may not seem to need definition at all to someone accustomed to the terminology.<sup>8</sup> I have included more information about dates and places for antiquity than may be standard for classicists. I have taken the same approach with the bibliographical references: better to give a few extra so that people outside the field can more easily find more information. At the same time, and this is more frequently true for the classicists, I am sure that I have inadvertently omitted some reference. I can only plead for mercy and ask the reader to consider whether or not that reference would have made a difference to my argument. I worked on the final draft during the Summer of 1996, which is the 'closing' date for my citation of recent publications. In some cases, due to lags in library acquisitions and cataloguing I was unable to consult certain books and articles from 1995 and sometimes earlier, even though I had references to them and they looked, on the surface, to be of interest.<sup>9</sup> Despite the length of the bibliography I have been selective, though I do admit to retaining certain references that I found helpful, even if I didn't end up citing them in my text. I also admit that I have omitted some 'standard' and obvious references if I didn't find them useful.

Next, despite the horror this might engender in the breasts of classicists, it doesn't always matter which edition of an author you cite. Last but not least, like every classicist I feel compelled to mention the spelling of Greek. I am idiosyncratic and use the spelling with which I am most comfortable. Hence I write 'Corinth' with a 'c', but 'Herakles' with a 'k'. Knowing now what I know about orthographies I lay the blame totally with the English language. Germans and Italians do not have our problem. They have 'shallow' orthographies; we have 'deep' ones. That's all there is to it.

As you read through the book, please keep two things in mind. First, I am concerned with patterns of process. There are and always will be exceptions. I recognize those exceptions, but I think that trying to paint an overall picture is valuable. Second, in the words of Quintilian, 'If I were to attempt to say all that might be said on each subject, the book would never be finished.'<sup>10</sup>

Part I

LOGISTICS OF THE  
CLASSICAL LITERATE



# 1

## MEMORY FOR WORDS

We live in a world of visible words. Even if we can't read them, even if we don't seek them out, we are, nevertheless, constantly bombarded by them. Buy Coke. Smoke Camels. Exit. Push. Pull. Like the silent butler and children in the Victorian era, text generally goes unnoticed. It wasn't always this way. In the classical period, when text was still in its formative stages, its usefulness was hotly debated. Its forms were protean. Its potential was not realized. The technologies that writing was to spawn and continues to spawn were still unborn. The tools of the trade were barely there, much less refined. A pen was either a metal stylus or a reed pen and not a fountain pen not a ballpoint not a roller-tip not a felt tip not a crayon not a pastel not a pencil not a mechanical pencil. 'Paper' came in two basic varieties, papyrus and parchment, and these two types were sufficient through the Middle Ages.

In this chapter I consider the technological problems the creation of the written word presented to the classical Greeks and Romans: what their texts looked like and how that look affected their use. As Donald Norman says, 'An artifact [tool] is not a simple aid. That is, you can't just go out and find some cognitive artifact, and there you are, better at something.'<sup>1</sup> I treat the writing of texts as a separate topic that emphasizes the process of composition, although the two processes—composing and replicating that composition in a physical text—dramatically affect each other.

### THE PROBLEM OF INTERNAL VS. EXTERNAL STORAGE

Homer never mentions Mnemosyne (Memory), the mother of the Muses. He begins the *Iliad* with an invocation to an unidentified deity ('Sing, goddess'), while in the *Odyssey* he calls upon a slightly more specific inspiration with 'Tell me, Muse, about the man of many ways.... Beginning at any point, goddess, daughter of Zeus,/tell us.'<sup>2</sup> The source of these epics does not come from within the poet, for his telling of the tale has nothing to do with memory. So Lucian in the second century AD has Hesiod disown all responsibility for his poetry: 'I [Hesiod] could say that nothing that I composed belonged to me personally, but to the Muses, and you should have asked them for an account of what was put in and what left out.'<sup>3</sup> Gregory Nagy says that it is 'not so much that the Muses "remind" the poet of what to tell but, rather, that they have the power to put his mind or consciousness in touch with places and times other than his own in order to witness the deeds of heroes (the doings of the gods).'<sup>4</sup> Albert Lord describes the process more generally: 'We remember a story without memorizing its words—the idea of doing so is ridiculous. If it be appropriate we may memorize a "punch line", but that is as far as memorization goes.'<sup>5</sup> The best way to understand the distinction Lord is making between memory for words and memory for story is to recall one of our own fairy-tales, such as

‘Little Red Riding Hood’ or ‘Goldilocks and the Three Bears’. At no time did we consciously memorize the story, because repeated listenings and readings are sufficient for most Americans to render the tales in all their glory. Even if we tell a story in different words and with different embellishments at different times, if asked we would indeed say that it is the same story. As Lord puts it, ‘They [the oral singers] create the text anew each time they tell the story’<sup>6</sup>

With literacy comes a greater need for memory for words. It is not that memory is superlative in preliterate societies and wretched in literate ones, as many today and some then assume,<sup>7</sup> because we differ little in cognitive capacity from Mycenaean man and, if anything, being somewhat later on the evolutionary scale, we should have better equipped brains. Children of ‘Stone Age’ New Guineans fly planes and run computers.<sup>8</sup> As Ulric Neisser puts it, ‘By itself, the absence of something has no causal effects. Illiteracy cannot improve memory any more than my lack of wings improves my speed afoot.’<sup>9</sup> Donald Norman addresses the issue more directly: ‘Writing something down doesn’t really change our memory; rather, it changes the task from one of remembering to one of writing then, later, reading back the information. In general, artifacts don’t change our cognitive abilities; they change the tasks we do.’<sup>10</sup> In other words, the real distinction between the Mycenaeans and us lies not in basic brain power, but in the fact that what we choose to remember differs greatly. Michael Cole and Sylvia Scribner conclude that:

the anthropological reports are correct—their informants do in fact remember things that the anthropologists find it difficult or impossible to recall. But this performance is not reflective of greater powers of memory in *general*; rather it reflects the fact that the things a Philippine native or !Kung bushman finds easy to recall are different from the things that the anthropologist finds easy to recall. In short, how well someone remembers a particular subject matter depends on the subject at hand.<sup>11</sup>

Hence it is not just that literacy produced a need for memory for words on a scale that had never existed before. It is that one of literacy’s most notable effects is that it feeds upon itself. The more literate you are the more words you need to remember.

Exact wording is rarely crucial in oral societies, but often of great importance in literate ones, though this aspect took centuries to develop. In the absence of a permanent record of a text in writing or on tape or some such medium, how would anyone be able to prove whether or not two performances, separated in time, were the same? One might remember the amount of time a particular rendition took if one had an accurate measure for time, but even then some of the words could have been the same and others not. There simply would be no way to tell. Most oral societies are not only uninterested in the detail of the words *per se*, but even unaware of the unit of the word. Albert Lord reports the following conversation between an ‘interrogator’ (N for Nikola) and a Guslar singer (Đ for Đemo Zogić):

N: So then, last night you sang a song for us. How many times did you hear it before you were able to sing it all the way through exactly as you do now?  
[Đ: Once...]

N: Was it the same song, word for word, and line for line?

D: The same song, word for word, and line for line. I didn't add a single line, and I didn't make a single mistake...

N: Tell me this, if two good singers listen to a third singer who is even better, and they both boast that they can learn a song if they hear it only once, do you think that there would be any difference between the two versions?...

D: There would.... It couldn't be otherwise. I told you before that two singers won't sing the same song alike.... They add, or they make mistakes, and they forget. They don't sing every word, or they add other words.<sup>12</sup>

Lord explains the contradiction in the singer's statements: 'to him "word for word and line for line" are simply an emphatic way of saying "like". As I have said, singers do not know what words and lines are.'<sup>13</sup> Havelock goes even further: 'Greek originally had no word for a word singly identified, but only various terms referring to spoken sound.' He doubts whether 'the isolation of the individual "word" as the basic building block of language is achieved before Plato.'<sup>14</sup>

Psychologists support this conclusion in their studies of the concept of words in two different groups of people: illiterate adults and children. In a study of the former, Robert Scholes and Brenda Willis concluded that 'Such characteristics of the description of linguistic knowledge, previously associated with preschool children, agrammatic aphasics, and the hearing impaired, are now seen to be retained throughout life in the absence of the acquisition of literacy'<sup>15</sup> Marilyn Adams gives a good summary of the evidence for children, and hence for illiterate adults:

In fact, many young children do not understand the word *word*.... Surprising as it may seem, the evidence concurs that children are not naturally prepared either to conceive of spoken language as a string of individual words or to treat words as individual units of meaning. What they listen for is the full meaning of an utterance, and that comes only after the meanings of the individual words have been combined—automatically and without their attention.... In speaking, we do not emit words one by one. We do not pause between them. Instead we produce whole clauses or sentences in one single continuous breath. In print there are spaces between the words. Each is discretely represented. As children become aware of the one-by-oneness of words in print, they begin to notice and isolate the words in speech.<sup>16</sup>

Her explanation also corroborates the formulaic nature of oral poetry. Epithets produced in single continuous breaths would naturally function as whole and indivisible units. Another study of children demonstrates that knowledge of words is not monolithic, but 'continues to evolve and mature—indeed, significant changes occur when children are well into the period of concrete operations.'<sup>17</sup> Something similar happened in classical antiquity: the idea of the word and how it works developed over time.

Linguists further explain why oral cultures and illiterates do not know words:

Spaces between groups of letters became important as the conventions of writing evolved. In alphabetic systems, spaces are now universal and as a result

literate people learn to recognize ‘words’ as visual rather than auditory units. In a real sense, the first orthographers of a language make the decisions about how words are to be perceived in that language.<sup>18</sup>

Today one can literally see how the spoken word differs from writing by looking at spectrograms of connected speech. The ups and downs of the waves so seamlessly join each other that the breaks between words are often impossible to distinguish.<sup>19</sup> Computers have the same problem in trying to understand speech. Nicholas Negroponte proposes an approach that a Guslar singer could understand: ‘the slurring and blurring of words ...can be partially simplified by looking at language as multiword utterances, not just as single words. In fact, handling runtogetherspeech in this fashion may well be part of the personalization and training of your computer.’<sup>20</sup> He gives the following example: ‘A computer should know the difference between your saying “Kissinger” and “kissing her,” not because it can find the small acoustic difference, but because it can understand the meaning.’<sup>21</sup>

According to David Olson, ‘writing systems were created not to represent language, but to communicate information’ with the result that ‘writing systems create the categories in terms of which we become conscious of speech.’<sup>22</sup> In other words, writing provides the model that leads to a particular conception of how language works syntactically rather than vice versa. He gives an intriguing instance:

Chinese readers of traditional character scripts could not detect phonemic segments whereas those who could read Pinyin, an alphabetic script representing the same language, could do so. To learn to read any script is to find or detect aspects of one’s own implicit linguistic structure that can map onto or be represented by that script.<sup>23</sup>

Actually the situation may be more complicated than Olson thinks. The Chinese system of writing militates against the concept of a ‘word’. John DeFrancis comments that:

To them [the Chinese], a character (*zì* in Chinese) is thought of as a ‘word,’ but linguists properly distinguish *zì* ‘character’ from *cí* ‘word,’ a new term that did not come into usage until this century and is still not widely known by the general public.<sup>24</sup>

Thus for oral cultures it is not the words but the story or the gist that counts. Lord’s results have been confirmed in a study of the singers of a popular North Carolina ballad, ‘The Wreck of the Old 97’:

There is no evidence of rote recall of this ballad. Each singer makes changes in the wording of the ballad between the two performances. However, these changes are limited by the constraints in the ballad and in the ballad tradition. End-rhyme sound, number of beats per line, and number of lines per verse remain relatively constant.... Yet there are commonalities among singers that are defined by these constraints.

Words and music...are intertwined...[and] constrain each other .... The

memory for the ballad is not the exact song, nor is it a collection of words; rather it is a collection of rules and constraints. This notion is the same one that Bartlett (1932) labeled ‘schema.’ Here, however, we have not only a schema for gist but also a schema for poetics, rhythm, imagery, and music. Together these schemata, and possibly others, constrain recall to the extent that it almost appears rote or verbatim.<sup>25</sup>

The idea of verbatim, word for word, repetition occurs without written texts only in a few, rather limited situations. Ruth Finnegan has been exploring the use of rehearsal and memorization in oral societies of the Pacific, but, as Lord rightly points out, the texts, about a hundred lines, are far shorter than the tales of the Guslar singers or the Greek epics.<sup>26</sup> ‘Magical’ phrases such as ‘abracadabra’ and certain prayers depend for their effectiveness on exact wording, but, again, the length is short. Further proof comes from Roman prayers, whose exactitude could be maintained only by a written text and not memory. Pliny the Elder records that:

We see also that our chief magistrates have adopted fixed formulas for their prayers; that to prevent a word’s being omitted or out of place a reader dictates beforehand the prayer from a script.... Remarkable instances of...interference are on record:...when a mistake has been made in the prayer itself; then suddenly the head of the liver, or the heart, has disappeared from the entrails, or these have been doubled, while the victim was standing.<sup>27</sup>

A Roman relief from the first century AD with a sacrifice to Mars shows the scene Pliny describes.<sup>28</sup> On the far right behind the altar stands an attendant (*camillus*) holding a diptych open in both hands like a living teleprompter for the sacrificer to read the prayers. In fact, in the face of such overwhelming negative evidence the real question is why literate people attribute lengthy verbatim recall to illiterate people.<sup>29</sup>

Next, so many more words survive to be remembered in a literate world than in an oral society, because the words accumulate over the centuries: not just the business records for today, but those from all the yesterdays; not just the stories you were told, but those of your great-grandparents and their great-grandparents; not just the laws you follow, but the laws your ancestors obeyed; not just the famous speeches you heard, but the famous speeches of your founding fathers and their successors. Obviously some people are better than others at remembering certain kinds of information and they may become the ‘remembrancers’ in an oral society.<sup>30</sup> They, however, are not necessarily memorizing words *per se*, but rather the gist or content of whatever needed to be known.

The human brain places definite limits on the amount of information we can store. As a result, according to Merlin Donald, the most recent and significant cognitive step in human evolution is the use of writing as an external storage medium.<sup>31</sup> Once such an external store is created, the nature of the problem is no longer one of each official ‘remembrancer’ having to transfer ‘physically’ all his memory to a successor. Instead, an external store requires only that the user should know how to ‘decode’ it, and significantly the time when the decoding occurs is not important. It can be just after a ‘document’ was created or two thousand years later. The Egyptians recognized this quality of writing:

they [scribes] did make heirs for themselves in the form of books and teachings which they composed. They appointed [the papyrus roll as a lector-] priest for themselves, the writing-tablet as a devoted executor. Teachings were their pyramids, the reed-pen their child, the stone surface their wife...the memory of the one who composed them [books] is for eternal ages.<sup>32</sup>

In contrast, rather than recognizing the possibilities of long-lasting written records, Plato, or at least his Socrates, deplored the fact that the document cannot respond to your questions, much less change itself as a result of those questions. Plato rightly has Egyptians speak for the opposition, when Socrates in the *Phaedrus* tells a story about Egypt:

But when it came to writing Theuth [Thoth] said, ‘Here, O king, is a branch of learning that will make the people of Egypt wiser and improve their memories; my discovery provides a drug for memory and wisdom.’ But the king answered and said, ‘O man full of arts, to one it is given to create the things of art, and to another to judge what measure of harm and of profit they have for those that shall employ them. And so it is that you, by reason of your tender regard for the writing that is your offspring, have declared the very opposite of its true effect. If men learn this, it will implant forgetfulness in their souls; they will cease to exercise memory because they rely on that which is written, calling things to remembrance no longer from within themselves, but by means of external marks. What you have discovered is a drug [φάρμακον] not for memory [μνήμη], but for reminder [ὑπομνήσεως]. And it is no true wisdom that you offer your disciples, but only its semblance.... You know, Phaedrus, that’s the strange thing about writing, which makes it truly analogous to painting. The Painter’s products stand before us as though they were alive, but if you question them, they maintain a most majestic silence. It is the same with written words; they seem to talk to you as though they were intelligent, but if you ask them anything about what they say, from a desire to be instructed, they go on telling you just the same thing forever.’<sup>33</sup>

Three factors are significant about this passage. First, Plato recognizes the connection between memory and writing, one of the recurring topics in this book. As the computer is decried today, so writing continued to be considered a mixed blessing throughout antiquity. According to Caesar: ‘it does usually happen that the assistance of writing tends to relax the diligence of the student and the action of the memory.’<sup>34</sup> Seneca the Younger says: Wisdom publishes not words but truths—and I’m not sure that the memory isn’t more reliable when it has no external aids to fall back on.<sup>35</sup> Vitruvius even takes the same stance as Plato, when he says: ‘Whichever of these forms of death befell him [Zoilus, a captious critic of Homer], it was a fitting punishment and his just due; for one who accuses men that cannot answer and show, face to face, what was the meaning of their writings, obviously deserves no other treatment.’<sup>36</sup> Ovid, on the other hand, while in exile, recognizes the power of writing to preserve: ‘no thing has a strength greater than that of time. But writing endures the years. Through writing you know Agamemnon and

everyone who bore arms with him and against him.’<sup>37</sup> Seneca the Elder wrote directly on the topic, when he considered the question as to whether Cicero should forfeit his life or his writings. Seneca presents the case by having two different figures argue: Antony has realised that so long as the products of Cicero’s eloquence survive, Cicero cannot be; and ‘if you do not burn them, the Roman people promises you eternity’<sup>38</sup>

Second, it is curious that it did not occur to Plato that natural memory is like the silent page of writing. It, too, does not allow the original author to respond to questions if he is not present. Third, Plato did an extraordinary amount of writing, and took great pains in its production. According to Quintilian, ‘the reason why those four [Greek] words in which Plato in the noblest of his works [the *Republic*] states that he had gone down to the Piraeus were found written in a number of different orders upon his wax tablets, was simply that he desired to make the rhythm as perfect as possible.’<sup>39</sup> And what did Plato say that took him so much effort? Simply that ‘I went down yesterday to the Piraeus....’<sup>40</sup> In other words, Plato’s ambivalent attitude towards writing rests, at least in part, in being alive and having to deal with it in one of its great transitional and formative stages.<sup>41</sup>

Acceptance of the new medium was slow, because the ways to use, much less exploit it were even slower in developing. The real problem was not the silence of the written word, but the difficulty of finding what you wanted among all those unspeaking words. The retrieval aids developed in classical antiquity were appallingly few. You can always ask people where something is and they can often tell you immediately, even if only in the negative.<sup>42</sup> That capability still separates us from computers which search their entire store, even if what we know to be the sole answer may have been found early in the search.

## 2 ANCIENT BOOKS

### THE LOOK AND FEEL OF BOOKS

Everyone today knows what a book looks like. While the size and number of pages vary and the subjects differ, most follow a standard format. They are bound, whether by sewing or with the not-so-perfect glue, in hard or soft covers. The spine has the title, the author, and the publisher's name or logo. The dust-jacket or back cover carries 'information' to entice the buyer, such as favorable quotes from famous people or a photograph of the famous person who wrote the book. Inside the book a title page proclaims the author and title, the publisher, place, and date of publication. Some of this information may appear on the back of the title page along with the copyright, but it is all there, up front. Dedications are brief. Tables of contents are at the front or the back, never in the middle; indices and bibliography are at the back. The text comes in between these search aids. The pages are numbered, with the text broken down into chapters that are themselves subdivided into paragraphs, each beginning on a new line and sometimes with the first word indented; then sentences, carefully marked by periods; and finally words, separated from each other by spaces and/or punctuation. Various embellishments are possible: footnotes at the bottom of the page or notes at the back of the chapter or end of the book; illustrations breaking up the page or collected together as a unit. As you read a book, you have an immediate visual idea of how much you have read and how much you have left to go by the amount of pages remaining to the left or right of where you are.<sup>1</sup> By a careful balancing act on a large table, ten books can easily be opened simultaneously for comparative purposes. It has taken over 2500 years to develop this object we take so much for granted.

Now consider the ancient book.<sup>2</sup> Classical terms for 'book' varied, because the format varied. Only context, and sometimes not even that, indicates whether a whole 'work' or merely a 'part' is meant. In Latin, a book, *liber*, may refer to either the whole work or one of the rolls, *volumen* singular and *volumina* plural (hence our word 'volume'), within that work. It took a certain knack to read a roll so that it stayed open to the place you wanted.<sup>3</sup> The most remarkable thing about this format was that a better model was available when writing was introduced to Greece, for writing tablets were known to Homer (*Iliad*, 6.168ff.). They were:

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 left in the centre to prevent the writing on the wax being damaged when the tablet was closed. Writing in ink or chalk was sometimes placed directly on the wood.<sup>4</sup>

It would not seem to take a very great leap of the imagination to use sheets of papyri instead of bulky tablets.<sup>5</sup> Even more striking, however, was that, by the end of the fifth/beginning of the fourth century BC at the latest, still another model existed for the codex, as the early book-form with page leaves like ours is called: the Etruscan linen books (*libri lintei*) which consisted of a single length of linen, folded into a series of ‘pages’ in accordion style.<sup>6</sup> Yet the first major attempt to produce a codex was not made until the first century AD and even that, according to Roberts and Skeat, was virtually ‘still-born’.<sup>7</sup> The codex in its early stages was used mainly for technical writing and by the early Christians.<sup>8</sup> It took 200 years from its first appearance before the codex was used as often as the roll. From Homer in the eighth century BC to only parity and not total displacement of the roll took more than a millennium. I discuss why the codex took so long to become popular in Chapter 10. Moreover, wax tablets remained in active use until sometime in the fifteenth century AD.<sup>9</sup>

The plight of the classical literate worsens because of the format of the text on the roll. Consider the ancient reader who wanted to read the two most famous works from antiquity, the *Iliad* and the *Odyssey*. Each epic comprised twenty-four rolls or ‘books’, as classicists call them today following the classical terminology; we would call them chapters. Originally these two epics were not divided into books. When first written down, each was one, enormous, continuous mass. To get an idea of their length, it may help to know that Richmond Lattimore’s translation of the *Iliad* takes 437 pages and his translation of the *Odyssey*, set in a smaller type, 332 pages. Imagine each of these works without any breaks. I mean that literally. There were not only no breaks for books; there were no breaks for paragraphs, sentences, or even words. In short, there was no punctuation whatsoever. Everything blended together.

