

Document Security in the Ancient World

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INTRODUCTION

While issues of encryption, firewalls, surveillance technologies, and cyber terrorism occupy the day-to-day thoughts of contemporary practitioners on the frontiers of information science, the essential problems they face are old, not new. The concept of document security goes back to some of the earliest eras from which writing survives. Testimony to the efforts of information professionals confronting security issues in the ancient world can be found in business, government, family, and temple contexts.

Even the name of one of today's most persistent (and pesky) computer problems, the Trojan horse, reminds us that the challenges of today perpetuate, in new forms, problems faced by our predecessors in the distant past. We can even, at least sporadically, trace shifts of usage in response to changes in the technology of writing from clay tablet to papyrus, wax codex, and parchment. These changes may remind us of the way new formats and technology in our own time have made us scramble to keep up with the ingenuity of hackers, or the danger of losing information left behind, stored on obsolete diskettes, coded in computer languages no one studies any longer, or stranded in unsupported software.

BACKGROUND AND LITERATURE REVIEW

It is not surprising that the topic of document security in Antiquity has not been specifically addressed in print before. Research on information services in the ancient world requires gleaning references from broad reading in archeology and cultural history. Pioneering studies on the origins of indexing (Witty, 1972), classification (Berthold, 1938), shelf lists and document inventory control (Weitemeyer, 1956), and the development of the library catalog (Dalby, 1986) demonstrate that it is possible to pull together an overview of how the ancient world approached an aspect of information service. Such inquiries shed light on contemporary

problems by providing a historical perspective on the information challenges of today.

The Document's Lifecycle: Security Measures Taken in the Ancient World

The life of a document occurs in several stages, each presenting challenges for preserving the integrity of its content, establishing its authenticity, limiting access to it, preventing interception by unauthorized readers, and secure storage.

Accurate Transmission of the Original Message

The invention of writing solved part of the initial problem. A brief verbal message can be memorized and repeated verbatim by a courier; but if it is lengthy, complicated, or carefully worded (as military or diplomatic instructions frequently must be), it is better to write it down.

But it must be recorded accurately. Sasson (2002, p. 211) cites a cuneiform tablet from the Old Babylonian city of Mari (modern Tel Hariri, on the Euphrates), circa 1850-1800 BCE. The text of the tablet demonstrates that it must have been a frequent practice for scribes to read back what they had transcribed to the official dictating, to verify that the gist of the communication was accurately conveyed by the writing. In this particular letter, the sender excuses a previous miscommunication by alleging that this checkpoint had been skipped by the scribe who recorded his previous report.

Codes, Secret Writing, and the Use of Official Languages

In ancient Mesopotamia most people other than scribes were illiterate, so the use of code was not generally necessary. But by Roman times simple substitution ciphers were used to protect military and government dispatches. Suetonius mentions them in his *Lives* of

both Julius and Augustus Caesar. In fact, codes were common enough among the Romans that the grammarian Probus wrote a treatise on the subject. The book itself does not survive, but Aulus Gellius (17.9, 1-5) alludes to it.

Alternative methods of transmitting a message through enemy lines were used in ancient Greece. Plutarch describes (Life of Lysander, 19) a Spartan system. Messages were written on a parchment strip wound around a cylindrical tool called a *scytale*. The writing crossed the edges of the parchment, so the individual letters were broken and incomplete. The strip of parchment could then be sent to a commander who had a *scytale* of the same diameter, and he could read it when it had been wound back around his duplicate cylinder.

Herodotus (5.35) narrates the stratagem of Histaeus, who sent a message to a co-conspirator, tattooed on the scalp of a slave. His correspondent had to shave the slave's head to read it, surely the most curious instance of *steganography* in the ancient world.

Compiling information from documents that are not all presented in a standardized format is tedious. Writers for modern academic journals may sometimes chafe under the limitations imposed by editorial style sheets; they can take comfort from the standardization imposed on accounting documents in the expanding Mesopotamian empire of the Sargonid dynasty (c. 2380-2167 BCE) (Foster, 1986). No doubt this demand for standardization annoyed local accounting clerks required to change their record-keeping procedures just as much as office workers grumble when technology changes today. Parpola (1981) notes that 15 centuries after the era of Sargon the Great, ancient clerks were still grumbling. Parpola speculates that security policy may have played a role in a reply sent by Sargon II (c. 721-705 BCE) to Sin-iddin of Ur, insisting that the latter continue to make his reports in Akkadian, on clay tablets, rather than in Aramaic, on scrolls. Parpola suggests that classified or sensitive documents might have been considered safer if transmitted in the official language (Akkadian), rather than the vernacular spoken in the empire's southeastern provinces; but the innate conservatism of hidebound bureaucracies may suffice to explain the resistance.

Verification that the Document is Authentic

If it is to carry the full weight of the writer's authority, a document must bear signs of authentication. The usual practice, from the ancient world right up through the early modern era, was to add a seal imprinted with words or symbols identifying the sender (or sometimes, the witnesses to a legal document). A person's seal might be as well known to his or her correspondents as a signature is today. Vallon (1997, p. 173) cites a group of documents found at Persepolis that bear the seal of a government functionary called Parnakka. Under the seal on each, he's written a line saying that he's lost his old seal, and this is the new one he's using as a replacement.

A commentary summarizing case law during the Sassanid era in Persia (223-651 CE) sheds light on the extent to which, by late antiquity, the value of seals as legal evidence was scrupulously studied. One case turned on the testimony of a defendant in a civil lawsuit who repudiated the seal alleged to be his on a disputed contract. He testified that it was not the seal he was using at the time of the transaction and claimed, in effect, that the contract was forged. The court examined documents he had sealed at various dates, and found for the plaintiff (Macuch, 1997, p. 80). The same Sassanid digest specifies the circumstances under which an official who is custodian of a departmental seal must surrender it to his successor (Macuch, 1997, p. 84).

Collon (1990, p. 27) cites evidence from business archives found at the ancient city of Nuzi in northern Mesopotamia (15th century BCE), where the seals of thousands of different individuals have been found on documents and *bullae*. On a cuneiform tablet, the seal might be impressed into the clay, below or beside the slow-drying text. Documents written on pliable materials such as papyrus, parchment, or leather might be folded or rolled and closed with a ball or *bullae* of wax or clay, which was then impressed with the sender's seal.

At the capital of the Hittite Empire, Hattusa (modern Boğazköy, in Turkey), excavators found a roomful of more than 3,000 embossed clay fragments that had been used as document seals. The physical documents, writ-

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