Not until the Hellenistic period in the third century BC was Homer divided into books and did poetry begin to be written by the metric line rather than in the same continuous format as prose.<sup>10</sup> The poetic lines, however, remained without interior breaks. All letters were the same height and often the same width. As everyone who has had to read early computer print-outs knows, the combination of upper and lower case letters greatly facilitates comprehension. At the same time it was not always clear where one poem ended and another began—issues which scholars still fight over.<sup>11</sup> Nor were the divisions into books established at one time and set thereafter, but for some authors, like Thucydides, the divisions ranged from the modern eight, to nine, and even thirteen ‘books’.<sup>12</sup> The same problem of dividing longer works into ‘books’ also happened with Latin works. Suetonius, for example, records that ‘the “Punic War” of Naevius, which was originally written in a single volume without a break,...was divided by Lampadio into seven books.’<sup>13</sup> An intriguing set of psychological tests has examined whether ‘people agree in their chunking judgments. That is, are there locations in the stories where most people put slashes to indicate a part boundary, and other locations where very few people put slashes?’<sup>14</sup> Their results reflect the way Greek and Latin books were divided. There is a lot of agreement on the ‘obvious’ divisions, but dissension on the others.

Occasionally the accents of Greek words were indicated. Aristotle is aware of how an accent can change the pronunciation of a word. He says:

ὄρος [mountain, boundary] and ὀρός [whey], said with the accent, mean something different. In writing, indeed, a word is the same whenever it is written with the same letters and in the same manner—and even there people nowadays put marks at the side [παράσημα] to show the pronunciation—but the spoken words are not the same.<sup>15</sup>

Reynolds and Wilson find it ‘rather strange that they [accents] did not immediately come to be regarded as indispensable’ and sum up the situation: ‘it is hard to see what principle determines their use in ancient books, and they were not regularly added until the beginning of the tenth century.’<sup>16</sup> Nagy remarks that Aristarchus (c. 217–145 BC) in his edition of Homer considered the accents not to be part of the text proper, but of his commentary.<sup>17</sup> In fact, it is not clear whether Aristotle means that these marks were directly ‘on’ the letters, as they are today, or in the ‘margins’ to the side of the word.

As for punctuation—those wonderful marks like commas and colons—according to the *Oxford Classical Dictionary*:

Punctuation is uncertain and arbitrary: it takes the form either of a single point, generally about level with the top of the letter...or of leaving a short space at the end of a clause. A short [generally horizontal] stroke (παράγραφος [*paragraphos*]) was placed, from the fourth century BC on, below the beginning of a line in which a break occurs (often also indicated by spacing); the same symbol is used in drama to indicate a change of speaker. In the Roman period it is usual for the names of the characters to be written in the margin.<sup>18</sup>

Even when punctuation exists it often varies for the same passage from manuscript to manuscript.<sup>19</sup> Literary texts in antiquity remained pretty much an undifferentiated block. Latin sometimes, and especially in inscriptions, separated words with ‘dots’ or ‘points’ (interpuncts) or even ivy leaves (*hederae*), but in the second century AD, in one of those great misbegotten regressions, adopted the ‘continuous writing’ or *scriptio continua* of the Greeks.<sup>20</sup> Word separation did not reappear until the eleventh century.<sup>21</sup> Progress is never smooth.<sup>22</sup>

What they chose to mark also differs from today. Diogenes Laertius writes about the texts of Plato in the second century AD:

And since certain critical marks [σημεῖα] are affixed to his works let us now say a word about these. The cross X is taken to indicate peculiar expressions and figures of speech, and generally any idiom of Platonic usage; the *diple* (>) calls attention to doctrines and opinions characteristic of Plato; the dotted cross denotes select passages and beauties of style; the dotted *diple* editors’ corrections of the text; the dotted *obelus* passages suspected without reason; the dotted antisigma repetitions and proposals for transpositions; the *ceraunium* the philosophical school; the asterisk an agreement of doctrine; the *obelus* a spurious passage. So much for the critical marks.... As Antigonus of Carystus says in his *Life of Zeno*, when the writings were first edited [ἐκδοθέντα] with critical marks, their possessors charged a certain fee to anyone who wished to

consult them.<sup>23</sup>

All these marks or symbols refer to content. They are not aids to guide the reader in the way that punctuation marks are used today. A period tells us that a ‘thought’ has been completed and, if we are reading aloud, to take a longer pause than for a comma. I do rather like the idea, however, that mere consultation, not purchase, of such texts was remunerative.

## ORGANIZATIONAL AIDS WITHIN THE BOOK

Is it any wonder, then, that studies of cross-references within classical authors of the early Empire have found them to be rather broad like ‘see above’ and ‘see below’?<sup>24</sup> The most specific reference authors make is to the book, because that is the most specific division there is. Occasionally the work is of such a nature that a somewhat more precise citation is possible. Juvenal refers to the Second Philippic as that which ‘you unroll next to the first’.<sup>25</sup> He would not, however, refer to a line within that Philippic by number, as we might. Columns were occasionally numbered in rolls. Codices, which are late, had numbers centered or on the outside edges of their pages. Editions of poetry sometimes came with total line counts or marks for every 100 lines.<sup>26</sup> The end of a ‘book’ of Homer might be marked with an end-title and a *coronis*.<sup>27</sup> Occasionally helpful comments, like the titles of poems, could be added in the spaces between columns.<sup>28</sup> Except for the words, consistency in display between different manuscripts of the same work was not a concern.

The ‘*paragraphos*’, already described, was neither used all the time, nor numbered or counted as a means of referencing. It was used as a fast way of calculating how much a scribe had written and hence should be paid.<sup>29</sup> William Johnson also suggests that in some cases it might have aided a reader in keeping his place, as he read through a text, especially if the text were read aloud.<sup>30</sup> The paragraph, as a regular unit of layout on a page, does not appear until print in the sixteenth century, according to the *OED*.<sup>2</sup> When divisions like the paragraph were marked in antiquity and the medieval period, the first line was extended to the left of the body of the text rather than being indented.<sup>31</sup> The format resembles what we now call a ‘hanging indent’. According to Saenger and Heinlen, our format ‘was born in incomplete books in which initials and rubricating [highlighting the letters in red] were wanting.... The convention of the indented paragraph represents the acceptance of the unfinished book as normative.’<sup>32</sup>

The chapter numbers and divisions within them that we find in modern editions of classical texts were all added by printers long after antiquity.<sup>33</sup> Print led to the ‘blackening’ of the highly colored pages of medieval manuscripts, which in turn forced the development of a system of referencing dependent not on color, but on layout with fixed positions for page numbers, punctuation, and fonts.<sup>34</sup> In other words, print returned to the two-color scheme of ancient manuscripts, but not quite as it had been in antiquity, because later readers were accustomed to a punctuated and organized text, even if the punctuation varied from codex to codex. Moreover, in order to retain a similar level of information, while maintaining the practical ease of printing in just one color,

typographical fonts became important. Today we **bold**, *italicize*, and underline. Sometimes we change the size of the fonts, as well as switch the **font** itself—generally for clarity. When too many of these devices are mixed together, the result is a confused jumble rather than a crystal-clear message.<sup>35</sup>

The computer is fostering a return to embellished text that would please many a monk and, at the same time, it enhances the fixed, silent display of text with touches of orality and visualization. For example, *Creative Writer*, a word processor for children, allows them to ‘add audio to their documents, assigning barks, whistles, horns, and other sound effects to specific words. They can even record their own sounds.... When it comes to text, kids can make words sparkle, shimmer, and fade.’<sup>36</sup> CD-ROMs have it all:

Yes, you could get books with similar information, but they’d just have regular old pictures. Electronic CD-ROM books have moving images and audio accompaniment, adding a whole new dimension to books. Videos, of course, have sound and motion, but they aren’t browsable; you have to move through them in one direction. Computer software is interactive, and this makes it more interesting and much more fun.<sup>37</sup>

Richard Lanham has some ideas about what one could do with a CD-ROM version of *Paradise Lost*:

Wouldn’t you begin to play games with it? A weapon in your hands after 2,500 years of pompous pedantry about the Great Books, and you not to use it? Hey, man, how about some music with this stuff? Let’s voice this rascal and see what happens. Add some graphics and graffiti! Print it out in San Francisco (the kooky face I used above) for **LUCIFER**, and Gothic for GOD. Electronic media will change past literary texts as well as future ones.<sup>38</sup>

The first major group to exploit the possibilities are companies with products to sell. For example, Hewlett-Packard says that ‘one study indicates color accelerates learning, retention, and recall by 55 to 78 per cent’<sup>39</sup> Just in case, however, you miss the peculiarities endemic to hot metal type, a software program, *FF Beowulf Serif*, now randomly adds jaggies and breaks to reproduce the effect of a poorly printed book.<sup>40</sup>

It was not until after antiquity, especially from the Renaissance on, that readers felt a need for precise citation that never seemed to arise in their ancient counterparts. When one classical writer cites another, he uses the same kind of vague reference he uses when making references within his own works.<sup>41</sup> For example, Pliny the Elder (*Natural History* 13.69) refers to the passage in the *Iliad* on wax tablets that I just cited as ‘we find in Homer’ and even leaves out the name of the work. Aulus Gellius (*Attic Nights* 9.4.13), working in the next century, refers to Pliny by the book within the work: ‘[Pliny the Younger] wrote in the seventh book of his *Natural History* ....’ My edition of Gellius has a helpful footnote that gives the specific location of the passage by its modern division as ‘vii.23’.<sup>42</sup> There were two ancient exceptions: passages that began a work or less frequently a book within a work. Such lines were later labeled the ‘*incipit*’ (it begins).<sup>43</sup> A concept of the page simply did not exist. Pages could not be cited not just because

works were written on rolls, but because each roll was individually produced by hand and could vary tremendously in the amount written in any given width and column.<sup>44</sup> The codex was no better, since it too was subject to the same idiosyncracies of individual, handwritten production. Although different sized fonts may be used for print today, none the less, each edition remains consistent within itself. No matter whose copy and which reprinting is used, Book One of the *Iliad* in Lattimore's translation always begins on page 59. Such fixed formats do not appear until print.

The table of contents appeared in antiquity, but was a rare event. Pliny the Elder ends his 'Preface' to his encyclopedia, the *Natural History*, with an explanation of his reader's guide:

As it was my duty in the public interest to have consideration for the claims upon your [Titus's] time, I have appended to this letter a table of contents of the several books, and have taken very careful precautions to prevent your having to read them. You by these means will secure for others that they will not need to read right through them either, but only look for the particular point that each of them wants, and will know where to find it. This plan has been adopted previously in Roman literature, by Valerius Soranus in his books [*libris*] entitled *Lady Initiates*.<sup>45</sup>

Pliny has dedicated the work to the Emperor Titus, who would have had many demands on his time. More importantly, what has been translated in the standard English edition as 'a table of contents' is actually not our formal term, but rather a description of what Pliny has done. Literally Pliny says 'I have attached to this letter [the Preface, as we call it] what is contained in the individual books.'<sup>46</sup> Similarly, each section of the actual listing starts with a verb, '*continentur*' ('are contained'), and not a noun ('contents'). The concept of a table of content *per se* did not exist, because there was no means of referring to the precise locations where things were discussed. None the less, that Pliny could have thought of even including something that resembles the great-great-grandparent of our table of contents indicates that at least one standard had been established by the first century AD: parts of works were divided into rolls and what went in each roll was determined by either the author or the compiler of the work and remained constant from copy to copy, even if the column where a section began varied from roll to roll.

Since we find tables of contents so useful, an examination of Pliny's will explain why it was not adopted ever after in antiquity. It takes an entire ancient roll or book, and in one English translation seventy-one pages of small type. Remember that the roll with the contents is not only long, but has no divisions—none for paragraphs, sentences, or words. Assuming for the moment that you are the Emperor Titus with this great new gift, think about the process of reading the seventy-one pages of the contents to find the one item you want, going to the roll (book) that contains that item, and then reading through that until you are lucky enough to come to your item. This is no speedy process. The contents for each of the thirty-six books are treated similarly: first, the number of the book (Libro XXXII), followed by (*continentur*), and then a list of the items covered, a numerical summary, and a list of the authorities consulted.

A small sample set of excerpts in English from one of the books, partially devoted to

what we call ‘art history’, will immediately make clear why the idea never truly caught on in antiquity:

**BOOKXXXIVCONTENTS  
COPPERMETALSKINDSOFCOPPER  
CORINTHIANDELIANAEGINETANONBRONZEDININGCOUCHESON  
CANDELABRAONTEMPLEDECORATIONSOFBRONZEFIRSTBRONZE  
IMAGEOFAGODMADEATROMEONTHEORIGINOFSTATUESAND  
THEREVERENCEPAIDTOTHEM... INKSTONEIIIDRUGSFROM  
COPPERASXIVDRUGSFROMCOPPERASWATEROR  
SHOEMAKERSBLACKINGXVIDRUGSFROMPOMPOLYXSLAGVI  
DRUGSFROMTHESESLAGASHESXVKINDSSKINDETERGENT  
DIPHRYXTHESERVILIANFAMILYSMAGICSIXPENCE...  
TOTALCMXV  
FACTSINVESTIGATIONSANDOBSERVATIONS  
AUTHORITIESLUCIUS  
PISOANTIASVARROCORNELIUSNEPOS  
RUFUSMESSALATHEPOET  
MARSUSBOCCHUSJULIUSBASSUS  
GREEKTREATISEONMEDICINE...  
FOREIGNAUTHORITIES  
DEMOCRITUSMETRODORUS  
OFSCEPSIS  
MENAECHMUSSARTOFGRAVING...**

I have made only two changes to the Loeb Classical Library translation: all chapter references added by later editors have been omitted and the numbers changed from Arabic to Roman numerals. I have also followed modern convention in using three dots for ellipses. Otherwise the text is as someone might have read it in antiquity, except that, of course, type, even all capitals, is much easier to read than handwriting.<sup>47</sup> Moreover, then as now, certain letters like *m*, *n*, *u*, and *i* often look alike, and small but helpful details like the defining dot on top of an ‘*i*’ did not appear until the fifteenth century.<sup>48</sup> Now try the same passage in a modern layout:

Book XXXIV. Contents: Copper metals. Kinds of copper—Corinthian, Delian, Aeginetan. On bronze dining couches; on candelabra; on temple decorations of bronze; first bronze image of a god made at Rome; on the origin of statues and the reverence paid to them.... Ink-stone, 3 drugs from; copperas, 14 drugs from; copperas water or shoemaker’s blacking, 16 drugs from; pompholyx, slag, 6 drugs from these; slag-ashes, 15 kinds; skin-detergent; diphryx; the Servilian family’s magic sixpence.... Total, 915 facts, investigations and observations.

Authorities: Lucius Piso, Antias, Verrius, Marcus Varro, Cornelius Nepos, Rufus Messala, the poet Marsus, Bocchus, Julius Bassus’s Greek treatise on medicine.... Foreign authorities: Democritus, Metrodorus of Scepsis, Menaechmus’s *Art of Graving*....

While this arrangement is not easy reading, it is amazing how much those punctuation marks, spaces between words, and mixed cases for letters help.

Pliny’s *Natural History* presented problems beyond that of no punctuation to the Roman reader. As a scientific work and the forerunner of our own encyclopedias, the *Natural History* included all sorts of arcane information, not arranged in any order, readily discernible by our standards of organization. If you merely glanced at the

beginning summary in the table of contents above for ‘copper metals’, you would not know that it also discusses the origins of statuary and soap. At the same time, if terms like ‘*copperas*’ and ‘*pompholyx*’ seem strange to us, they may have been no less strange to the Romans.

A century later Aulus Gellius produced a much more manageable ‘table of contents’ for his *Attic Nights* that takes up only twelve pages of print in the Loeb Classical Library, but his work is three volumes in that edition compared to the ten for Pliny. Like Pliny, he too is concerned about making his reader’s life easier. He ends his Preface with an introduction to the table of contents: ‘Summaries of the material to be found in each book of my Commentaries I have here placed all together, in order that it may at once be clear what is to be sought and found in every book.’<sup>49</sup> His contents is not just a list in prose as is Pliny’s, but reads more like modern abstracts of articles or papers. For example, ‘Chapter 1’ of Book 1 is: ‘Plutarch’s account of the method of comparison and the calculations which the philosopher Pythagoras used in determining the great height of Hercules, while the hero was living among men.’<sup>50</sup>

### COGNITIVE ASPECTS OF READING TEXT

Reading words that are all run together dramatically affects the way a reader processes those words.<sup>51</sup> Psychologists have tested readers with texts similar to the first version of the Pliny passage you have just read—though somewhat easier than in antiquity—in which ‘x’s instead of spaces are used between words. The results are just what you probably noticed when reading the first Pliny version. You read much more slowly.<sup>52</sup> A reader who has to divide letters mentally into words, into phrases, into sentences, and into paragraphs works much harder. As the concept of pages was present from the beginning of classical writing in the wax tablet, so was the idea of breaks between words, because words in the Semitic languages, the source of the Greek and Latin alphabets, were written without vowels and therefore had to have spaces to distinguish words.<sup>53</sup> The addition of vowels by the Greeks, however, made words sufficiently distinctive to allow them to be run together. While much has been written about the effects of the vowels, less has been said about one of the major causes for their addition. Unlike the Semitic languages, Greek has a large number of words that begin with a vowel sound. Without symbols for vowels, written Greek would not be easily intelligible.<sup>54</sup>

The way our brains are hard-wired explains why these two kinds of alphabetic writing, vowel and consonantal, developed. The consonants with their clicks and hisses not only separate the vowels from each other but make them intelligible to us.<sup>55</sup> Hence it is possible to write in an alphabetic system without the vowels, but it is impossible to do so without the consonants. Cn u rd ths? F u cn, thn u cn str mor txt n ls spc. The question of which system you use depends on how much information is necessary to understand a particular text. In other words, text, as we are accustomed to seeing it, contains a lot of redundancy, which enables us to understand it far more quickly. The trade-offs are between the time to decode and the amount of effort to produce the text in the first place and then the space needed to store it. F u hv t tm, thn u cn rd stff lk ths. If you don’t, you prefer whole words with complete punctuation. Today, highly complex algorithms strip

redundant elements from computerized text to produce reductions of one-third to a half in storage space, while retaining the ability to reconstitute the text exactly as it was originally, because the computer does not need the same aids as we do. Much of the work being done today depends on ‘information theory’, especially as developed by Claude Shannon beginning in the 1940s and, not coincidentally, after working on cryptography during the Second World War.<sup>56</sup> He calculated that written English is about 50 per cent redundant. To get an idea of just how little information is really needed to figure out the words, especially in a context, he played a game much like Hangman or Wheel of Fortune. He took a sentence and had friends guess letter by letter what it said.

The issue, however, is not whether you can read such a format, but whether you want to or should have to. In fact, Joseph Shimron and Tamar Sivan examined whether readers equally skilled in both English and Hebrew read English or Hebrew faster. Pointed Hebrew was always read faster than unpointed, but the really interesting result was:

Even native Hebrew readers read English texts faster. This is true, although not to the same extent, in comparison to both voweled and unvoweled Hebrew texts. This finding is particularly interesting because ... English texts contain about 40% more words than do their Hebrew translations.<sup>57</sup>

In other words, more information, as in English, does lead to faster comprehension.

Antiquity not only did not have the variety of models to choose from that we have today, but it also did not recognize the separation of the visual and aural aspects of text that enable us to treat print and speech differently.<sup>58</sup> Hence one of the Greek words for ‘read’ was *ἄκούω* which more commonly means ‘hear’ or ‘listen’—a point I return to.<sup>59</sup> Furthermore, punctuation functions in two, not always related, ways: prosody or breathing, an aspect of speech; and grammar, an aspect of both speech and text. Paul Bruthiaux suggests that, as writing made the existence of words evident, so writing also made clear the inner structure or syntax of language.<sup>60</sup> In antiquity prosody was emphasized, while the syntactical uses of punctuation do not appear until the Middle Ages.<sup>61</sup> Seneca believes that separating words, as Latin sometimes did, denotes a stylistic difference between the Romans and the Greeks not just in writing, but also in speaking:

The pace of Quintus Haterius, a celebrated speaker of his day, is something I should have a sensible man keep well clear of: with him there was never a hesitation or a pause, only one start and only one stop.

But I also think that certain styles are suitable in a greater or lesser degree to different nationalities. In a Greek one will tolerate this lack of discipline, while we have acquired the habit of punctuating what we say, in writing as well as speech.<sup>62</sup>

The run-on style reminds me of some Italian and French lecturers with a machine-gun style of delivery. It always sounds very melodious, but is often incomprehensible to the non-native speaker. The idea that writing in its physical layout should reflect the rhythm of speech foreshadows modern poets with their special printing effects. What is curious is that Seneca found the run-on style a strain to understand, saw the connection between writing and speech, and never thought of reforming the way Latin was written.

Ken Morrison makes the intriguing suggestion that to the Greeks and Romans their texts were never more than a ‘variant of oral utterance... due to the lack of procedures for transforming *writing* into *text*.’ Only in the medieval period with the codex and its page format does ‘true’ text appear.<sup>63</sup> While the separation of words is helpful, the use of commas and periods greatly aids comprehension by distinguishing phrases and sentences from each other. For example, Quintilian does not mention the unit of the sentence: ‘Then with these very syllables let [the student] begin to understand words and with these to construct a speech [*sermonem*].’<sup>64</sup> Although the interpunct marked the unit of the word for Latin in certain periods, the reader still had to read aloud in order to construe the words into phrases and then into sentences. So Quintilian recommends:

In...connexion [with reading] there is much that can only be taught by practice, as for instance when the boy should take breath, at what point he should introduce a pause into a line, where the sense ends or begins, when the voice should be raised or lowered, what modulation should be given to each phrase.... I will give but one golden rule: to do all these things, he must understand what he reads.<sup>65</sup>

Even today, ‘inner speech’ increases when people are reading passages they find difficult.<sup>66</sup> Erasmus (1466?—1536), writing in a period when punctuation was still a novelty, puts it extremely well:

Just as the principle of symmetry, when properly applied, makes great improvement in the appearance of script, so you would hardly credit how much good punctuation contributes to the understanding of a passage; so much so that a certain scholar said rather wittily that punctuation was a kind of commentary of the text. It is useful therefore that a boy should quickly familiarise himself with this feature also, and that the habit should become second nature so that, even when his mind is on something else, he should, as he writes, attend to the punctuation marks as much as to the letters themselves.<sup>67</sup>

That punctuation can be ‘a kind of commentary’ may be seen from the line ‘GODISNOWHERE’ which ‘will be read with totally different meanings by an atheist and by a theist (“God is nowhere” and “God is now here”).’<sup>68</sup>

I believe that the development of full punctuation, as we have it today, is directly related to the switch between reading texts out loud, as was the general practice in antiquity, and reading them silently, as became increasingly common through the Middle Ages.<sup>69</sup> Scholars now agree that reading silently to oneself did occur in antiquity. They argue over when it began and just how common it was and in what situations. Bernard Knox places it at least as early as the fourth century BC.<sup>70</sup> For example, Plutarch tells the following story about Alexander the Great:

Once, when he had broken the seal of a confidential letter from his mother and was reading [ἀναγιγνώσκοντος] it silently [σιωπῆ] to himself, Hephaestion quietly put his head beside Alexander’s and read the letter with

him; Alexander could not bear to stop him, but took off his ring and placed the seal on Hephaestion's lips.<sup>71</sup>

Despite this story, according to Schenkeveld 'the earliest explicit reference to silent reading' is by Claudius Ptolemaeus, the second-century AD mathematician, a contemporary of Plutarch.<sup>72</sup>

Knox believes that more was read silently in antiquity than is often granted. He finds it remarkable: 'That Didymus wrote his more than 3,000 volumes and read the countless books on which he based them, pronouncing every syllable out loud?'<sup>73</sup> While most of what Knox has to say is judicious, his incredulity here is based too much on his own modern reading experiences. Speed in reading was not considered an ideal to achieve in antiquity the way it is today. The sheer quantity of written matter in antiquity, while not insignificant for the time, is nothing compared to the amount with which we are bombarded daily. The issue of silent vs. oral reading remains a hotly debated topic among psychologists and educators. Rosalind Horowitz finds that the 'Study of authentic uses of oral *and* silent reading are few and far between and...will ultimately be helpful in teaching and in broadening our understanding of theories of reading and writing.'<sup>74</sup> Although the evidence remains ambiguous for antiquity with both sides interpreting the same passages as proof for their cases, it seems clear that most people then would read texts out loud, albeit probably *sotto voce*, but some, and probably everybody in delicate situations, would always read to themselves.<sup>75</sup> Svenbro offers an interesting analogy:

Their [people in antiquity] relation to the written word might perhaps be compared to our relation to musical notation: not that it is impossible to read music in silence, but the most common way of doing it is playing it on an instrument or singing it out aloud [sic] in order to know what it sounds like.<sup>76</sup>

Saenger maintains that the adoption of word separation began first in the British Isles, because the native readers learned Latin as a second language and needed the extra help of the spaces to parse Latin texts into words.<sup>77</sup> Each element in our current repertory of punctuation marks has a separate introduction and each has generally taken a minimum of a hundred years to be fully adopted. Nor does a particular mark once adopted necessarily continue in the same favor, as the decrease in popularity of the semi-colon today shows.<sup>78</sup> Conversely, there are definite limits to the amount of punctuation and the number of arrangements of words that can increase our understanding of a written text.

For example,  
 experiments have been done  
 with the 'visual chunking' of text  
 to see  
 if such arrangements would increase comprehension  
 with varying results.  
 Beginning and poor readers

are helped.

Adults show

either positive results

or

no difference.<sup>79</sup>

According to Gamble, because early Christian texts were often meant for reading aloud, by the fourth century AD scribes began to arrange the text in visual chunks that matched ‘semantic units’, although, even in this case, each unit still consisted of lines with no breaks for the words within them.<sup>80</sup>

I think that arranging words in unbroken blocks impeded the development of our rich set of textual search aids, not just because of the absence of uniform pagination, but, even more importantly, because most of our aids depend on the individual word. If you want to find something in a dictionary, thesaurus, encyclopedia, almanac, or almost any reference, including the Web, you look it up by the unit of the word. Antiquity knew the concept of the word as a unit of speech, but did not consider the concept of the written word as a visual unit to be important. Consider Dionysius of Halicarnassus’s description of how children learn to read:

When we are taught to read, first we learn by heart the names of the letters, then their shapes and their values, then, in the same way, the syllables and their effects, and finally words and their properties, by which I mean the ways they are lengthened, shortened, and scanned; and similar functions. And when we have acquired knowledge of these things, we begin to write and read, syllable by syllable and slowly at first. It is only when a considerable lapse of time has implanted firmly in our minds the forms of the words that we execute them with the utmost ease, and we read through any book that is given to us unflinchingly and with incredible confidence and speed.<sup>81</sup>

In one respect little seems to have changed in the way reading is taught. Today we also learn the alphabet first and, as in antiquity, often set to song.<sup>82</sup> Yet one crucial difference separates the two methods. Today, children are taught to read either by the ‘whole word’ method or ‘phonics’ or some combination of both. The former is based on the idea that reading is a visual process that depends on the recognition of orthographic units, words; the latter resembles the ancient approach to syllables in that it is based on how the letters reflect the sounds of speech. The modern controversy as to which method is best began around the turn of the century and continues today. In a major study of both methods Marilyn Adams concluded that both methods are appropriate, especially in combination. While this recommendation might seem sensible and innocuous, it has generated an enormous, and sometimes quite vituperative, reaction.<sup>83</sup> Edmund Henderson refers to the controversy as a ‘holy war’ and ‘doubt[s] that there is such a thing ever as pure whole-word linguistic catastrophe.’<sup>84</sup> recognition or pure alphabetic recognition except in the case of some 84

Never in antiquity was the whole word method used. The unit of the word, which is mentioned in the passage from Dionysius, is not considered from the point of view of its meaning, but rather of its pronunciation. In another essay, *On the Style of Demosthenes* (52), Dionysius discusses the same topic in much the same way, but significantly does not mention the unit of the word. Because all the letters were run together, the major problem every reader faced was figuring out what was a word. The only way to do that is syllable by syllable. To get an idea of how the process would work, read the following sentence first as you would normally and then out loud: ‘It is difficult to wreck a nice beach.’ When you read the sentence out loud, you should have heard: ‘It is difficult to recognize speech.’<sup>85</sup> The sentence also points up another issue. Alphabetic transcription is by no means an exact replication of sound, but—and this is the important point—it is good enough.<sup>86</sup> The ancient focus on the syllable as a major unit also affected the ancient view of the nature of words. Instead of analyzing words by their roots and affixes, Varro, for instance, generally based his etymologies on the syllable. Hence he (5.63) connects ‘*vis*’ (‘force’) with ‘*vita*’ (‘life’), even though they are not etymologically related.<sup>87</sup>

One additional cognitive explanation exists for the two major ways of reading. Instead of thinking of them as ‘whole word’ and ‘phonic’, think of them as ‘Visual’ and ‘aural’ respectively. English has a script that sometimes has little correspondence with the way a word is pronounced, but that has much to do with the morphological history of the word. Greek and Latin, on the other hand, have scripts that reflect in a much more obvious and direct way how they are pronounced. These two types of written ‘coding’ are called ‘deep’ and ‘shallow’ orthography. Studies of modern languages, including a comparison of Greek and English readers, show that in a shallow orthography like Greek, with a great correspondence between sound and form, readers tend to read aurally.<sup>88</sup> In a deep orthography like English, with an often arbitrary pronunciation for the letters, processing tends to be more visual. I have qualified the dichotomy, because in neither case is only one strategy used. Some Greek readers will read certain kinds of words visually. Some English readers will read phonically. Most will mix their approaches to suit the text and themselves. Robert Crowder and Richard Wagner note that ‘when change [in orthography] occurs, it always has occurred in the direction that carries writing away from the representation of meanings and toward the representation of sounds.’<sup>89</sup> Hence it is entirely appropriate for written English to acquire new spellings like ‘thru’.

Since both Greek and Latin have shallow orthographies, their readers had no compelling reason to change the display of their text from the block-like form that dominated for approximately a millennium. Moreover, Joseph Shimron and Tamar Sivan believe that ‘It is likely that reading English aloud will not be faster than reading Hebrew for bilinguals whose L1 [first language] is Hebrew.’ In other words, because orthography should have less effect when read aloud than when read silently, the ancient display of text in *scriptio continua* was less of a problem than it would be today, when people read silently to themselves.<sup>90</sup>

### 3 'PUBLICATION'

Without publishers *per se*, with no advertising, and with limited means of replication and distribution, how did the classical writer publish his work? In this chapter, I discuss the intermediate stage between the time the author feels the work is done and when it gets into the hands of an independent reader via a friend, a library, or a bookseller—the subject of the next chapter. I discuss the actual process of writing in Part 3, 'Writing habits of the literate'.

#### FINAL DRAFTS AND AUTOGRAPH COPIES

The author produces the final draft from which copies can be made. While the author is responsible for the final draft, he does not necessarily write it himself. Marcello Gigante puts it well:

We gladly renounce the romantic illusion...that among the Herculaneum papyri an autograph copy or evidence of Philodemus' own hand could be found. Philodemus was not a copyist or corrector of his own books. Speculating whether an autograph exists cannot be put on the same level of inquiry as questioning the existence of variations overseen by the author.<sup>1</sup>

In the same way, many writers today have another person type or word process the exemplar from which copies will be made. Martial makes it clear that he doesn't write the final version:

Now learn what are the merits of a concise book [*libelli*]. This first: less of my paper [*charta*] is wasted; next my copyist [*librarius*] gets through it in a single hour, and he will not be wholly busied with my trifles.<sup>2</sup>

As I will discuss in Chapters 11 and 12, producing a written text was often a process for two people, with the author dictating to a scribe. The author could also mark up the final draft with his corrections, from which a scribe would produce the fair copy. In that case the process is the same as writing a draft: either two people, one to dictate and one to write; or one, a scribe, to write only. Next, as today, someone has to proof the fair copy to make sure it has incorporated all the corrections, but has acquired no new mistakes.

Without printing presses, xeroxing machines, and electronic duplication of digitized texts, only one means of mass reproduction was available in antiquity: each and every copy was produced individually by hand, like Torahs today. Copies could be made either one at a time or in multiples, if one person dictated the text simultaneously to a number of

copyists.<sup>3</sup> We do not know what that number might be. Do you dictate to five, ten, twenty, or more scribes at one time? Do you make five daughter copies from the one master and give it out to five two-man teams to copy? Do you reproduce only on demand, the way University Microfilms makes doctoral dissertations available today? The only area where we have concrete information is for administrative and legal recorders. Up to four stenographers would take dictation, and then the copies would be compared for accuracy in much the same way as, in the early days of the computer, two cards were keypunched for each item and then compared.<sup>4</sup> The papyri from the Villa of the Papyri in Herculaneum shed some additional light. A single work that required multiple rolls could have multiple scribes. Philodemus's *On Poems* was copied by four different hands.<sup>5</sup> Otherwise we have only hints about the ancient methods and then generally because something went wrong.

Cornelius Nepos gives a brief description of Atticus's staff:

He had slaves that were excellent in point of efficiency, although in personal appearance hardly mediocre; for there were among them servants who were highly educated, some excellent readers [*anagnostae*] and a great number [*plurimi*] of copyists [*librarii*]; in fact, there was not even a footman who was not expert in both these accomplishments.<sup>6</sup>

It's nice to know that beauty and brain can not only coexist in one person, but also were considered something worthy of comment in antiquity. Nepos, unfortunately, leaves out more of the kind of information we are interested in than he includes. For example, we would dearly like to know the numbers for who did what and when. The main import of the passage is that the members of Atticus's staff were versatile, although some, as is to be expected, did certain jobs better than others. The best ancient representation of copying I have found is not classical, but Egyptian. It is from the grave of Teji, secretary to Menepthah, the son of Ramses II (ca. 1232 BC).<sup>7</sup> In the left third of the picture are three stacked frames: two rows of seated scribes flank a scene of a single person writing on a roll. While each scribe is probably working on a different document, it is likely that 'mass' copying was done in this manner.

One of the few generalizations that holds true over the millennia is that authors are never satisfied with the reproduction of their work, Cicero implies that a stage existed equivalent to that of our page proofs, when the author has an opportunity to make corrections:

My book for Varro will not be long. It is practically done, as you saw. It is now only a matter of correcting [*tolluntur*] copyists' errors [*librarium mendam*]. You know I had my doubts about this book [*libris*], but it's your responsibility. The clerks also have in hand the work I am presenting to Brutus.<sup>8</sup>

Cicero's word for removing mistakes [*tolluntur*] literally means 'lifting' or 'raising' with the 'ink' implied. It is an example of the ancient terminology accurately describing the actual process. Sometimes the author is too late with his corrections. In another letter, Cicero asks Atticus 'if you will get your clerks to substitute Aristophanes for Eupolis both in your copies and in other people's [the *Orator*].'<sup>9</sup> The Villa of the Papyri

preserves:

a 'coexistence of various and incomplete editions,' which are combined and integrated with each other. These are not just different editions or copies of the same 'book' but textually different ones. This is proved by several cases where we have double or triple copies of the same book of Epicurus' *On Nature*.<sup>10</sup>

Van Groningen stresses that our concept of an 'edition' didn't exist in antiquity. Instead he believes the Greek word, 'ἐκδοσις', which is generally translated as 'publish' or 'edition', merely indicates the stage at which the author lets the final draft out of his own hands.<sup>11</sup>

Publishing presented other hazards. Since copyrights did not exist and since 'publication' was almost always *ad hoc*, there was no control. Cicero complains to Atticus that Atticus has prematurely circulated one of Cicero's works and tells him that 'You will oblige me by keeping the others [remaining rolls of *On Ends*] back so that Balbus does not get them unrevised or Brutus stale.'<sup>12</sup> The way unauthorized copies were produced is interesting. Cicero, further on in the same letter, says:

But how did it slip my mind to tell you? Caerellia, in her amazing ardour for philosophy no doubt, is copying from your people. She has this very work *On Ends*. Now I assure you (being human I may be wrong) that she did not get it from my men—it has never been out of my sight. Moreover, so far from making two copies they had difficulty in finishing one.<sup>13</sup>

The situation has analogies today with the circulation of manuscripts in draft, which get recirculated without the author's knowledge through re-xeroxing. Of even more serious concern now is the loss of the fixed text, because computerization allows changes that leave no traces.

Some copyists were so good that by the second century AD their texts were highly esteemed. M.Cornelius Fronto writes in his usual florid style to his pupil, Marcus Aurelius:

What nobler fate could befall anyone save that alone, when in Heaven, as poets tell, the Muses sing, while Jove their sire is audience? Indeed, with what words could I express my delight at your sending me that speech of mine copied out with your own hand?... What fortune like this befell M.Porcus or Quintus Ennius, Gaius Gracchus, or the poet Titius? What Scipio or Numidicus? What M.Tullius, like this? Their books [*libri*] are valued more highly and have the greatest credit, if they are from the hand of Lampadio or Staberius, of Plautius or D.Aurelius, Autrico or Aelius, or have been revised by Tiro or transcribed by Domitius Balbus, or Atticus or Nepos. *My* speech will be extant in the handwriting of M.Caesar. He that thinks little of the speech will be in love with the very letters of it.<sup>14</sup>

Such texts were sometimes available for others to consult, as Suetonius in the previous century makes clear, when describing Augustus's handwriting quirks:

I [Suetonius] have also observed this special peculiarity in his manner of writing: he does not divide words or carry superfluous letters from the end of one line to the beginning of the next, but writes them just below the rest of the word and draws a loop around them.<sup>15</sup>

Lucian (*The Ignorant Book-Collector*, 4), writing around the time of Marcus Aurelius, implies that such autograph copies have achieved the status of what we would today call collectibles. Over and above the pleasure of owning an ‘original’ autograph copy, that is a text written by the author himself, would be the knowledge that the text would be reasonably accurate. I qualify the ‘accurate’, because authors do make mistakes. Suetonius further relates about Augustus:

Of course his frequent transposition or omission of syllables as well as of letters are slips common to all mankind. I should not have noted this, did it not seem to me surprising that some have written that he cashiered a consular governor, as an uncultivated and ignorant fellow, because he observed that he had written *ixi* for *ipsi*.<sup>16</sup>

### ‘PROOFING’

The only means for assuring the accuracy of texts was through the comparison of copies. While proofing today is laborious and not totally error-free, in antiquity it was a herculean task, for each and every copy had to be checked individually. Moreover, as I have stressed, the arrangement of classical texts in unbroken blocks that varied from copy to copy increased the difficulties. Despite the differences between the display of their texts and ours, the two major ways of proofing a text haven’t changed. Either you do it by visually comparing the two or by having one person read the original aloud, including punctuation today, as a second person checks the copy<sup>17</sup>

Suetonius describes the process in his life of the grammarian Marcus Valerius Probus:

After getting together a large number of copies [*exemplaria*], he gave his attention to correcting [*emendare*] and punctuating [*distinguere*] them and furnishing them with critical notes [*annotare*], devoting himself to this branch of grammar [*grammatices*] to the exclusion of all others.<sup>18</sup>

If you did not have access to multiple copies or, at least, a copy against which to compare the copy you bought, you could only hope for the best, especially if you were a doctor. T.W.Allen says:

To such trouble was this encyclopaedic physician [Galen] put by the uncertainty of ancient books. He and others, it is well known, wrote out their prescriptions in full...and when that was useless, in verse (Galen in heroic hexameters!) in order to guarantee the proportions. His investigation of the Hippocratean text (vol. xv sq.) was not undertaken with a philological or antiquarian object, but to

guarantee the correctness of the medical encyclopaedia.<sup>19</sup>

A number of papyri survive with corrections by the original scribe and some with corrections by a second person.<sup>20</sup>

The variable quality of texts was recognized at least as early as the sixth century BC, when Homer, according to tradition, received his first 'official' edition. The plays of the fifth-century Attic tragedians had become so corrupt by the following century that a special law was passed by Lycurgus to establish and maintain 'clean' copies.<sup>21</sup> Plutarch tells a story about Alcibiades in the fifth century:

Once, as he [Alcibiades] was getting on past his boyhood, he accosted a school-teacher and asked him for a book of Homer. The teacher replied that he had nothing of Homer's, whereupon Alcibiades fetched him a blow with his fist, and went his way. Another teacher said he had a Homer which he had corrected [διωρθωμένον] himself. 'What!' said Alcibiades, 'are you teaching boys to read when you are competent to edit [ἐπανορθοῦν] Homer? You should be training young men.'<sup>22</sup>

The anecdote underlines the fact that the most likely place to find a book in classical Athens was in the possession of some reader. More important for the current discussion, it shows that individual readers felt the need to correct the texts they had. Today, when we see 'annotations' in a book, we view it as a desecration, even when mistakes are corrected. Not only were corrections considered essential then, but also the corrector was esteemed. What the account does not tell us is how that teacher made his emendations. Did he compare one copy of Homer with another? Did he decide on the basis of his own understanding of how Homer should read?

The first recorded instance we have of an historian recording a discrepancy between copies occurs in Polybius in the second century BC.<sup>23</sup> Strabo, a century later, complains about the quality of the texts of Aristotle:

certain booksellers [βιβλιοπῶλαι] who used bad copyists [φαύλοις γραφεῦσι] and would not collate [ἀντιβάλλοντες] the texts—a thing that also takes place in the case of the other books that are copied for selling, both here [in Rome] and in Alexandria.<sup>24</sup>

'Collating' means comparing two texts against each other for agreement and disagreement and not merely ensuring that all the pages are in sequence. This usage of collating continues today for critical editions of texts like James Joyce's *Ulysses*, when the editor establishes the preferred reading word by word in the text with an '*apparatus criticus*' at the bottom that gives the variant readings from other 'editions' of the work.

Scribal errors were often so rife that it truly was '*caveat emptor*'.<sup>25</sup> Cicero writes to his brother: 'As for the Latin ones, I don't know where to turn, the copies are made and sold so full of errors.'<sup>26</sup> Varro limits his discussion of '*is*' ('*this*'): 'I have touched upon this classification more sparingly, because I am of opinion that the copyists will not take proper care in transferring these quite confusing matters.' The translator adds in a

footnote: ‘The condition of the manuscripts shows that Varro was right.’<sup>27</sup> Livy spares the writer and blames the scribe, when he says ‘In the case of Lucius Scipio I would prefer indeed that there was an error [*mendum*] of the scribe [*librarii*] rather than a lie [*mendacium*] of the writers [*scriptores*] regarding the sum of gold and silver.’<sup>28</sup> Martial takes advantage of the relationship between author and scribe with the stock excuse:

If any poems in these sheets [*chartis*], reader, seem to you either too obscure or not quite good Latin, not mine is the mistake: the copyist [*librarius*] spoiled them in his haste to complete for you his tale of verses. But if you think that not he, but I am at fault, then I will believe that you have no intelligence.<sup>29</sup>

The problems that accurate copies present lie behind Plutarch’s praise for the library of Lucullus as having both ‘many books and well written **[γεγραμμένα καλῶς]**,’<sup>30</sup>

A little flattery might get the author to personally go over your copies. So Pliny the Younger answers the request of Metilius Nepos:

You want me to re-read and correct [*emendandos*] the copies of my speeches [*libellos*] which you have assembled with such care. Of course I will, for there is nothing which I ought to do so gladly, especially at your request. When a man of your judgment, scholarship and eloquence (and moreover as busy as yourself and the future governor of an important province) thinks my writings worth carrying around with him, I should surely do my utmost to see that this item of luggage is not a useless encumbrance. My first care then shall be to make your present travelling companions as congenial as possible; and my second to provide you with more which you may like to add to them on your return. The fact that you are one of my readers is no small encouragement to new work.<sup>31</sup>

Authors in any age need little incentive to produce more.

The concern an author had for the accuracy of his text sometimes resulted in admonitions to readers and future copyists. According to Eusebius, Irenaeus (second century AD) ended his work, *The Octet*, with the following plea:

If, dear reader, you should transcribe this little book, I adjure you by the Lord Jesus Christ and by His glorious advent, when He comes to judge the living and the dead, to compare your transcript **[ἀντιβάλης]** and correct it carefully by this copy **[ἀντίγραφον]** from which you have made your transcript. This adjuration likewise you must transcribe and include in your copy.<sup>32</sup>

By the beginning of the fourth century AD not just authors, but scribes, collators, and correctors were sometimes acknowledged:

This volume has been transcribed from, and corrected by, the Hexapla of Origen, as corrected by his own hand. Antoninus, the confessor, collated **[ἀντεβάλεν]** and I, Pamphilus, corrected [*διόρθωσα*] the volume in prison, by the favour and enlargement of God. And if it be not presumptuous so to say, it

would not be easy to find a copy equal to this copy.<sup>33</sup>

Sometimes the emenders were over-zealous. Aulus Gellius devotes a lengthy discussion as to whether Cicero used *'futurum'* or *'futuram'* in one of his speeches against Verres (2.5.167). Gellius remarks that he was using 'a copy of unimpeachable fidelity [*libro spectatae fidei*], since it was the result of Tiro's careful scholarship' with the result that 'there is no error in writing or grammar but those are wrong who do violence to good copies [*bonos libros*] by writing *futuram*.'<sup>34</sup> Quintilian sees the situation in more general terms: 'Unlearned readers are apt to alter such [archaic] forms when they come across them in old books, and in their desire to decry the ignorance of the scribes convict themselves of the same fault.'<sup>35</sup>

## TITLES

Today, books automatically come with titles.<sup>36</sup> Yet their usefulness was not immediately apparent in antiquity, because the need for titles is a function of number. If you have only one written work, you can simply refer to it as 'the Book', as, indeed, the Bible (from *biblion*, book) is still known. When you have two works, you can refer to them in five basic ways: by number (one or two), by author, by subject, by the opening words, or a combination thereof. As soon as an author produces more than one work, then each work requires a further modifier, the content—hence the combination method of titling. We have Homer's *Iliad* and *Odyssey*. But, as I mentioned in Chapter 2, the names and the division into 'books' all postdate Homer. Homer's early readers would have probably said they were reading the 'book' about Achilles or the one about Odysseus. By the fifth century BC, the height of classical Greece, titles became common for the Attic plays, but remained rare for other writings. Herodotus opens his work (1.1): 'This is the exposition [*ἀπόδεξις*] of the history [*ἱστορίας*] of Herodotus of Halicarnassus....'<sup>37</sup> Thucydides does the same thing (1.1): Thucydides the Athenian wrote down [*ξυνέγραψε*] the war of the Peloponnesians and Athenians....' Both authors do two things to distinguish their works. First, they say who they are by giving their names and where they come from. Second, they give the subject of their works. In neither case is there a formal title. Instead, each author gives the pertinent information not in bullet style, as today, but in a sentence.

As with all of the tools related to literacy, titles become increasingly common as time passes. In the fourth century BC Plato names his dialogues after whoever is Socrates's main antagonist in the particular dialogue. His followers, however, often wanted more explicit information. So they retained his title, e.g. *Phaedo*, and added 'or about the Soul'. The idea of compound titles continues today, as in the title of this book. But not everything had titles. One major group consisted of works, like speeches, that had no need for titles when originally composed. Sometimes several titles existed for the same work. Athenaeus makes the following reference:

Archestratus of Syracuse (or was it Gela?) in a work which Chrysippus entitles 'Gastronomia,' but which Lynceus and Callimachus call 'The Art of High Living,' Clearchus, 'The Art of Dining,' and others, 'The Art of Fine

Cookery’—the poem is in epic verse and begins, ‘Of learning I offer proof to all Hellas.’<sup>38</sup>

Athenaeus in a later reference (7.278a) adds yet a fifth title (‘Gastrology’) for the same work. Even today fixed titles are not always the rule, especially when publishers think that the American and British markets differ. One of Agatha Christie’s mysteries started out as *Ten Little Niggers* in Britain, became *Ten Little Indians* in the United States, and finally, *And Then There Were None*. Both then and now the most conclusive way to tell whether the titles refer to the same work is to examine the originals. Descriptive summaries can sometimes be helpful. ‘Cataloguing’ information is today recorded directly in the book itself, generally on the back of the title page.

In antiquity they had one method that we never use. After Athenaeus has given the four alternate titles, he proves that they refer to the same work by quoting the opening line. The use of *incipits* (*‘it begins’*) to identify works was common. Callimachus, when he lacks a title and no obvious one is to hand, gives the incipit.<sup>39</sup> Incidentally, Callimachus often includes a count of the number of lines, even for non-metrical works. Poetry with its meter should have a consistent line count no matter what the handwriting or format; whereas prose could vary enormously in layout. None the less, the linecounts would give a general idea as to whether a work was very long or very short. As an example, according to Athenaeus:

There is even a book by Chaerephon [a contemporary of Socrates] recorded by Callimachus in his *Table* [πίνακι] of *Miscellany*; he writes as follows: ‘Writers on dinners: Chaerephon to Kurebion.’ And then he subjoins the beginning of it, ‘Since you have often bidden me’ (and adds the size) ‘in three hundred and seventy-five lines.’<sup>40</sup>

The titles themselves appeared on identifying tags and within the roll, often at the end, because that was the most protected portion of a roll, since it was innermost.<sup>41</sup> Not until late in antiquity do titles appear at the beginning of a roll.<sup>42</sup> This placement may have contributed to the use of incipits, since they would be the first part of any roll to be read. By the time of Cicero, titles were generally assigned by the authors themselves and not by scholars or librarians, as during the Hellenistic period, although, for example, Horace did not refer to his work as the *Ars Poetica*.<sup>43</sup> Pliny the Elder has a rather long and somewhat historical disquisition on the subject:

There is a marvellous neatness in the titles [*inscriptionis*] given to books among the Greeks. One they entitled Κηρίον, meaning *Honeycomb*... and again *Violets, Muses, Hold-alls, Handbooks, Meadow, Tablet, Improtnptu*—titles that might tempt a man to forfeit his bail. But when you get inside them, good heavens, what a void you will find in the middle! Our authors being more serious use the titles *Antiquities, Instances and Systems* .... Diodorus among the Greeks stopped playing with words and gave his history the title of *Library*.... For myself, I am not ashamed of not having invented any livelier title [than *Natural History*].<sup>44</sup>

Pliny the Younger advises that it is ‘a writer’s first duty...to read his title [*titulum*], to

keep asking himself what he set out to say, and to realize that he will not say too much if he sticks to his theme [*materiae*], though he certainly will if he brings in extraneous matter.'<sup>45</sup> This statement is not so very different from a modern view of titles. Hazard Adams says that 'a true title must *always* be integral to the work.'<sup>46</sup>

Aulus Gellius takes a simple route:

And since, as I have said I began to amuse myself by assembling these notes during the long winter nights which I spent on a country-place in the land of Attica, I have therefore given them the title [*inscripsimus*] of *Attic Nights*, making no attempt to imitate the witty captions [*inscriptionum*] which many other writers of both languages [Greek and Latin] have devised for works of th [is] kind... I thus fall as far short of all other writers in the dignity too even of my title [*inscriptionis*], as I do in care and in elegance of style.<sup>47</sup>

As with all textual aids in antiquity, titles were never quite standardized. Suetonius preserves my favorite example: 'The "Eunuch" [of Terence] was even acted twice in the same day and earned more money than any previous comedy of any writer, namely eight thousand sesterces; and for this reason the sum is included in the title-page [*titulo*].'<sup>48</sup> By the Middle Ages titles became essential, in part, according to Mary Carruthers, because they provided a mnemonic and, more importantly, the moral starting point for each work.<sup>49</sup> While we consider titles to be essential today, sometimes it is not very easy to decide what the title is; for example, Dickens went through at least fourteen titles before deciding on *David Copperfield*.<sup>50</sup> Scholars sometimes refer in print to a future project by a title that never makes it to print.

## OTHER FORMS OF TRANSMISSION

In addition to physical replication of a text, one other major route of making one's work known was common: public readings or performances. The continuation of oral transmission is a natural development from an oral culture that only had public performances. Thomas Cole says: 'Until the term *poiêtês* (first attested in the mid-fifth century) gained currency, the language did not even have the means of distinguishing composer from performer.'<sup>51</sup> In an age without electricity and the marvels of communication that it allows, public performance before an audience physically in attendance remained a dominant form of transmission and not just for plays, which, both then and now, are almost invariably meant for performance. Like Shakespeare and opera, the best plays formed a standard repertory that would be performed regularly with the result that their texts needed to be preserved over time. I have already alluded to the corruption of the texts for the plays written by the fifth century BC Greek tragedians.

Most other kinds of texts, however, can be written either for performance or for reading or for both. Our earliest Greek 'literature' is Homer, whose works were originally circulated and made known orally. After his death, rhapsodes travelled from place to place performing Homer and other epic poets. When literacy became common, at least among the elite, the rhapsodes became the butt of the literate like Socrates in Plato's *Ion*. Simonides, whom you will meet at length in Chapter 7, is credited with the invention of

pay for poetry, or as a scholiast (ancient commentator) put it: ‘Simonides seems to have been the first to introduce money-grabbing into his songs and to write a song for pay. This is what Pindar says in riddling fashion in his *Isthmians* (2.1 ff).’<sup>52</sup>

Writers like Herodotus worked during a transitional period when the written word was becoming sufficiently common for individuals to begin to acquire texts. Lucian writes that:

As soon as he [Herodotus] sailed from his home in Caria [Turkey] straight for Greece, he bethought himself of the quickest and least troublesome path to fame and a reputation for both himself and his works. To travel around reading his works, now in Athens, now in Corinth or Argos or Lacedaemon in turn, he thought a long and tedious undertaking that would waste much time.... The great Olympian games were at hand, and Herodotus thought this the opportunity he had been hoping for. He waited for a packed audience to assemble, one containing the most eminent men from all Greece; he appeared in the temple chamber, presenting himself as a competitor for an Olympic honour.... In a single meeting he won the universal approbation of all Greece and his name was proclaimed not indeed just by one herald but in every city that had sent spectators to the festival.

The lesson was learnt. This was the short-cut to glory.<sup>53</sup>

Nielsen ratings may be a modern invention, but the principle on which they depend—the largest audience for the least cost—was established early. Some scholars, however, claim that because Lucian wrote so many centuries after the fact, he may not be an accurate source for the way Herodotus went about publicizing his works, especially since Lucian says that Herodotus ‘so bewitched his audience that his books were called after the Muses, for they too were nine in number’;<sup>54</sup> for we know that the names of the Muses were not attached to Herodotus’s *Histories* until the Hellenistic period. Momigliano concludes that ‘We simply do not know whether Thucydides, Xenophon and, for that matter, the other eminent historians of the fourth century BC (Ephorus, Theopompus) ever read their works in front of an audience.’<sup>55</sup> Yet we do know that, in addition to poets like Simonides and Pindar, various philosophers from the fifth century BC and later did go around Greece reading from their works.<sup>56</sup> Hence Lucian may be wrong about the originator of the practice, but not about the practice itself or its appearance in the fifth century BC.

By the fourth century BC, at least according to tradition, some audiences were less than captive. Diogenes Laertius records that ‘when Plato read the dialogue *On the Soul*, Aristotle alone stayed to the end.’<sup>57</sup> Cicero repeats virtually the same story, but with different players:

When reading that long and well-known poem of his [Antimachus] before an assembled audience, in the very midst of his reading all his listeners left him but Plato: ‘I shall go on reading,’ he said, ‘just the same for me Plato alone is as good as a hundred thousand.’ ...If Demosthenes on the other hand had held only Plato as his auditor and was deserted by the rest, he could not have uttered a single word.<sup>58</sup>

As a result, Aristotle, in his work *On Rhetoric*, directly addressed what had become a common problem:

Remarks aimed at the audience derive from an effort to make them well disposed and sometimes to make them attentive or the opposite; for it is not always useful to make them attentive, which is why many speakers try to induce laughter...as Prodicus [fifth century sophist] said, 'to throw in some of the fifty-drachma lecture when the hearers nod.'<sup>59</sup>

Conversely, there were lecture-groupies. Plato writes in the *Republic* about:

Lecture-fanciers who love listening, the last persons in the world to be counted philosophers—they will never attend a discussion or any such serious study if they can help it, but their ears are for public hire; they run about to hear all the concerts at festival time, not leaving out one town or one village.<sup>60</sup>

Plutarch devotes an essay to the subject ('On Listening [to lectures]' = *Moralia*, 37c—48d). Some lecture-goers, like today, took extensive notes, and then circulated those notes much like the modern note-taking services that have sprung up around major universities. On the one hand, these notes are the basis of much of what has survived from the Hippocratic corpus and even of Aristotle; on the other hand, being notes, they are subject to all the problems of notes—contradictions, inaccuracies, lacunae. Quintilian explains the problems such notes present for an author:

I have been all the more desirous of so doing [writing a work on teaching oratory] because two books on the art of rhetoric are at present circulating under my name, although never published by me or composed for such a purpose. One is a two days' lecture which was taken down by the boys who were my audience. The other consists of such notes as my good pupils succeeded in taking down from a course of lectures on a somewhat more extensive scale: I appreciate their kindness, but they showed an excess of enthusiasm and a certain lack of discretion in doing my utterances the honour of publication. Consequently in the present work although some passages remain the same, you will find many alterations and still more additions, while the whole theme will be treated with greater system and with as great perfection as lies within my power.<sup>61</sup>

Quintilian is very aware of the differences between oral and written delivery, an issue to which I return later. The modern example *par excellence* for the publication of lecture notes by students is that of *The Course in General Linguistics* of Ferdinand de Saussure.

The Romans virtually institutionalized the practice of public performance.<sup>62</sup> According to Quinn, there were four different public venues in the first century BC:

- [1] the traditional performance by the poet himself to a few friends;...
- [2] some kind of contest in which more than one poet takes part;...

[3] non-dramatic performance by the poet himself;...[4] professional performance in the theatre as some kind of spectacle.<sup>63</sup>

The best known public performer today may have been Nero, who ‘read his poems too, not only at home but in the theatre as well, so greatly to the delight of all that a thanksgiving was voted because of his recital, while that part of his poems [that had been read aloud] was inscribed in letters of gold and dedicated to Jupiter of the Capitol.’<sup>64</sup> Claudius, his predecessor, was not the performer Nero was:

When he gave his first reading to a large audience, he had difficulty in finishing, since he more than once threw cold water on his own performance. For at the beginning of the reading the breaking down of several benches by a fat man raised a laugh, and even after the disturbance was quieted, Claudius could not keep from recalling the incident and renewing his guffaws. Even while he was emperor he wrote a good deal and gave constant recitals through a professional reader [*lectorem*].<sup>65</sup>

Vergil, in contrast, was a master performer. According to Suetonius:

The success of the ‘Bucolics’ on their first appearance was such, that they were even frequently rendered by singers [*cantores*] on the stage [*in scena*]. When Augustus lingered at Atella to treat his throat, Vergil read the ‘Georgics’ to him for four days in succession, Maecenas taking his turn at the reading whenever the poet was interrupted by the failure of his voice. His own delivery, however, was sweet and wonderfully effective. In fact, Seneca has said that the poet Julius Montanus used to declare that he would have purloined some of Vergil’s work, if he could also have stolen his voice, expression, and dramatic power; for the same verses sounded well when Vergil read them, which on another’s lips were flat and toneless.<sup>66</sup>

Vergil even found live performance an aid in composition in much the same way that I, at a much lower level, will notice some grammatical clanger when reading a formal lecture to an audience, but not to myself. Suetonius records:

Eros, his amanuensis [*librarium*] and freedman, used to report, when he was an old man, that Vergil once completed two half-verses off-hand in the course of a reading...and he immediately ordered Eros to add both half-lines to his manuscript [*volumni*].<sup>67</sup>

Pliny the Younger performed well in certain situations and not in others. He wrote Suetonius a letter about his problems that I quote in full:

Please settle my doubts. I am told that I read badly—I meant when I read verse, for I can manage speeches, though this seems to make my verse reading all the worse. So, as I am planning to give an informal reading to my personal friends, I am thinking of making use of one of my freedmen. This is certainly treating

them informally, as the man I have chosen is not really a good reader, but I think he will do better than I can as long as he is not nervous. (He is in fact as inexperienced a reader as I am a poet.) Now, I don't know what I am to do myself while he is reading, whether I am to sit still and silent like a mere spectator, or do as some people and accompany his words with lips, eye and gesture. But I don't believe I am any better at mime than at reading aloud. Once more, then, settle my doubts and give me a straight answer whether it would be better to read myself, however badly, than to do or leave undone what I have just said.<sup>68</sup>

It is one thing to act out a poetic work, it is another to lip-synch the text. What is hard to comprehend is that Pliny could not have found himself a better reader—which would have made his decision much easier. No, we don't have the answer from Suetonius. We do have, however, three other letters of Pliny on the same subject. First, he mentions his devoted wife, who 'If I am giving a reading...sits behind a curtain near by and greedily drinks in every word of appreciation.'<sup>69</sup> Second, he writes to a friend about such entertainment:

You [Julius Genitor] complain about a dinner party, a grand affair which filled you with disgust at the mimes and clowns and the male 'dancers' going the round of the tables. Please don't be for ever frowning—I have nothing of that kind in my own house, but I can put up with those who do...think how many people there are who dislike the entertainments which we find fascinating, and think them either pointless or boring. How many take their leave at the entry of a reader, a musician, or an actor.... Let us then be tolerant.<sup>70</sup>

Third, Pliny has some astute observations about the average attender of poetic readings that still hold true:

There was scarcely a day throughout the month of April when someone was not giving a public reading...in spite of the fact that people are slow to form an audience. Most of them sit about in public places, gossiping and wasting time when they could be giving their attention, and give orders that they are to be told at intervals whether the reader has come in and is reading the preface, or is coming to the end of the book. It is not till that moment—and even then very reluctantly—that they come dawdling in. Nor do they stay very long, but leave before the end, some of them trying to slip out unobserved and others marching boldly on.<sup>71</sup>

When public performance became more formal—that is, when the audience no longer was composed only of your friends and the larger public was invited, the logistics could be daunting. According to Tacitus:

[A poet] finds himself obliged to run around into the bargain and beg people to be kind enough to come and form an audience. That too costs him something, for he has to get the loan of a house, to fit up a recitation-hall, to hire chairs, and

to distribute programmes [*libellos*]. And even supposing his reading is a superlative success...what he gets out of it is never a friend, never a client, never any lasting gratitude for a service rendered, but only fitful applause, empty compliments, and a satisfaction that is fleeting.<sup>72</sup>

Hadrian, one of the more literate emperors, built an Athenaeum especially for such readings, and had a library attached to it.<sup>73</sup> According to some modern critics, 'That the *recitatio* [public reading] killed Roman literature is a familiar half-truth. One can argue that, on the contrary, it granted a patient who was already mortally ill an extended lease of life.'<sup>74</sup>

In summary, publication in antiquity is 'publication' only in quotes. Perhaps 'release' is a better term for a process over which the author and even his 'publisher' had so little control. Finally, publication throughout antiquity always had a large oral component. While authors today may give readings of their works, it is only of selections—except for children's books—and then only to entice you to buy them. It is inevitable that chaotic publication led to chaotic acquisition of books, which I discuss in Chapter 4.

## THE ORGANIZATION OF COLLECTIONS OF WORDS

So far I have considered the book, or rather the roll, only as a single unit. Dealing with multiple works, as any highly literate person does, increases the problems of organization from that of the word within the text to the next level of texts within texts (multiple selections within the same unit), and finally to the highest level of separate texts that in sufficient numbers warrant a kind of storage developed specifically for them. This chapter focuses on the acquisition and arrangement of multiple texts, both literary and documentary, and the nature of access to them in antiquity.

### OBTAINING BOOKS

The rich, as always, could afford to purchase what they wanted. They would get books in much the same way we do: buying directly from ‘booksellers’; using public and private libraries; and borrowing and copying ‘editions’ owned by friends. Booksellers do not appear until the end of the fifth century BC. We don’t know how they worked at the time and their role remains unclear even in later periods.<sup>1</sup> Did they keep a stock of basic texts to be copied on demand, much like the reproduction of American dissertations by *University Microfilms*? Did they have multiple copies of popular works? All major cities must have had bookshops of some sort. Pliny the Younger admits that:

I didn’t think there were any booksellers [*bibliopolas*] in Lugdunum [modern Lyons], so I was all the more pleased to learn from your letter that my efforts [*libellos*] are being sold. I’m glad they retain abroad [*peregre*] the popularity they won in Rome [*urbe*].<sup>2</sup>

In other words, Pliny has little idea what happens to his works once they leave his hands—a situation very similar to today. Most of the time we don’t know where our books are going to be sold, especially outside our own country. It is uncertain what kind of payment, if any, authors received. It is extremely doubtful that they were paid anything like royalties. Horace ambiguously says ‘That is the book to make money for the *Sosii*’, who were booksellers;<sup>3</sup> while Martial says: ‘The whole collection of *Mottoes* in this slender little volume will cost you to buy four sesterces. Is four too much? it can cost you two, and bookseller [*bybliopola*] Tryphon would make his profit.’<sup>4</sup>

While books were neither great rarities nor terribly expensive in Rome, they still had a certain cachet, for Seneca the Younger asks:

What is the use of having countless books and libraries, whose titles their owners can scarcely read through in a whole lifetime?...Let someone else praise this library [at Alexandria] as the most noble monument to the wealth of kings.... There was no ‘good taste’ or ‘solicitude’ about it, but only learned luxury—nay, not even ‘learned,’ since they had collected the books, not for the sake of learning, but to make a show, just as many who lack even a child’s knowledge of letters use books, not as the tools of learning, but as decorations for the dining-room.<sup>5</sup>

Used books were available, and, along with them, opportunities for the shady to gull the innocent and the *nouveau riche*. Lucian in the second century AD devoted a dialogue to ‘The Ignorant Book-Collector’:

Why, how can you tell what books are old and highly valuable, and what are worthless and simply in wretched repair—unless you judge them by the extent to which they are eaten into and cut up, calling the bookworms into counsel to settle the question? As to their correctness and freedom from mistakes, what judgement have you, and what is it worth?... What you would gain by it in the way of learning, even if you should put them under your pillow and sleep on them or should glue them together and walk about dressed in them?... I have never yet been able to discover why you have shown so much zeal in the purchase of books.... But perhaps you regard the matter as a display of wealth and wish to show everyone that out of your vast surplus you spend money even for things of no use to you?<sup>6</sup>

Learning by osmosis and the decorative use of books for home and office both have a long and venerable history.

## LIBRARIES

The English word *library* dates back to the fourteenth century,<sup>7</sup> but in French its look-alike, *librairie*, means *bookstore* in English, while a totally different word *bibliothèque* is the equivalent of *library*. Both words go back to classical roots, when various words and phrases for ‘repositories’ for books were used with little consistency. *Library* and its relatives have Latin antecedents in ‘*librarius*’, whose meanings ranged from ‘*record-clerk*’ to ‘*scribe*’ to ‘*bookseller*’ and which itself is based on ‘*liber*’, book.<sup>8</sup> *Bibliothèque*, however, depends on the Greek, βιβλιοθήκη (Latin=*bibliotheca*), which is literally a ‘*case for books*’. But this word had another, related, but somewhat disparate sense. When Diodorus Siculus needed a title for his forty-roll history that began ‘with the most ancient times and...[went] down to his own day’, he called it literally ‘The Historical Library’ [βιβλιοθήκη ιστορική].<sup>9</sup> Pliny the Elder found the title apt: ‘Diodorus among the Greeks stopped playing with words and gave his history the title of βιβλιοθήκη.’<sup>10</sup> More often, however, sizeable collections of books were called just that. So Xenophon, when writing about the pseudo-intellectual Euthydemus, said that he ‘had formed a collection of

works *γράμματα πολλὰ*=literally ‘many letters’] of celebrated poets and professors, and therefore supposed himself to be a prodigy of wisdom for his age.’<sup>11</sup> Athenaeus, some four to five centuries later, still refers to his own collection in a similar manner, as a ‘possession of old Greek books [βιβλίων] [that] was so great that it surpassed all those marveled at for their collections.’<sup>12</sup>

Euripides was credited in antiquity with owning the first personal library. Eric Havelock, however, believes that this attribution was falsely made in the Hellenistic period through a misinterpretation of Aristophanes’s *Frogs* (line 1409) where Euripides’s bookishness was mocked.<sup>13</sup> In that case, which does seem likely to me, Aristotle’s scholarly library in the Lyceum was the first; it was certainly the most famous, for it went from him through several hands before being acquired by Sulla and possibly Cicero after him.<sup>14</sup> Strabo’s account of its history highlights many of the problems facing the literate:

Aristotle bequeathed his own library to Theophrastus...he is the first man, so far as I know, to have collected books and to have taught the kings [the Ptolemies] in Egypt how to arrange a library. Theophrastus bequeathed it to Neleus; and Neleus took it to Scepsis and bequeathed it to his heirs, ordinary people, who kept the books locked up and not even carefully stored.... But much later, when the books had been damaged by moisture and moths, their descendants sold them to Apellicon of Teos for a large sum of money, both the books of Aristotle and those of Theophrastus. But Apellicon was a bibliophile rather than a philosopher; and therefore, seeking a restoration of the parts that had been eaten through, he made new copies of the text, filling up the gaps incorrectly, and published the books full of errors ...immediately after the death of Apellicon, Sulla, who had captured Athens, carried off Apellicon’s Library to Rome, where Tyrannion the grammarian, who was fond of Aristotle, got it in his hands by paying court to the librarian, as did also certain booksellers who used bad copyists and would not collate the texts—a thing that also takes place in the case of the other books that are copied for selling, both here and in Alexandria.<sup>15</sup>

Athens itself did not get a ‘public’ library until the second century BC<sup>16</sup> Public libraries did not exist in the modern sense of open access to anyone who walked in off the street. Instead the term ‘public’ in an ancient context refers to those libraries established either as part of a philosophical school, such as Aristotle’s, or by various rulers.<sup>17</sup> Nor is it completely clear how access was controlled. Those studying at a particular school could use its library. For instance, Philostratus says that Proclus of Naucratis, in the second century AD, ‘had a library [θήκη βιβλίων] at his own house which was open to his pupils and supplemented the teaching in his lectures.’<sup>18</sup> Famous ‘scholars’ might be invited or perhaps come on their own; otherwise, it was very probably a matter of whom you knew. A private library in antiquity by contrast would be similar to one today. It would be used by its owner and his friends.

The most notable library was the ‘Museion’ (Museum) established in Alexandria by Ptolemy I Euergetes, perhaps following an old Egyptian tradition, though Strabo in the passage just quoted implies that Theophrastus determined their ‘arrangement’.<sup>19</sup> The

way the library was stocked is instructive:

Galen records (17a606 Kühn) that the early Ptolemies systematically sought out texts from all over the Greek world and even impounded books that arrived in Alexandria as cargo, had copies made of them and returned the copies, not the originals to their owners...(17a607) the texts of the great Attic tragedians, which were officially kept in the public record office at Athens as a guard against actors' interpolations, were borrowed by...Euergetes I...against an indemnity of fifteen talents; once safely at Alexandria the originals were kept for the Library, handsome new copies made for the Athenians, and the indemnity forfeited.<sup>20</sup>

Alexandria became a mecca for scholars, and the place where many of the cognitive innovations for reading began: the first critical examination of texts to establish what was genuine and what were later interpolations; the division of works into rolls of comparatively standard length; accenting of Greek; attempts at 'punctuation' (the obelus and asterisk date to this period); and the first glossaries.

It is still debated whether in the third century BC Callimachus made the first library 'catalogue'. According to Rudolf Blum, '[the] arrangement [of its contents] was intended to reflect as far as possible the arrangement of the scrolls on the shelves of bookcases.'<sup>21</sup> Yet P.M.Fraser rightly stresses that the title of the work, *Tables of persons eminent in every branch of learning, together with a list of their writings*, implies that it is not a list of the holdings of a library.<sup>22</sup> He believes that the work more likely resembled:

a sort of universal biography and bibliography, in which the authors and others were arranged according to subjects—'Table of Lyric Poets', 'Table of Orators', 'Table of Philosophers', and so on—alphabetically under each heading. The amount of detail recorded is uncertain, but it appears that each entry normally contained a brief biography of the subject, followed by the titles of his works (or, where necessary, the opening lines), also listed alphabetically, and the total number of lines in the edition consulted by Callimachus.

The addition of biographies to the lists helps explain why it took up 120 rolls, four times the length of Pliny's *Natural History*. Again, the fact that it has the words 'table' and 'list' in its title does not mean that these tables and lists were displayed in columns. Instead it would have looked just like Pliny's 'Table of Contents'. Another curiosity is the way works with multiple books or rolls were listed. Diogenes Laertius, in the third century AD, instead of writing, for example, 'On Justice, four books', as the standard translation does,<sup>23</sup> begins his list of Aristotle's works with 'On Justice α β γ δ', with every single book recorded separately. Such a format is not only lengthy, but also in some ways less user-friendly, when works like Theophrastus' 'Refutative Arguments' take up eighteen books.<sup>24</sup>

That some kind of 'catalogue' existed in the library at Alexandria seems likely. We do know that the rolls that were impounded from the ships, as Galen recorded, were labeled 'from the ships'. Similarly, rolls from other places were likewise labeled. In addition, the 'editor' and/or 'corrector' of the copy and the original owner were noted, when known.<sup>25</sup>

The scribe who produced the copy, however, was generally not recorded. All of this information pertains to the provenience of the particular copy and indirectly to its quality.<sup>26</sup> It says nothing about how the rolls were stored in the library or even about the existence of a catalogue in our sense.

Estimates for the holdings for the library in Alexandria range broadly from 100,000 to 700,000 Volumes'.<sup>27</sup> Nor do we know whether these figures refer to rolls or to works, though we do know that some rolls contained more than one work.<sup>28</sup> During the medieval period library collections were still very small by our standards: Papal 645, Avignon 2059, Sorbonne 1017 in 1290 and 1722 in 1388, etc. Alphabetic catalogues did not exist before the twelfth century and it was not until the fifteenth century that both shelf-lists and alphabetical listings were considered necessary.<sup>29</sup> The Rouses suggest that the medieval catalogues were originally made as inventories of property rather than as guides to the location of books. Unlike what we believe to be true for antiquity, the Rouses also say that medieval libraries were generally not physically arranged by subject matter until the thirteenth century. The precise arrangement of books in a classical library is virtually unascertainable.<sup>30</sup>

Even if a catalogue existed for Alexandria, and perhaps for other libraries, it does not mean that the catalogues themselves were reproduced. One never knew which library held which volumes, a situation that can still occur today, though vastly improved by national consortia of libraries and the recent advent of online catalogues. Diodorus Siculus in the first century BC writes that 'it is not easy for those who propose to go through the writings of so many historians to procure the books which come to be needed.'<sup>31</sup> Worse yet, Athenaeus implies that catalogues were selective in what they recorded:

Alexis wrote a play called *The Teacher of Profligacy*, says Sotion of Alexandria in his book *On Timon's Satires*. I myself have not come across the play. Although I have read more than eight hundred plays of the so-called Middle Comedy...and I do not even know of anyone who thought it worth cataloguing [ἀναγραφῆς] Certainly neither Callimachus nor Aristophanes has catalogued it, nor have even those who compiled the catalogues in Pergamum.<sup>32</sup>

The first 'union' catalogue that attempted to include all the holdings within a geographical region was organized by John Boston for Great Britain in the thirteenth century.<sup>33</sup>

As today, two types of libraries existed: circulating and non-circulating. Most were probably non-circulating. An inscription from the early second century AD library of Pantainos in the Agora of Athens says: 'Books shall not be taken out of the library and it shall be open from the first to the sixth hour.'<sup>34</sup> Gellius in the second century AD mentions using several libraries in Rome and one in Greece.<sup>35</sup> In the same period, Marcus Aurelius writes a somewhat ribbing letter to Fronto, his tutor:

I read Cato's speech, 'On the Property of Pulchra,' and another in which he impeached a tribune. 'Hey,' you say to your slave, 'go as fast as you can and bring me those speeches from the library of Apollo.' You will be sending him in

vain, for those volumes have followed me here! You must therefore ingratiate yourself with the librarian at the library of Tiberius. You might offer him a tip (which he and I will share equally when I come back to town).<sup>36</sup>

Making friends with the librarian is effective in any age. Though some libraries circulated their books, even these, however, probably limited that circulation to a select group, among which an heir-apparent to the rule of Rome clearly numbered. Often, the best, if not the simplest, way to obtain a book was either to borrow or to copy a friend's copy. For example, Cicero asks his friend Atticus to 'Please bring me Theophrastus on Ambition from Quintus' [Cicero's brother] library.'<sup>37</sup> Cicero writes to his brother:

As regards filling the gaps in your Greek library and exchanging books and acquiring Latin ones, I should very much like all this done, especially as I too stand to benefit. But I have nobody I can employ on such a business, not even for myself. Books, at least such as one would like to have, are not on the market and they can't be obtained except through an expert who is willing to take trouble. However, I'll give an order to Chrysippus and talk to Tyrannio.<sup>38</sup>

It should be mentioned that Cicero had not one but at least three separate libraries to stock, for each of his homes in Tusculum, Rome, and Antium.<sup>39</sup> On at least one occasion, he was fortunate enough to acquire a whole library.<sup>40</sup>

Nor was Cicero alone in his love of books. He writes about Cato:

So it may well be believed that when I found him taking a complete holiday, with a vast supply of books at command, he had the air of indulging in a literary debauch, if the term may be applied to so honourable an occupation.<sup>41</sup>

To balance this picture, consider that Seneca the Younger believed the exact opposite:

Accordingly, since you cannot read all the books which you may possess, it is enough to possess only as many books as you can read. 'But,' you reply, 'I wish to dip first into one book and then into another.' I tell you that it is the sign of an over-nice appetite to toy with many dishes; for when they are manifold and varied, they cloy but do not nourish.<sup>42</sup>

The contrast in approach between Cicero and Cato on the one hand, and Seneca on the other should make it clear that, like today, there was not a single, uniform attitude in antiquity towards literary matters. Elaine Fantham rightly wonders: 'Have we been too quick to assume that all educated Romans had libraries like those of Cicero, Lucullus, and Atticus?'<sup>43</sup>

When the libraries at Rome 'were destroyed by fire', Domitian, an emperor not known for his intellectual prowess, 'renewed [them] at very great expense, seeking everywhere for copies of the lost works, and sending scribes to Alexandria to transcribe and correct them.'<sup>44</sup> Remember that transcription is only half the process; collating or proofing, as we would call it, was a major task.

### STORING BOOKS: OF PIGEONHOLES, SHELVES, AND JARS

As today, almost any container—baskets, jars, wooden boxes—could hold books.<sup>45</sup> If you had a lot of books, however, your methods of storage would more likely be directly suited for storing rolls. Libraries used two types of structures: pigeonholes and cabinets. Rather than small pigeonholes, which would hold just a single roll, the sections were large enough to accommodate a varying number of rolls, as an imperial relief from Neumagen shows.<sup>46</sup> When referring to the library at Alexandria, Vitruvius (7, Introduction, 7) uses the word *'armaria'*, which are wooden cabinets with doors to protect the rolls, as a relief of a doctor seated by his open armoire shows.<sup>47</sup> This example is particularly interesting, because the rolls take up only the top shelf with a bowl placed on the middle one. Seneca the Younger (*On Tranquillity of Mind*, 9.6) grumbles about elaborate armoires made 'of citrus-wood and ivory', when plain ones would do the job just as well. Personal libraries would clearly have fewer of these structures than 'public' libraries. The cabinets could line the exterior walls or be free-standing.<sup>48</sup> When the codex appeared, the same shelves of the cabinets could be used for stacking the codices, as an illumination from the Codex Amiatinus shows.<sup>49</sup>

In the fourth century AD, Flavius Vopiscus, one of the aliases of the author of the *Historia Augusta*, in the life of the Emperor Tacitus (c. AD 200–276; ruled AD 275–276) says:

And now, lest any one consider that I have rashly put faith in some Greek or Latin writer, there is in the Ulpian Library in the sixth case [*armario sexto*], an ivory book, in which is written out this decree of the senate, signed by Tacitus himself with his own hand.<sup>50</sup>

Although it is generally held that virtually all the references to such documents in the *Historia Augusta* were made up to give a rhetorical air of authenticity, none the less, the way of referring to a book by its location in a numbered series of cases probably does reflect contemporary practice. It implies, first, that the cases themselves were probably numbered; otherwise I would think the author should have said something like 'the sixth case from the right, as you enter'. Second, the number of Volumes' in any given case was sufficiently small that the case alone was a satisfactory reference. Today we would find a reference to one 'column' in a row of library stacks far too broad.

If you were particularly well organized, you might, like Zenon in the first half of the second century BC, have labeled each roll on the outside.<sup>51</sup> By the first century BC at the latest, the rolls were often identified by little tags hanging from the edges, somewhat like the tags for toes used in morgues today.<sup>52</sup> These tags may have been added by the owner and not the 'publisher' of the roll. So Cicero asks Atticus:

to send me a couple of your library clerks [*librariolis*] to help Tyrannio with the gluing and other operations, and tell them to bring a bit of parchment [*membranulam*] for the labels [*indices*], σιττόβαι as I believe you Greeks call them.<sup>53</sup>

I know of one instance where a more elaborate container, a rectangular granite box, had the contents of its rolls inscribed on the outside: 'Dioskourides 3 Volumes.'<sup>54</sup> While comparatively heavy, it, too, could be placed on any kind of shelving arrangement.

The most popular containers, however, were jars. Perhaps the rounded form of the roll suggested round storage. The best known example may be the plain jars that held the Dead Sea Scrolls. In the Bible, Jeremiah (32.14) says: Take these deeds [*libri*], both this sealed deed of purchase and this open deed, and put them in an earthenware vessel [*in vase fictili*], that they may last for a long time.<sup>55</sup> The narrow mouth of some jars would not just have limited the number of rolls stored, but also would have made removal of the rolls difficult.<sup>56</sup> Round containers with wider openings and covers were also used. In Latin they are known as '*scrinia*' ('*scrinium*' singular) and in smaller versions as '*capsae*' ('*capsa*' singular).<sup>57</sup> From Roman and medieval representations we know that the rolls were placed upright in the *scrinia*.<sup>58</sup> Both types usually had straps attached for carrying. An early second-century AD Roman relief shows a man carrying a number of tablets in a related kind of container.<sup>59</sup> It is without a lid and appears to be oblong in shape to hold two 'rows' of tablets.

The jars and *scrinia* that have survived either in actuality or in pictures do not have labels on the outside detailing their contents.<sup>60</sup> Only by taking out the roll and unrolling it would you know what you had. According to Tiziano Dorandi, a wall painting from Pompeii with the Muse Erato shows her seated by a *capsa* containing six rolls, all with tags.<sup>61</sup> I also know of two cases of *scrinia* with inscriptions, referring, not to their contents, however, but to the marble statues with which they appear as supports.<sup>62</sup> The inscriptions run across the tops of the rolls, that is, on the *cornua* of the dowels around which the rolls were wound, with each end carrying one to three letters. The inscriptions continue along the top band of the *scrinium* itself, and across its body in one case. In other words, the inscriptions are placed for ease of reading by the viewer of the statue. They refer to the offices held by the togate men portrayed standing next to them and thereby imply that the contents of the rolls, though not defined, probably related to that office.<sup>63</sup> In the late Roman Empire the term '*scrinia*' by extension meant not just the container, but the various offices that needed those containers, such as the '*scrinium epistularum*' (Office of Correspondence) and the '*scrinium libellum*' (Office of Petitions).<sup>64</sup> The use of *scrinia* as a means to identify those associated with writing goes back to at least as early as the first century BC, for Suetonius describes a statue of Orbilius, who was 50 years old in 63 BC: 'His marble statue may be seen at Beneventum [his birthplace], on the left side of the capitol, representing him seated and clad in a Greek mantle [*palliatii*], with two book-boxes [*scriniis*] by his side.'<sup>65</sup>

Because the *scrinia* were comparatively easy to carry, yet simple to store, they functioned as a cross between our bookcase within the home and our briefcase for toting documents outside.<sup>66</sup> The best modern equivalent would be the nineteenth-century traveling frontier libraries. *The American School Library* from 1839, for example, came in a wooden case with a handle that held approximately forty-five books on three shelves.<sup>67</sup> When Catullus (14.17–18) refers to the '*scrinia* of the booksellers', he implies that the bookseller, when asked for a particular work, searches through the round boxes lined up on either the floor or shelves.<sup>68</sup> If your library was small, the chances are that you would remember what you had and which roll was which. If you had a large

collection of rolls, you would probably have used shelves with pigeonholes and tags for the individual rolls, as already described.

Identification of the contents of codices by a label on the spine, as in the illumination from the Codex Amiatinus, was not the norm and did not become standard until print.<sup>69</sup> Instead, labels appeared on all possible surfaces: edges, covers, and spines. Paul Saenger and Michael Heinlen correlate the location of the label with the ‘highly significant transition from horizontal to vertical shelving, which began to take place at the end of [AD 1501] or shortly after the incunable period.’<sup>70</sup> The word *bookcase* first occurs in the eighteenth century, though they appear earlier in pictures.<sup>71</sup> The advent of the printed book led to such an increase in production and lowering of cost that collections became larger, which in turn led to the need for more efficient storage containers. The form of the printed book, which was bound with stiff covers, strong enough to be stood on end, determined the design of the bookcase. At the same time, the handily exposed spine allowed for brief labels. Hence the ‘carrier’ of the writing affects the form of the storage, which, in turn, affects the ease of retrieval.

Finally, as we use cartons and boxes to store a variety of objects, so *scrinia* in antiquity also functioned as all-purpose containers. Pliny the Elder tells a moralizing story about Alexander the Great going through the booty of his defeated rival, the Persian King Darius:

there was a *scrinium* of unguents made of gold and enriched with pearls and precious stones, and when Alexander’s friends pointed out the various uses to which it could be put, since a warrior soiled with warfare had no use for perfume, he said, ‘No, by Hercules, rather let it be assigned to keeping the books of Homer’—so that the most precious achievement of the mind might be preserved in the richest possible product of the craftsman’s art.<sup>72</sup>

## LETTERS

Letters form an interesting group from the point of view of retrieval. Cicero, in a number of letters, remarks about keeping copies of both the letters he sends and the ones he receives. For example, he writes to M. Fabius Gallus: ‘Don’t distress yourself about the letter which you are so sorry you tore up. I have it safe at home. You can ask for it any time you like.’<sup>73</sup> None the less, he doesn’t keep all his letters, because he writes to Atticus: There is no collection [*συναγωγή*] of my letters, but Tiro has about seventy and I shall have to get some from you.<sup>74</sup> It is also possible that he keeps certain letters for only a limited period of time, the way we keep our personal income tax records for seven years.

In another letter to Atticus, Cicero writes:

Having arrived at this point I unrolled the roll of your letters [*evolvi volumen epistularum tuarum*], which I keep under seal [*signo*] and preserve most carefully. Well, the one you dispatched on 21 January contains this passage.... You write this three days after our departure from Rome. Then on 23 January....<sup>75</sup>

Five things are important. First, Cicero doesn't keep the original letters. Instead he makes fresh copies, which he stores not on tablets, but in rolls. Second, he doesn't make copies of everything he gets, for he writes to his slave, Tiro: 'I see your game! You want your letters too put into rolls.'<sup>76</sup> Third, presumably because of their delicate nature he keeps the letters from Atticus under seal and hence away from prying eyes. Fourth, the letters are generally dated to the day of the month, but not the year; the place where they were written is also sometimes included.<sup>77</sup> Augustus was more compulsive than most: 'He always attached to all letters the exact hour, not only of the day, but even of the night, to indicate precisely when they were written.'<sup>78</sup> If only an occasional letter is involved, neither date nor place is important. Their inclusion implies not just a heavy load of correspondence, but also that events are moving swiftly enough to make dates and places meaningful.

Fifth, in Cicero's case, major correspondents get separate rolls and within any roll the letters are recorded chronologically in order of receipt. Cicero, in the letter to Atticus, goes on to cite in order twelve letters received between 21 January and 9 March, 49 BC. Pliny the Younger may have been less organized than Cicero in his correspondence, because he begins his published collection with the comment that 'I...[am] not keeping to the original order...but taking them as they came to my hand.'<sup>79</sup> Conversely, Pliny may not have kept his own letters in chronological order, but in separate rolls for each addressee and within those rolls in chronological order. Actually, for all we know, Cicero may have done the same. It is, however, likely that neither Cicero nor Pliny followed the modern business practice of keeping two copies of each letter so that one could be filed by date and the other by subject. After you accumulate enough correspondence over enough years no matter what the order, it becomes cumbersome to search unless, of course, you are computerized. None the less, Libanius, a Greek rhetorician in the fourth century AD, did have sufficient control over his own written production that, like Cicero, he could find both his previous speeches and particular letters for copying.<sup>80</sup> Rolls with letters would have been labeled and stored like other rolls.

## RETRIEVAL: DOCUMENTS AND TEXTS

## DOCUMENTS AND RECORDS

If we leave the world of the ‘book’ and the individual reader for that of the ‘governmental archive’, the situation improves to a certain extent. From at least as early as the Hellenistic period, visual clues appear in documents that make it clear to the experienced in antiquity and the knowledgeable today what kind of document was involved. The classical scribes intuitively know what Donald Norman states directly: ‘The most appropriate format depends upon the task, which means that no single format can ever be correct for all purposes.’<sup>1</sup> Classical scribes used a variety of means to indicate different kinds of documents, including hanging indents, large initial letters, different spacings between sections, and changes in scripts for different writers.<sup>2</sup> As Roger Bagnall puts it, ‘Everything has more articulation than prose literature.’<sup>3</sup> Turner says that ‘Good layout is one aid which a practised scribe does not despise.’<sup>4</sup> Layout, however, is one thing; the text itself remains in the preferred format of *scriptio continua*. Moreover, that writing could be difficult to read, because it was often written in a rapid cursive which eschewed full articulation of individual letters.<sup>5</sup>

Inscriptions on public display were often designed to be pleasing to the eye rather than to the reader. From the latter part of the sixth century BC through most of the third century BC, Athens, for example, adopted the ‘*stoichedon*’ style for its inscriptions.<sup>6</sup> Think of a rectangular grid like graph paper with each letter taking up the same amount of space and lining up directly with the letters above and below it. That arrangement resembles fixed-spaced type today, but the Greeks added a real challenge: the width of the text remains constant, which means that words wrap between lines, as in this example, using the next paragraph:

**MOREIMPORTANTFORTHEPRESENTDISCUSSIONISTHEISSUEOFRETRIEVINGRECORDSSCHOLARSHAVEGENERALLYASSUMEDTHATTHEPURPOSEFORWRITINGDOWNLAWSANDOFFICIALTRANSACTIONSLIKEEATIESISTOKEEPARECORDTHATCANBECONSULTEDNOTJUSTINTHETALSOINTHEFUTUREHENCEONCESOMETHINGISWRITTENITSHOULDCAPABLEOFBEINGFOUNDEVENIFDOCUMENTSWERE OCCASIONALLYTASTHEYCANBETODAYRECENTLYSCHOLARSHAVEBE6UNTOREEXAMINE THEEVIDENCEONHOWTHEGOVERNMENTARCHIVESOFTHETWOMAJORCITIESWEREUSEDATHENSSTOREDITSLAWSANDREGULATIONINTHEBOULEUTERIONANDMETROONANDROMEINTHEAERARIUMANULARIUM**

This style of display was not something designed by engravers for the delight of

engravers alone, but a format that was regulated by the government: The scribes must make their letters clear, engrave them deep enough to keep their color, and not overcrowd them on the stone surface.<sup>7</sup> Achieving a balance between aesthetically arranged letters and easy visual comprehension took a long time to establish, as the title page from *The Boke Named the Governour* by Sir Thomas Elyot shows. Published in 1534, it puts ‘THE’ in the biggest letters at the top of the page, with ‘BOKE’ in smaller type on the line below, then on the third line in still smaller type, ‘NA-’ with the rest of the word ‘med’ in lower case on the fourth line with the rest of the title.<sup>8</sup> One aspect of stoichedon lingers today. Word processors allow us to justify, that is, align, our right margins, but the results are not always easy to read if the word processor is not capable of full micro-justification.<sup>9</sup>

More important for the present discussion is the issue of retrieving records. Scholars have generally assumed that the prime purpose for writing down laws and official transactions like treaties is to keep a record that can be consulted not just in the present, but also in the future. Hence once something is written it should be capable of being found, even if documents were occasionally lost, as they can be today. Recently scholars have begun to reexamine the evidence on how the government archives of the two major classical cities were used.<sup>10</sup> Athens stored its laws and regulations in the Bouleuterion and Metroön and Rome in the Aerarium and Tabularium.

Rosalind Thomas paints a very bleak picture for Athens at the height of its power in the fifth and fourth centuries BC.<sup>11</sup> No system controls whether a law is inscribed on stone with a copy in one of the two major ‘archives’ or whether the only copy or the original itself was displayed elsewhere within the city. She describes the situation:

In the *bouleuterion*, if the tablets and stelai were on the walls, reference was mostly a matter of knowing where to look...the use of jars as document containers was probably common. The written documents for cases which were to go before an arbitrator were put separately in jars, one jar for each side. The jars were sealed and handed over to members of the Forty: thus to ‘file’ a case was to put it in a jar and seal it (*Arist. Ath.Pol.* 53.2). The use of jars rather than shelves may have been more frequent than we would suppose.... It is after all comparatively easy to keep documents. It is a rather different step to use them again, find them and consult them. The archive’s [the Metroön’s] organization was simple, if not haphazard, without catalogues or important permanent keepers. With its combination of stelai, wooden tablets and large jars, it did in some ways continue the methods of keeping documents (including stelai) in the old *bouleuterion*.... Many records were not preserved at all. Certain types of document were destroyed as soon as the transaction they signified was over.<sup>12</sup>

Religious institutions did not do any better. The oracular responses of the Pythia at Delphi were kept in chests (κιβωτοί), and seem not to have been ‘reconsulted’ after their initial use.<sup>13</sup> Raffaella Cribiore adds that ‘often documents were not written primarily to be read. They were presented on demand, saved for various amounts of time, and sometimes reused.’<sup>14</sup> Carol Lawton writes about the Attic document stelai with figured reliefs above the inscriptions:

Although it is often assumed that documents were inscribed as a form of permanent record-keeping, only a small percentage of documents from any period were finally committed to stone. The documents that were inscribed were types for which an appeal to the public eye was important, documents of interstate relations and civil affairs, set up in public because they affected everyone and were expected to remain in force for some time, financial documents for public scrutiny of major official expenditures, and honorary decrees.... Most of the documents signalled [sic] out for decoration with relief concern the foreign and financial affairs of the Athenian Empire.<sup>15</sup>

As an archaeologist, I am, of course, delighted that the financial records for the construction of the Erechtheion on the Acropolis in Athens, among others, have been preserved; as someone living in the twentieth century, however, I find it very strange that financial records for what particular workmen were paid were carved in stone.<sup>16</sup>

Late Republican Rome shows little if any improvement on the Athenian system for finding documents.<sup>17</sup> Polybios, writing in the second century BC, paints a curious picture:

Now since such treaties exist and are preserved on bronze tablets [χαλκώμασι] to this day in the treasury of the Aediles beside the temple of Jupiter Capitolinus, we can only read with astonishment what has been written by the historian Philinus on this subject. It is not the fact of his ignorance which is surprising, since even in our own day those Romans and Carthaginians whose age brought them nearest to the period in question and who were most versed in public affairs did not know of these records. What is extraordinary is how and on what authority he ventured to maintain the opposite.<sup>18</sup>

Significantly, Polybios does not fault the historian Philinus for not consulting records. He faults him only for not reporting the ‘facts’ as they were known; for elsewhere Polybios states that ‘the study of documents is only one of the three elements which contribute to history, and stands only third in importance.’<sup>19</sup>

Because Polybios implies that the Romans relied on their memories for finding documents, it is remarkable that precise locations for some documents were recorded: ‘Copied and verified from the bronze tablet posted on the Capitolium in Rome, by the altar of the Julian gens, on the outside left of the base: tablet I, column II, line 44.’<sup>20</sup> On the basis of the way Romans used records, Callie Williamson finds ‘The precision of these directions... incredible.’<sup>21</sup> In a later article, she concludes that ‘The entire formula is performative, rendering the action of law-making in words and anchoring the statute in a specific time, place and occasion.’<sup>22</sup> The Romans recognized the problem to a certain extent, for Julius Caesar, according to Suetonius, included among his projects one ‘to reduce the civil code to fixed limits, and of the vast and prolix mass of statutes to include only the best and most essential in a limited number of volumes.’<sup>23</sup> The idea that some laws would fall by the wayside strikes me as noteworthy when American courts still cite British common law.

If the Romans were not using the information they took the time to engrave about the location of a document, why did they bother in the first place? Williamson believes that ‘Bronze was used in order to create lasting memorials. Bronze tablets were eternal.’<sup>24</sup>

Culham concludes that ‘The reengraving shows that the Romans did not especially value reference to an original document; what they wanted was a bronze object dedicated at its original sacral site.’<sup>25</sup> If it is the object itself that matters, then we have an explanation for why Attic inscriptions would be written in *stoichedon* for so long. As Williamson puts it, ‘Readability and visibility are two different things.’<sup>26</sup> What first impresses one, for example, about the Vietnam War Memorial in Washington DC is not who is listed but that so very many are listed. No one person reads the entire monument, though we do commemorate the dead with readings of all the names by a number of persons.

Unlike today when the written version of a law is paramount, then the reading of the law out loud constituted its ‘publication’ or ‘being known’. Cicero remarks:

Glaucia, that shrewd but unscrupulous man, used to warn the people, when some law was being read [*cum lex aliqua recitaretur*], carefully to mark the opening phrase. If it began, ‘Dictator, Consul, Praetor, Master of the Horse,’ they were to feel no concern; for they might know that it was nothing to them; but if it began ‘Whosoever after the passing of this law.’ then they were to see to it that they were not made liable to any new form of inquiry.<sup>27</sup>

Laws of a more immediate nature and concern were not engraved on bronze, but were painted with black letters on white-washed wooden tablets for posting where they would be accessible.<sup>28</sup> For example, Suetonius writes about Caligula:

When taxes of this kind had been proclaimed, but not published in writing, inasmuch as many offences were committed through ignorance of the letter of the law, he [Caligula] at last, on the urgent demand of the people, had the law posted up, but in a very narrow place and in excessively small letters, to prevent the making of a copy.<sup>29</sup>

If the documents on public display were meant more for show than for use, then the situation for the documents that were kept in archives is even worse. Phyllis Culham bluntly says, ‘A cynic could suggest that depositing *leges* or *consulta* at the *aerarium* might represent an effort to make such things inaccessible rather than the reverse.’ Instead she believes that ‘the old senatorial families could expect their need for information to be met by archival resources in their own households and in those of their friends.’<sup>30</sup> Culham has found information about ‘only one man [Cato the Younger] who tried to consult documents in the *aerarium*; and his attempt demonstrates that it was next to impossible, even for a wealthy and powerful senator, to see documents in the *aerarium*.’<sup>31</sup> As Michael Clanchy puts it for the English royal archives during the Middle Ages: ‘Historians today are better equipped to search the rolls than the king’s clerks were in the thirteenth century.’<sup>32</sup> None the less, some did succeed in finding what they wanted. Cicero asks Atticus at least twice to find two different bits of recorded information, one a law (*lex*) and the other some item ‘from that book [*ex eo libro*] with the senatorial decrees from the Consulship of Cn. Cornelius and L. Mummius.’<sup>33</sup>

With writing came a variation on the old problem of fraud: the falsification of records, especially in the late Roman Republic. Cicero bemoans that ‘We have no guardianship of the laws, and therefore they are whatever our clerks want them to be; we get them from

the State copyists, but have no official records.’<sup>34</sup> He also makes a point of his departure from the normal practice in one instance:

Since I knew that the information had been entered in the public records, but that they would be retained, as was the traditional practice, in the safe-keeping of individuals, I did not conceal it or retain it at home, but immediately ordered it to be copied by all the clerks, distributed everywhere and given full publicity and made known to the Roman people.<sup>35</sup>

Writing has become *a* means of establishing the truth—even if it is only in certain cases and for contemporary events; this practice separates Rome from Athens of the high classical period. In most situations, however, witnesses counted more than written records. Plutarch reports that Cato the Younger:

on one occasion when he was doubtful whether a certain decree had actually passed the senate, though many testified to the fact, he would not believe them, nor would he file the decree away until the consuls had come and taken oath to its validity.<sup>36</sup>

Cato the Younger employed his own copyists to document what actually transpired even after he had left the office of the quaestorship to prevent the production of fraudulent transactions. Cicero similarly remarks that:

the audacity of the decemvirs is allowed considerable licence of tampering with the public registers and forging resolutions of the senate which have never been passed, since many of those who were consuls during those years are dead.<sup>37</sup>

In other words, if the original writers were dead, then the Romans believed that there was no way to check the accuracy of what had been written.<sup>38</sup> Such a standard differs dramatically from that of today when the validity of the Magna Charta or the Constitution of the United States is never questioned. None the less, a certain amount of trust in records must have existed, for ‘he himself [Cato the Younger] paid five talents for books containing accounts of the public business from the times of Sulla down to his own quaestorship [approximately 30 years], and always had them in hand.’<sup>39</sup>

Cicero directly addresses the issue of accuracy for recording contemporary events—a situation one would think less prone to manipulation:

your enemy’s name was given, a crowded Senate and the memory of the event still fresh in their minds bore witness to it, and my clerks would even have shown the information to you, my friend and close companion, if you had wished, before recording it in the minutes; why, then, when you saw the record being falsified, did you remain silent?<sup>40</sup>

Sometimes the forgeries were quite elaborate, as when Antony posted false statutes, decrees, and edicts on bronze in public.<sup>41</sup> In the next century Suetonius remarked that Titus ‘imitated whatever handwriting he had seen, and often declared that he could have

been the greatest forger.’<sup>42</sup>

The problem was especially acute for wills. Suetonius says that it was during the reign of Nero:

that a protection against forgers was first devised, by having no tablets [*tabulae*] signed that were not bored with holes through which a cord was thrice passed. In the case of wills it was provided that the first two leaves [*cerae*] should be presented to the signatories with only the name of the testator written upon them.<sup>43</sup>

Three safeguards were provided: the witnesses did not see the will itself; the holes could be lined up to deter the substitution of a different leaf; and the cord would have a seal.<sup>44</sup>

It is no wonder, then, that Livy in the late first century BC was ambivalent about the use of the written word. On the one hand, he recognizes that records for the early history of Rome are problematic:

The history of the Romans from the founding of the City of Rome to the capture of the same...I have set forth in five books, dealing with matters which are obscure not only by reason of their great antiquity ...but also because in those days there was but slight and scanty use of writing, the sole trustworthy guardian of the memory of past events, and because even such records as existed in the commentaries of the pontiffs and in other public and private documents, nearly all perished in the conflagration of the City.<sup>45</sup>

On the other hand, as Gary Miles points out, Livy does not trust more recent records, for Livy says about the Roman victory over the Samnites in 322 BC:

It is not easy to choose between the accounts or the authorities. The records have been vitiated, I think, by funeral eulogies and by lying inscriptions under portraits, every family endeavouring mendaciously to appropriate victories and magistracies to itself—a practice which has certainly wrought confusion in the achievements of individuals and in the public memorials of events. Nor is there extant any writer contemporary with that period, on whose authority we may safely take our stand.<sup>46</sup>

Because written records were never trusted in antiquity the way they are today, they were never accorded the treatment necessary to truly keep them in order. As a result they were neither fully and easily retrievable, nor ever entirely reliable.

There was one area, however, where record-keeping seemed to work fairly well, at least, during the Roman imperial era: taxation. I use ‘taxes’ in the broadest sense to include the census, land-holdings, etc. which formed the bases for collecting revenues for the government. Money clearly focusses the bureaucracy of every age and culture. Most of our evidence comes from the detailed records preserved on papyri from Egypt.<sup>47</sup> An analysis of precisely how the Egyptian offices worked is beyond my scope, but two items are of interest. First, records were produced in multiple copies for filing in separate archives, and, in one case, six copies were required.<sup>48</sup> Second, the archives were

sufficiently complicated that searchers were hired to find documents.<sup>49</sup>

Cicero mentions a curiosity among ancient literate practices in one of the passages just quoted. He describes the process of putting Senate discussions into written form: ‘but men, I knew, whose memory, skill, and speed in writing enabled them to follow what was said with complete ease.’<sup>50</sup> In other words, the Romans had shorthand. According to F.G.Kenyon, the fact that Cicero used a Greek phrase ( **διὰ σημείων** = ‘by signs’) rather than Latin indicated that ‘he probably derived it [shorthand] from Greece.’<sup>51</sup> Possible support comes from an anecdote in Diogenes Laertius. He says that Xenophon, in the fourth century BC: ‘was the first to take notes of **[ὑποσημειωσάμενος]**, and to give to the world, the conversations **[τὰ λεγόμενα]** of Socrates, under the title *Memorabilia*.’<sup>52</sup> Unfortunately, the Greek is unclear whether Diogenes means that Xenophon ‘took notes’ in the sense of shorthand or in the sense of someone recording a lecture, whether in longhand or shorthand. Today, scholars (like Kenyon) tend to refer to the ‘classical’ shorthand by a ‘Greek’ word, ‘tachygraphy’. Yet that word is not listed in LSJ; and its cognates, such as **ταχυγραφέω**, are late (Lydus from the sixth and Tzetzes from the twelfth centuries AD). Greek instead used terms based on the root **σημει-**, as Cicero indicates. In other words, unlike today, both the Greeks and Romans thought it more important that such writing consisted of ‘signs’ rather than that it was ‘fast’. Incidentally, the English word ‘stenography’, again based on Greek roots (**στενός** = ‘narrow’ and **γράφω** = ‘writing’), is a modern coinage dating back to the seventeenth century that stresses the amount of space such writing takes up rather than the speed at which it is written.<sup>53</sup>

In any event, according to tradition, shorthand was introduced to the Romans by Cicero.<sup>54</sup> Plutarch records:

This is the only speech of Cato which has been preserved, we are told, and its preservation was due to Cicero the consul, who had previously given to those clerks who excelled in rapid writing instruction in the use of signs, which, in small and short figures, comprised the force of many letters; these clerks he distributed in various parts of the senate-house. For up to that time the Romans did not employ or even possess what are called short-hand writers **[σημειογράφους]**, but then for the first time, we are told, the first steps toward the practice were taken.<sup>55</sup>

I find it interesting that Plutarch, three centuries after Cicero, feels the need to tell his readers what ‘shorthand’ is. Cicero himself used the ‘system’, because in one letter he apologizes to Atticus that ‘You don’t quite understand what I wrote to you about the ten Commissioners, no doubt because I used abbreviations.’<sup>56</sup> Cicero thereby implies that his abbreviations are not standard—a situation, which, in turn, supports the idea that such abbreviations had just been introduced and were not yet standardized. By the end of the medieval period there were over 14,000 abbreviations.<sup>57</sup> Tiro, a freedman of Cicero, was credited with introducing or inventing the Latin version, which consequently was sometimes called ‘*notae Tironianae*’ or ‘symbols of Tiro’.<sup>58</sup> According to Suetonius, the usefulness of such a skill was not lost on the Emperor Titus: ‘I have learned from many

that he used also to take notes very quickly, competing with his secretaries as a game and joke.<sup>59</sup> More typical, no doubt, is Seneca's view of the matter. He describes:

our signs for whole words, which enable us to take down a speech, however rapidly uttered, matching speed of tongue by speed of hand. All this sort of thing has been devised by the lowest grade of slaves. Wisdom's seat is higher: she trains not the hands, but is mistress of our minds.<sup>60</sup>

A set of wax tablets with shorthand symbols in Greek concerning haulage have survived from the third century AD.<sup>61</sup>

### **THE PROBLEM OF RETRIEVAL: ALPHABETIZATION AND INDEXING**

Seneca's dismissive attitude towards shorthand provides a partial explanation for the startling lack of organizational skills in classical antiquity. The idea that 'wisdom's seat is higher' means that the higher mind would turn not to the mundane production of words, literally, writing, but to their interpretation and classification. A Callimachus could be praised for organizing the Alexandrian library, a Zenodotus and Aristophanes of Byzantium for establishing accurate texts for that library, but the kinds of inventors we admire, like Edison or the Wright Brothers who work with 'mechanical' things, were often beneath notice. None the less, the very existence of shorthand in classical antiquity demonstrates that they, even if they were slaves, invented what they needed.<sup>62</sup>

What is remarkable is that they simply did not feel a need to make texts, as we would put it today, user-friendly. This phenomenon actually occurs fairly frequently. A notable modern example is the QWERTY keyboard for typewriters and computers. While many bemoan the amount of work the left hand, and particularly the left pinky, has to perform, most tests show that its nearest rival keyboard, the Dvorak arrangement, isn't sufficiently faster to make so many people switch. The layout is 'good enough', as Jerry Pournelle, a computer columnist, puts it.<sup>63</sup>

Similarly, although both the Greeks and Romans knew the alphabet and learned its letters in a fixed order in a highly arbitrary and rote fashion, they never realized the value of applying that same system to organizing their words. Again, the demand never arose. Petroski makes the very interesting point that:

whereas the shortcomings of an existing thing may be expressed in terms of a *need* for improvement, it is really *want* rather than need that drives the process of technological evolution.... Luxury rather than necessity, is the mother of invention.<sup>64</sup>

I think it is difficult to imagine technical improvements in the absence of any existing models. Only use, and frequently inadvertent use, slowly led to the rich set of textual tools we have today. Again, Petroski puts it well, when he describes the process as 'form follows failure'.<sup>65</sup> Perhaps the best parallel is the invention of the fork, which appeared in the seventh century AD in the Middle East, reached Italy around 1100, but took until the

seventeenth century to get to England. Yet its two basic elements existed in classical antiquity. The trident had the tines and was used for spearing and spoons had a curved contour to hold small pieces of food in place.<sup>66</sup>

Because the syllable remained the major operative unit for reading in antiquity, alphabetization, which depends on the letter and not the syllable, would not naturally spring to mind as a useful means of organization. In Greek, even the names for the letters of the alphabet work against alphabetization, because most of them are multi-syllabic in contrast to English with its predominately single-syllable names. Moreover, the names for letters in Greek do not always reflect the sound of the letters when pronounced in words the way the names for letters generally do in English. When Athenaeus (10.453c–d) quotes from a fifth-century BC play by Kallias with a chorus composed of letters of the alphabet, the letters are written out, as they would be pronounced. Latin, however, had primarily single-syllable names.<sup>67</sup> Again, it is an issue of the aural versus the visual. Alphabetization depends on a visual sorting of lists, for two reasons. First, sorting by sound in certain cases would lead to a different order. In English, for example, ‘pneumonia’ would be placed with words beginning with the letter ‘n’ rather than ‘p’. Second, the maximum number of items that we can hold in short-term memory ranges between five and nine, which means that we would quickly lose our place.<sup>68</sup>

Plato in the fourth century sets up the issue nicely in a dialogue between Socrates and Theaetetus:

SOCRATES: Suppose you are asked about the first syllable of ‘Socrates.’ Explain, Theaetetus, what is SO? How will you answer?

THEAETETUS: S and O.

SOCRATES: And you have there an account of the syllable?

THEAETETUS: Yes.

SOCRATES: Go on, then, give me a similar account of S.

THEAETETUS: But how can one state the elements of an element? The fact is, of course, Socrates, that S is one of the consonants, nothing but a noise, like a hissing of the tongue, while B not only has no articulate sound but is not even a noise, and the same is true of most of the letters. So they may well be said to be inexplicable, when the clearest of them, the seven vowels themselves, have only a sound, and no sort of account can be given of them.<sup>69</sup>

Although in typical fashion Socrates leads Theaetetus to stumble, contradict, and retract this initial statement, none the less, it does reflect a commonly held view that the syllable counts in a way that the letter does not.<sup>70</sup> Hence whatever alphabetization occurs tends to be by the first or at the most the first three letters and not what we call ‘absolute alphabetization’ down to the very last letter. Even the simple form did not appear before the third century BC. Use of alphabetization was sufficiently erratic and distinctive that Michael Haslam has employed it as a means of analyzing the sources for the Homer Lexicon of Apollonius Sophista. He notes that as certain works are repeatedly copied over the centuries ‘the alphabetization tends to get tidied up.’<sup>71</sup>

Pliny the Elder’s use of alphabetization is instructive. According to Lloyd Daly, who has made the most extensive study of alphabetization in antiquity:

Pliny, who is frequently hard put to it to find what he considers satisfactory ways of presenting his masses of information, generally resorts to alphabetic arrangement only when he has exhausted all other principles of organization, and even then is, at times, apologetic for what he apparently felt to be a rather unimaginative procedure.<sup>72</sup>

Nor does Pliny always allow for the differences between Greek and Latin alphabetical order when he uses a Greek source. In one case (*Natural History*, 37.138 and 37.151–156) he translated the Greek terms into Latin and rearranged the words by their first letter according to the Latin order, with the result that after ‘Ca, Ce, Ci, Cr and Cy’ come seven words beginning with ‘Ch’, the Greek ‘chi’, which is the third letter from the last in the Greek alphabet.<sup>73</sup> Photius (*Bibliotheca*, 145), writing in the ninth century AD, actually commented that Helladius, a fourth-century AD grammarian, had not followed alphabetic order ‘for all the syllables, but only for the beginning one.’ Photius significantly does not use the word ‘alphabet’, which he could have, since it was used as least as early as the second century AD.<sup>74</sup> Nor does he yet think in terms of ordering by letter (γράμμα or στοιχείον), but only by syllable (συλλαβή). It is not so much that the absence of a word means that the concept does not exist, but that in this case the circumlocutions used in antiquity indicate that the alphabet is not thought of as a distinct entity that would allow it to be used independently for organizational purposes.<sup>75</sup>

The case of Euripides’s ‘alphabet’ plays is instructive for how both modern scholarship and antiquity work. In the nineteenth century Ulrich von Wilamowitz, a product of a highly alphabetical society, noticed that one medieval manuscript (L for Laurentine, the library where it is now) had all the surviving plays of Euripides except for the *Trojan Women*.<sup>76</sup> Moreover, it was the only manuscript to preserve the nine plays whose names started with letters between E and K. Wilamowitz believed that such a grouping indicated a conscious ordering of the plays into alphabetical order, which he dated to the second century AD. A relief-statue of a seated Euripides supports this argument, because the names of Euripides’s plays are listed in two columns, one on either side of him, in rough alphabetical order (for example, Alcestis, Archelaos, Aigeus).<sup>77</sup>

There are a number of problems with the theory. First, Wilamowitz assumes that lists and texts work the same way. For example, consider modern books with lists of the author’s works given opposite the title page. These works are sometimes in alphabetical order, sometimes in chronological order. Only in rare cases would the actual works be stored in the same order in libraries as they are given in these lists. Non-fiction is ordered by subject. Second, the same manuscript is the sole source for the *Bacchae*, one of the plays outside the group of E-K. Third, L, as well as the other manuscripts with Euripides’s plays, does not order any of the plays in alphabetical order, though Wilamowitz might claim that was the fault of the compiler of L itself and not the so-called original on which it ultimately depended.<sup>78</sup> Why, however, would later compilers change the order? It is always easier to slavishly copy than to reorganize. The alphabetical habit became more, not less, pronounced as time passed. Hence the Louvre list is ‘more alphabetical’ than an earlier list of Euripidean plays from the Piraeus.<sup>79</sup> The Piraeus list is far less complete and groups its entries roughly by letters but not in strict alphabetical order. Fourth, the

alphabetical plays are mixed in with the others. Fifth, William Barrett believes that the intermediate codex which these plays would occupy would, unusually, have six rather than five plays.<sup>80</sup> Hence I believe that the ‘alphabetical’ plays belong not to Euripides but to Wilamowitz.

Some of the ancient reluctance to alphabetize may be due to the changes in what letters constituted the alphabet and their shifting order. Daly, none the less, contends that the alphabet was stable from almost the very beginning when it was first adopted by the Greeks and Romans, despite his acknowledgment that the Romans:

inserted the newly devised G in the place of the Z for which they found no immediate use, so that the seventh letter was still the seventh and succeeding letters were still eighth, ninth, etc. By the first century BC when Y and Z were reintroduced at Rome they were, of course, added at the end of the alphabet, since their old places had by then been lost in the new convention as modified by omissions. Even the medieval J and W are not exceptions to the rule since they are only variant forms of the I and V which they follow.<sup>81</sup>

The presence or absence of qoppas, waus, and digammas in Greek alpha-bets is regional and chronological. Quintilian notes that:

*Orthography*, however, is also the servant of usage and therefore undergoes frequent change. I make no mention of the earliest times when our alphabet contained fewer letters and their shapes differed from those which we now use, while their values were different.<sup>82</sup>

Suetonius records that:

he [Claudius] invented three new letters...maintaining that they were greatly needed; he published [*edidisset*] a book [*volumen*] on their theory when he was still in private life, and when he became emperor had no difficulty in bringing about their general use. These characters may still be seen in numerous books, in the daily gazette [*diurnis*=‘dailies’], and in inscriptions on public buildings.<sup>83</sup>

Suetonius implies and Tacitus directly states (*Annals*, 11.14) that the three letters fell out of use when Claudius was no longer emperor.<sup>84</sup> In other words, while Claudius perceived a need for symbols for certain sounds, most did not. In some ways his attempt is akin to George Bernard Shaw’s efforts to reform English spelling. The current systems were simply good enough.

Letters were, however, used individually in certain restricted situations: as numbers; as symbols for architects and artists; as symbols in mathematical and similar diagrams; and in acrostic texts. The Greeks had two different systems for numbers.<sup>85</sup> The East Greeks developed the idea of using the alphabet as numbers, a system still used today in numerology. In Athens in the fourth century BC, each tribe was identified by a letter as a part of the process of selecting members of the jury for trials.<sup>86</sup> Ancient examples of numerology occur by chance in an ‘oral’ poet like Homer and later by design. For instance, lines 264 and 265 in the seventh book of the *Iliad* both add up to 3498.<sup>87</sup>

Suetonius quotes a Greek wisecrack about Nero: ‘Nero, Orestes, Alcmeon their mothers slew./A calculation new. Nero his mother slew.’ The ‘calculation new’ is that the numerical value of Nero in Greek (1005) equals the numerical value of the rest of the sentence in Greek.<sup>88</sup> Aulus Gellius was suitably skeptical of this kind of information. He called it ‘merely a list of curiosities.’<sup>89</sup>

The other type of numbers used by the Greeks is known as the ‘acrophonic’ system in which the first letter of the numeral’s name stood for that number. Hence P represents pente or ‘five’. This second type of numbering is the only instance I know of where a single letter and not a syllable was commonly used in isolation the way we would today.<sup>90</sup> The Roman numerals were based on signs, even if we consider those signs to be letters today. The ‘M’ for a thousand is actually an abbreviation, which probably is related to the development of shorthand.<sup>91</sup> Not until the thirteenth century AD did Arabic numerals replace the cumbersome Roman system, except for certain vestigial appearances in copyright dates of movies, pagination of prefaces, and on timepieces.<sup>92</sup> Roman numerals, however, do have one advantage over Arabic numbers. They are easier to use for addition and subtraction. All you have to do is combine the two numbers by counting strokes for addition and deleting them for subtraction, as long as you do not use the ‘short’ method for representing numbers, such as ‘XL’ rather than ‘XXXX’ for ‘40’. For instance, to add 343 to 1186: CCCXXXIII+MCLXXXVI=MCCCCLXXXVIII=MCCCCXXVIII=MDXXIX. To subtract 343 from 1186: MCLXXXVI-DCCCCXXXVIII=DCCXXXIII. No calculation is needed, only a lot of work space.<sup>93</sup> Division and multiplication, however, are a real pain with Roman numerals.

Masons often used individual letters as indicators for where blocks, tiles, and other parts of buildings should be placed.<sup>94</sup> For example, an alpha on a block indicated that that block would be positioned next to or over an alpha on the structure itself. Such markings were also employed by artisans for smaller-scale objects, like the sixth-century BC bronze krater from Vix, where letters indicate the location in the frieze for the figures, which had been separately cast.<sup>95</sup> Other related applications include the use of letters as symbols in technical discussions. Aristotle, for example, assigns letters to different parts of diagrams. He begins a discussion of the winds: ‘Let A be the point where the sun sets at the equinox and B, the point opposite.’<sup>96</sup>

The last use of separate letters occurs in acrostics, an English word that is a transliteration of the Greek **ἄκροστιχίς**, which means the top or left-most of the line of verse (στιχός). As with the numerological examples, acrostics occur sometimes by chance, sometimes on purpose. Homer, as an oral poet, provides fertile ground for unintentional occurrences.<sup>97</sup> Eustathius, a twelfth-century AD commentator on Homer, said that the first letters of the first five lines of Book 24 of the *Iliad*, ‘λεύκη’ (literally ‘white’, metaphorically ‘fortunate’) refer to Hektor, who is ransomed by his father for burial at the end of the book. The earliest intentional uses of acrostics date to the Hellenistic period and come from Alexandria, a hotbed of scholarly erudition and pedantry. The back of one of the second-century AD Iliac Tablets has a nine-line poem in which each line begins with a letter from the name of the person dedicating the plaque.<sup>98</sup> The best-known example may be from the Old Testament in Proverbs 31.10–31 where the Hebrew and the Vulgate (the Latin translation made in the fourth century AD)

versions precede each line with a letter from the Hebrew alphabet in alphabetical order. Acrostics appear elsewhere in the Bible as well as in other poems and ancient inscriptions.<sup>99</sup> They are developed to a high state of art during the medieval period with pictures that are themselves acrostics embedded within the overall acrostic.<sup>100</sup>

The most curious appearance of ancient acrostics occurs in oracles. Cicero writes about the Sibylline Books, the major collection of oracles for Rome:

[I]n the Sibylline books, throughout the entire work, each prophecy is embellished with an acrostic, so that the initial letters of each of the lines give the subject of that particular prophecy. Such a work comes from a writer who is not frenzied, who is painstaking, not crazy.<sup>101</sup>

Dionysius of Halicarnassus explains: ‘Some of these [oracles] are found to be interpolations among the genuine Sibylline oracles, being recognized as such by means of the so-called acrostics.’<sup>102</sup> In other words, the acrostic serves as a means of authentication. While it may have been somewhat harder to fake an oracle using an acrostic, it would certainly have been easy enough. The real point is that they believed that this simple device for avoiding fraud worked.

Julius Caesar and Augustus developed crude ciphers, which were not only described by Suetonius (‘substitute the fourth letter of the alphabet, namely D, for A, and so with the others’) but were the subject of ‘a commentary of the grammarian Probus, *On the Secret meaning of the Letters appearing in the Epistles of Gaius Caesar*, which is a very careful piece of work’ according to Aulus Gellius.<sup>103</sup> Suetonius’s key to the code may actually have come from the work described by Gellius, since Suetonius knew the works of Probus.<sup>104</sup> Herodotus (7.239) describes an even simpler device or mechanism:

taking a double tablet [for writing], he [Demaratus] scraped away the wax from it, and then wrote the king’s [Xerxes’s] intent on the wood; which done, he melted the wax back again over the writing, so that the bearer of the tablet thus left blank might not be troubled by the way-wardens.<sup>105</sup>

And if you don’t have wax tablets handy, you can always shave a slave’s head, write your message on his now bald pate, wait some time for the hair to grow back in, and then send the slave with the instruction to have his head shaved on arrival.<sup>106</sup> Cicero, however, settles for ‘call[ing] myself “Laelius” and you “Atticus”, and I shall not write in my own hand [*chirographo*] or use my seal [*signo*], that is if the letter is such that I should not want it to get into strangers’ hands.’<sup>107</sup>

These three uses of letters—as numbers, symbols, and acrostics—however, have little to do with the idea of sorting a list of words into a particular order. Not until the thirteenth century did the immediate ancestors of our modern retrieval tools appear. Richard H. Rouse and Mary A. Rouse make the point that:

literate society certainly complicated things by inventing the subject index over two hundred years before inventing the [printing] press. The fact remains that indexes and other finding tools were invented because there was need for them—not because it was easy, or practical, to make them at a certain time.<sup>108</sup>

Again, the interesting point is that no one in antiquity felt that need with the one major exception of Eusebius. In his ‘Canon Tables’ he cross-referenced the passages in the *Gospels* to each other. Print, of course, made the whole process relatively easy, because it provided two crucial elements lacking in antiquity: uniformity between copies of the same text, and control over the format of that uniformity by one person, the printer.<sup>109</sup> In turn, print relied on the earlier innovation of the codex with its easily numbered pages. The Rouses further suggest that:

[the] need for a system that permitted one to locate and refer to information in a text contributed materially to the introduction of arabic numerals in the West.... While historians of science may wax regretful that the West was so tardy in accepting the ‘radically new [arabic] arithmetic’ with its revolutionary concept of zero, we can observe to the contrary that the index-makers, indifferent to the ramifications of the arithmetic, adopted the numeral eagerly, for the down-to-earth reason that these provided an unmatched means of marking one’s place.<sup>110</sup>

Even with print the idea of absolute alphabetization took a while to catch on. Walter J. Ong gives two nice examples:

Indexing was long by first letter only—or, rather, by first sound: for example, in a Latin work published as late as 1506 in Rome, since in Italian and Latin as spoken by Italian-speakers the letter *h* is not pronounced, ‘Halyzones’ is listed under *a*. Here even visual retrieval functions aurally. Ioannes Ravisius Textor’s *Specimen epithetorum* (Paris, 1518), alphabetizes ‘Apollo’ before all other entries under *a*, because Textor considers it fitting that in a work concerned with poetry, the god of poetry should get top billing.<sup>111</sup>

Absolute alphabetization remained a novelty as late as 1604, when Robert Cowdrey published his *Table Alphabetical* and still felt compelled to explain how to use his dictionary:

If thou be desirous...rightly and readily to understand, and to profit by this Table, and such like, then thou must learne the alphabet, to wit the order of the letters as they stand, perfectly without booke, and where every letter standeth: as (b) nere the beginning, (n) about the middest, and (t) toward the end.<sup>112</sup>

Dictionaries, as compendia of day-to-day speech, did not exist in antiquity. What individual ‘glossaries’ there were did not appear until the time of Aristotle in the fourth century BC, and even then tended to be organized thematically around subjects, such as good Attic usage or obsolete words used by Homer.<sup>113</sup> It is difficult to imagine not being able to check the spelling or meaning of a word. In the second century AD Gellius decides that ‘the earlier writers called what we termed *narrationes*, or “tales”, *insectiones* by older writers’ and ‘I think that both Marcus Cato and Quintus Ennius wrote *insecenda* and *insece* without *u*.’<sup>114</sup> He has no way of finding out. It is not so much that there were no rules, but that not all spelling follows the rules, much to the dismay of the Emperor Augustus, like Claudius an early-day George Bernard Shaw. According to Suetonius:

He [Augustus] does not strictly comply with orthography, that is to say the theoretical rules of spelling laid down by the grammarians, seeming to be rather of the mind of those who believe that we should spell exactly as we pronounce.<sup>115</sup>

Quintilian sums up the situation:

On all such subjects the teacher must use his own judgment.... For my own part, I think that, within the limits prescribed by usage, words should be spelt as they are pronounced.... I am however haunted by the thought that some readers will regard what I have said as trivial details.... I myself do not think that we should go so far as to lose our sleep of nights or quibble like fools over such minutiae; for such studies make mincemeat of the mind.<sup>116</sup>

Worse, imagine not knowing whether or not the word you are using is 'real'.<sup>117</sup> Actually that part might have been rather enjoyable, as Horace believed:

[W]ords, though new and of recent make, will win acceptance, if they spring from a Greek fount and are drawn therefrom but sparingly.... And why should I be grudged the right of adding, if I can, my little fund, when the tongue of Cato and of Ennius has enriched our mother-speech and brought to light new terms for things? It has ever been, and ever will be, permitted to issue words stamped with the mint-mark of the day.<sup>118</sup>

So, for example, Horace (*Epistles*, 1.19.47) made up the word '*diludia*', 'a break in the *ludus* [game]'.<sup>119</sup> Varro is even stronger in his feeling about neologisms: 'And do they claim that there is such difference between the two senses [sight and hearing], that for their eyes that are always seeking some new shapes of their furniture, but they wish their ears to have no share in similar novelties?'<sup>120</sup> Nearly a century later Quintilian (1.5.70) noted the continuing Roman preference for new words of Greek rather than Latin origin, but then cautions:

Current words are safest to use: there is a spice of danger in coining new. For if they are adopted, our style wins but small glory from them; while if they are rejected, they become a subject for jest. Still we must make the venture; for as Cicero says, use softens even these words which at first seemed harsh.<sup>121</sup>

Julius Caesar, however, was very conservative in these matters and reminds us of modern teachers of writing: 'Avoid, as you would a rock, a strange and unfamiliar word.'<sup>122</sup> The concept of documenting *all* words is a very recent development, dating back to the nineteenth century and the beginning of the *Oxford English Dictionary*, and even then it was soon realized that the '*all*' is not possible to achieve.<sup>123</sup> Elaine Fantham rightly points out that the absence of dictionaries made learning foreign languages on one's own nigh impossible. Without dictionaries the only way to find out what a foreign word meant was by asking a foreigner or someone thoroughly trained in that language.<sup>124</sup>

The idea of an index never occurred. Nor could Pliny have conceived of using written keywords, as one scholar has claimed, because Pliny did not think in terms of isolated words, but in descriptive phrases as his 'Table of Contents' shows.<sup>125</sup> As Ong puts it, 'Alphabetic indexes show strikingly the disengagement of words from discourse and their embedding in typographic space.'<sup>126</sup> The closest equivalent to the modern habit of highlighting text does not occur until late in classical antiquity with a 'group of lawyers' aide-mémoires, all fourth century AD, in which the overlining of personal and geographical names and of key words picks out the essentials for quick study.'<sup>127</sup> In antiquity, the only types of text to consistently receive special marking to help the reader were legal ones with the headings in red.<sup>128</sup> The practice of using red to highlight information and especially opening words and beginnings of sections goes back to Egyptian practices in the Middle Kingdom, if not the Old Kingdom.<sup>129</sup>

As I mentioned in Chapter 2, punctuation and other markings were sometimes added by the reader. Since the production of every roll was totally individual, the width of the columns and the spaces between them likewise varied. In some cases, enough space remained for someone to put in personal annotations. While it is possible to tell from the handwriting whether the comments were added by the original scribe or someone else, they are often harder to pick out and separate from the text itself than handwritten notes today in the margins of a printed text.<sup>130</sup> In other cases, 'official' commentaries were often relegated to separate rolls,<sup>131</sup> in much the same way as they are sometimes produced today.<sup>132</sup> With the appearance of the codex came the possibility of more diverse arrangements of the physical page. Text could be placed within a 'frame' that could be sur-rounded by comments, with the result that comments could be physically and directly associated with the text to which they applied. Today we see remnants of the medieval display in the fixed positions for notes that can either be footnotes at the bottom of the page or end notes located at the end of each chapter or the entire text. Individual annotation of texts reaches its height in the eleventh and twelfth centuries AD. Print, however, made the page 'sacrosanct' until recent times,<sup>133</sup> when new technology, the highlighter, made the marking of text easier and bolder. Today marginalia, a word first used by Coleridge in the nineteenth century,<sup>134</sup> are considered permissible only if you become famous and will donate your library to some institution where your every scribble will be studied.

## CONCLUSION

Three conclusions are plain. First, the written word in the beginning tended to be used like the oral word. Once written down for its original purpose, it ceased to be of importance. Gradually this attitude began to change, as discussed in Chapter 1. Ovid, for example, valued the durability of the word compared to the great ambivalence of Plato. Second, because the capabilities of writing were for the most part unknown, they could not be exploited, with the result that organization of the written word remained extraordinarily rudimentary. New techniques, and literacy is one of them, always have unanticipated side-effects that require still further new techniques.

Third, the Greeks and the Romans, none the less, did cope with the consequences of

literacy. The way they did, however, differs dramatically from ours, for it rarely occurred to them to use written words to find other written words. Instead they used one of the tools they already had: memory. Memory became *the* classical means of cognitively organizing and, most significantly, retrieving words.<sup>135</sup> The increasing importance placed on memory in classical antiquity will be considered in three aspects. The Muses, instead of fading in importance, take on more specific functions and appear increasingly more frequently, especially in the pictorial arts, as writing becomes more established. At the same time techniques for improving memory were developed and continually refined. Finally, mem-ory itself was one of the writer's most basic tools.

## THE COGNITIVE DEVELOPMENT OF THE MUSES

As Mnemosyne, the personification of Memory, becomes less important, her daughters, the Muses, take on an increasingly important role and appear more frequently in art. While Mnemosyne has her own cult in Greece, she has no equivalent among the Romans. Consequently it might seem that writing has indeed replaced memory as a storage medium, but that would be a false picture. Memory as a technique, as a tacit substratum of Roman life, flourishes.<sup>1</sup> In this chapter I concentrate on the daughters of Mnemosyne: why Memory is their mother and what their role is in Greek and Roman life.

### WHO THE MUSES ARE

The number of Muses ranged from unspecified in Homer to the full nine, with every possibility in between except six. As early as Hesiod (seventh century BC) and early Attic black-figure vase painting (sixth century BC) they were nine and named, though without specific functions, which shifted over the centuries and even contemporaneously in different sources.<sup>2</sup> The Hellenistic period, notable for its scholarship, fixed the count firmly at nine and more or less (some drifting continued) defined their spheres. As we have ‘inherited’ the Muses, they are: Calliope, considered the most important, in charge of heroic poetry (epic); Clio of history; Melpomene of tragedy; Euterpe of flute music; Erato of lyric poetry and hymns; Terpsichore of the lyre, lyric poetry, and dance; Urania of astronomy; Thalia of comedy; and Polyhymnia of dance, pantomime, and geometry. String instruments of the lyre family often accompanied classical verse, as sometimes did the flutes, which became more popular from the second half of the fifth century onwards. The choruses in Greek plays added movement, that is, dance.<sup>3</sup> Astronomy and geometry, however, have seemed strange to scholars,<sup>4</sup> because the ties of the Muses to literacy have not been fully appreciated.<sup>5</sup> Astronomy and geometry fulfill two major requirements to come under the Muses’ mantles: both are intellectual, scientific endeavors that depend on calculations that need writing and hence memory. Accordingly, St Augustine says, ‘Likewise memory contains the reasons and innumerable laws of numbers and dimensions.’<sup>6</sup>

The one glaring omission in the list, seemingly so broadly defined by our standards, is the pictorial arts, which never in any ancient source had a Muse, not even part of one. Instead Athena was the patron of the artist.<sup>7</sup> It is not that pictorial imagery does not help memory for words; it does. What is more, the Greeks and Romans knew it did, although perhaps not until after the Muses themselves were pretty much established. It is more significant that what we consider intellectual endeavors that involve writing in a very

global way were always kept separate from those that were considered to be craft or ‘τέχνη’ (technē), what we classify as the pictorial arts. A Cicero might write poetry, but he would not paint or sculpt.<sup>8</sup> Plutarch sums up the situation:

a man who occupies himself with servile tasks proves by the very pains which he devotes to them that he is indifferent to higher things. No young man of good breeding and high ideals feels that he must be a Pheidias or a Polycleitus after seeing the statue of Zeus at Olympia or Hera at Argos.<sup>9</sup>

As always, there were occasional exceptions, but they were sufficiently rare to be noted as such by ancient writers.

The classical view of what constitutes art is reflected in what constitutes a classical liberal education. As today, reading, writing, and arithmetic formed the core subjects to which were added athletic activities and sometimes training in a musical instrument, either the lyre or the flute. In the fifth century BC Alcibiades, like many a schoolchild, rebelled against being forced to play a musical instrument:

‘But we Athenians, as our fathers say, have Athene for foundress and Apollo for patron, one of whom cast the flute away in disgust, and the other flayed the presumptuous flute-player [Marsyas].’ Thus, half in jest and half in earnest, Alcibiades emancipated himself from this discipline, and the rest of the boys as well. For word soon made its way to them that Alcibiades loathed the art of flute-playing and scoffed at its disciples, and rightly, too. Wherefore the flute was dropped entirely from the programme of a liberal education and was altogether despised.<sup>10</sup>

Training in painting and sculpture, however, was reserved for those who were going to practice a trade. Thus it would not be fitting for the same figures to be patrons of both word and picture. Further corroboration comes from the fact that the subjects of astronomy and geometry superintended by the two ‘anomalous’ Muses, Urania and Polyhymnia, were a part of a ‘general education’ from the Hellenistic period on.<sup>11</sup> Eratosthenes represents this combination, for he wrote a poem ‘on the squaring of the cube...in which he refers to the gift of [Ptolemy] Euergetes to [Ptolemy] Philopator of “things dear to the Muses and to Kings”.’<sup>12</sup>

While the Greeks and Romans believed that you needed a memory for words, never did they think that you might need a memory for pictures. The Muses only administer things that need memory and those things in classical antiquity involve only words and writing. According to Plutarch in the second century AD:

Above all, the memory of children should be trained and exercised; for this is, as it were, a treasury of learning; and it is for this reason that the mythologists have made Memory the mother of the Muses, thereby intimating and hinting that there is nothing in the world like memory for creating and fostering.<sup>13</sup>

It might be thought that the ekphrastic tradition contradicts the separation of Muses from art and the absence of a need for a memory for pictures. From the Hellenistic period on,

ekphrasis, the literary description of a work of art, became a part of rhetorical training and concomitantly a standard in literary works. For example, Aeneas describes the scenes decorating the Temple of Juno in Carthage in *Aeneid*, 1.453–493 and through Aeneas’s eyes we see the scenes on the shield of Aeneas in 8.626–731.<sup>14</sup> While these descriptions are extremely effective at conjuring up mental images of the scenes, rarely can these scenes be re-created physically in a visual display with the exception of literary treatments that are specifically meant to be descriptions of works of art, such as the *Imagines* of Philostratus from the third century AD—though even here problems exist in re-creating the positions of each painting.<sup>15</sup> It is not just the separation of an ekphrasis from reality, however, that matters here. More importantly, the purpose of ekphrasis within a literary work is to *remind* the viewer and hence the reader. Such descriptions enable the reader to remember the words and the action, but not the reverse. This use of visual imagery for recalling memories is intimately connected with the artificial memory systems which are discussed at length in Chapter 8.

### COGNITIVE STUDIES OF MEMORY FOR WORDS

Recent investigations into how memory works explain the association between the Muses and writing. Psychological experiments demonstrate that people remember better when more than one of their five senses is engaged simultaneously.<sup>16</sup> If you read a text silently to yourself, you are less likely to recall it than if you read it aloud, because then both your vision and your hearing are involved, as Quintilian already knew in the first century AD. Quintilian gives his own reasons, still valid today:

The question has been raised as to whether we should learn by heart in silence; it would be best to do so, save for the fact that under such circumstances the mind is apt to become indolent, with the result that other thoughts break in. For this reason the mind should be kept alert by the sound of the voice, so that the memory may derive assistance from the double effort of speaking and listening.<sup>17</sup>

On the same premise the addition of meter or beat to your words, as in poetry, makes them more memorable, again a well-known fact in antiquity. Aristotle explained:

It is easy to follow, because it can easily be remembered; and this because language when in periodic form can be numbered, and number is the easiest of all things to remember. That is why verse, which is measured, is always more easily remembered than prose, which is not: the measures of verse can be numbered.<sup>18</sup>

Combine that beat with melody and you, too, can sing snatches from Broadway shows or even the ‘Star Spangled Banner’ in all four of its verses.<sup>19</sup> It is the combination that counts. If you then add movement, as in dance, to the words set to music, you have yet another reinforcement for recall, because you associate a particular word or phrase with a particular action.<sup>20</sup> In other words, what you have are the Muses, the daughters of

Memory.<sup>21</sup>

Modern psychological and cultural studies have documented the effect:

It is well-known that remembering the words to a song is greatly facilitated by singing the song—the tune and rhythm serve as mnemonics. Among the Kpelle in Liberia, Lancy (1975) has reported that ‘my informants had great difficulty recalling the songs unless they were singing *and dancing* (p. 9; italics added [by Wagner]).’ Thus we see a motoric or kinesthetic mnemonic that aids recall. Similar evidence was recently gathered in a study of memory in deaf children (Liben & Drury, 1977). In this study, deaf children created their own, apparently culture-specific or deaf-specific mnemonics for remembering. The authors observed the use of finger spelling and the use of mime representations as mnemonics.<sup>22</sup>

Part of the study of ‘The Wreck of the Old 97’ mentioned in Chapter 1 was a test of how well

undergraduates who were not familiar with the ballad tradition [were able] to learn and recall ‘The Wreck of the Old 97’ in order to determine if these recalls were also governed by similar constraints .... [The results were that l]ines with high imagery values or many poetic constraints were recalled more accurately. When the metrical agreement and the poetics were high, recall was more accurate. When poetic restraints were removed recalls had greater variability across subjects. Finally, when rhythmical information was emphasized in the stimulus, recalls were more accurate.<sup>23</sup>

Wallace in a later experiment adds:

[T]he experiments indicate that the melody contributes more than just rhythmical information. Music is a rich structure that chunks words and phrases, identifies line lengths, identifies stress patterns, and adds emphasis as well as focuses listeners on surface characteristics.<sup>24</sup>

She adds one caveat: ‘the text is better recalled when it is heard as a song rather than as speech, provided the music repeats so that it is easily learned.’

Charles Beye explains exactly how ancient Greek fits this pattern:

As any singer will tell you, changing the pitch of a word slightly but inevitably changes the quality of the vowels. This helps explain the marked musicality of Greek. Since vowels are held either long or short and are sounded with either normal pitch or raised pitch, the range of variation is great. The chanting poet then would be using time, beat, and pitch, just as modern musicians do.<sup>25</sup>

In the most extensive study of Greek verse and how it works cognitively, A. M. Devine and Laurence D. Stephens rightly conclude that ‘we need to bear in mind that verse is not the creation of patterns out of language but a regularization of the patterns in language.’<sup>26</sup>

## THE DISPLAY OF THE MUSES

A history of the appearance of the Muses in the visual arts clearly marks the increasing association between the Muses and learning. While it can be hazardous to base arguments on the survival of ancient objects, none the less it must be significant that only a handful of examples exist today from the archaic period. The classical period signals the beginning of real popularity for the Muses in art,<sup>27</sup> because literacy finally reached a critical mass during the fifth century BC. For the first time school scenes appear on Attic vases. Boys make their way to the classroom carrying tablets and writing cases. Teachers sit reading lessons from rolls. The actual act of writing is depicted less often, and then only on tablets, not on rolls.

At the same time as the school scenes appear, the Muses become more frequently depicted and, significantly, often hold rolls.<sup>28</sup> They are associated with the written word, but, just as significantly, they are not seen writing words, only helping others to read and write, even though they do play instruments. For example, a white-ground Attic pyxis shows a cowherd, identified either as Hesiod or Archilochos, being inspired by six of the Muses, two of whom are playing their instruments, the auloi and kithara.<sup>29</sup> On another Attic red-figure vase, a Muse stands reading the roll she holds, as Marsyas plays the auloi.<sup>30</sup> This conception of the Muses continues virtually unchanged through the late Antique period with only an occasional exception.<sup>31</sup>

That the separation of the Muses from actually writing themselves is conscious can be seen in the parallel iconographical development of the Fates (Moirai).<sup>32</sup> In Greek art the Fates appear traditionally spinning the thread of life, measuring, and then cutting it. In Roman art, however, they sometimes perform their job of controlling life through reading the fate from a roll and by examining the stars, indicated by a globe. For example, on a Roman sarcophagus, two of the Fates stand behind a mother and her new-born child.<sup>33</sup> Both are touching a globe and the figure on the right also holds a roll open in her left hand. The roll and globe are also attributes of the Muses. What sets the Roman Fates apart is that one of them is sometimes depicted as actually writing down the fate. In particular, I would note the Roman mosaic with the three Fates, all named.<sup>34</sup> On the left stands Clotho holding a spindle. Next to her Lachesis holds a roll in her left hand and a thread (?) in her right. Then comes Atropos reading from a roll. On a Roman sarcophagus portraying the death of Meleager one of the Fates stands on the far left writing his fate on a roll.<sup>35</sup>

Plato sets up one of the first, if not the first, 'mouseion' or museum.<sup>36</sup> According to Pausanias, within Plato's Academy 'There is an altar to the Muses, and another to Hermes, and one within to Athena, and they have one to Heracles.'<sup>37</sup> Plato feels the necessity of surrounding himself and his school with the reinforcers of memory and hence learning. Athena as goddess of wisdom is, of course, present. Hermes may seem less obvious, but among his many talents is the invention of the letters.<sup>38</sup> In the Middle Ages Hermes's association with memory becomes quite strong.<sup>39</sup> Herakles, generally the prototypical dumb muscleman, none the less appears in archaic Attic black-figure vase painting playing the lyre and was included with the Muses in the Sanctuary of Asklepios.<sup>40</sup>

The association between Hercules and the Muses was particularly favored by the Romans. According to Plutarch they had an altar together, because ‘Hercules taught Evander’s people [the Latins] the use of letters, as Juba has recorded.... And this action was held to be noble on the part of men who taught their friends and relatives.’<sup>41</sup> Marcus Fulvius Nobilior erected a temple to Hercules Musarum, ‘Hercules of the Muses’, in 187 BC in which he placed statues of the nine Muses and Hercules taken from Ambracia in Epirus after the Roman victory over the Aetolians. Q.Pomponius Musa commemorated them on his coins in the following century.<sup>42</sup> At least two other complete groups of Muses, but without Hercules, were on display in Rome in Pliny the Elder’s time: one in the museum connected to the Atrium Libertatis, set up by Asinius Pollio, and another in the temple of Apollo Sosianus.<sup>43</sup> Hadrian also had a set at Tivoli.<sup>44</sup>

Cicero not only acquired books through the services of others, but also statuary for his villa at Tusculum. One of his agents clearly did him wrong:

Not being acquainted with my regular practice you have taken these four or five pieces at a price I should consider excessive for all the statuary in creation. You compare these Bacchantes with Metellus’ Muses. Where’s the likeness? To begin with, I should never have reckoned the Muses themselves worth such a sum—and all Nine would have approved my judgement! Still, that would have made asuitable acquisition for a library, and one appropriate to my interests. But where am I going to put Bacchantes?<sup>45</sup>

Muses and libraries were clearly considered a natural association by the first century BC. This relationship was most fostered by the library at Alexandria, which had its own museum with its own statuary Muses. The dates are significant. Plato is fourth century BC. The first free-standing group of the Muses, according to Pausanias (9.30.1), was made in the same period by Kephisodotos, who was probably the father of Praxiteles. The library at Alexandria was established at the beginning of the third century BC. The union of Muses and learning continued throughout classical antiquity. By the second century AD the Muses were appropriated by private individuals as suitable symbols to decorate their eternal resting places. Well over 200 sarcophagi with the Muses have survived. They also appeared in numerous mosaics, sometimes joined by the Seven Sages.<sup>46</sup>

## THE MUSES AND WRITING

This brief survey of the portrayal of the Muses in the pictorial arts has shown that they become more and more associated with the written word as time passes. While their mother, Mnemosyne, becomes less important in religious matters, her daughters become ever more popular in art.<sup>47</sup> For the first time it becomes clear why the Muses govern the domains they do. Astronomy and mathematics are both concerned with writing not just intellectually, but representationally, as the parallel history of the Fates in the pictorial tradition demonstrates. At the same time the ancient divisions make sense from a cognitive point of view. In order to write, the classical writer needed the skills that the Muses embody.<sup>48</sup>