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Strategemata

TRADECRAFT IN ANCIENT GREECE

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The ancient Greeks knew a great deal about the ins and outs of spying, but they did not make our modern terminology distinctions among intelligence collection, security, counterintelligence, and covert operations. If the Greeks did have a word for it, it was *strategemata*, the single heading under which they grouped all such activities. We are able to study these "strategems of war" today, thanks to the survival of several Greek military handbooks, called *strategika biblia*. Their chapters on intelligence gathering instruct a commander in what would today be called tradecraft: the finer arts of running agents, sending secret messages, using codes, ciphers, disguises, and surveillance. We can also glean information from the works of Greek historians and other ancient writers who, even if they are not primarily concerned with military matters, do refer occasionally to techniques of secret operations. Here is a look at what these sources have to say about the "how to do it" of ancient spying.

Of all the surviving military treatises, by far the best is the one written about 357 B.C. by Aeneas the Tactician—another name, it is thought, for Aeneas of Stymphalos, general of the Arcadian Confederacy. As a fourth-century commander, he very likely served most of his time as a mercenary soldier. The Arcadians had been the first Greeks to turn to soldiering as a profession and were more in demand than any other mercenaries. They were said to have been the first practical instructors in the art of war. A man of sagacity, whose use of sources proves he was both well traveled and well read, Aeneas had a keen understanding of human nature. His insight and experience, gathered from a career of adventure, give his work an immediacy lacking in the works compiled in libraries by mere epitomizers. Living in an age when the general alone was the driving power behind the whole army, Aeneas recognized intelligence collection and counterintelligence as integral parts of the defense of the state. A commander could afford to leave nothing to the initiative and good faith of his subordinates; he could not even trust his own men and often set them as spies against one another.

One of Aeneas' basic observations is that intelligence being sent into or out of a fortified city has to be transmitted clandestinely to avoid capture by the enemy; he provides us with the first instructional texts on communications security, and describes in detail 18 different methods of sending messages, some of them ciphers. Aeneas probably used recognized and traditional devices, though he no doubt made additions or refinements of his own. One example involved the use of message boards, wooden tablets covered in wax with messages then inscribed in the wax, a common vehicle of writing in his day. Aeneas suggested writing the secret message on the wood and then covering the wood with wax in which another, more innocuous message could be written. The device originally comes from Herodotus and was used to transmit one of the most important messages in all of Greek history. Demaratus, a Greek living as an exile

in Persia, learned that King Xerxes of Persia planned to invade Greece. Realizing the danger, Demaratus attempted to warn the Spartans. He scraped the wax off a pair of hinged wooden tablets, wrote his secret message on the wood, and then covered the boards again with wax. When the tablets arrived, the daughter of the Spartan King Cleomenes discovered the hidden message, and this discovery makes her the first known female cryptanalyst. It was both tragic and ironic that in the war that resulted, her own husband, Leonidas, died leading the valiant Spartan band that held the pass at Thermopylae for three days before the Persians found a way through.

A related method of sending secret messages was to write on a boxwood tablet with good quality black ink, letting it dry and then whitening the tablet (presumably with white slip) to make the letters invisible. The recipient then immersed the tablet in water to wash away the whitening agent and make the writing visible. The same method was used for disguising a message as a votive offering at a local shrine. Aeneas suggests using a wooden plaque with the picture of a heroic horseman carrying a torch and wearing a white cloak, since sculptured tablets of this kind were commonly offered at altars. (Vows requiring such offerings were made to heroes on many occasions like childbirth, rescue from shipwreck, or recovery from illness). The tablet was sent along with an unwitting accomplice and posted at whatever temple he went to for prayer. (A dead drop, one might say.) It was later retrieved and soaked in oil to bring out the message.

Bladders, Strokes, and Dots

One rather amusing way to send a secret message required a bladder large enough to hold a message. (No particular animal is recommended for obvious reasons; the longer the message, the larger the bladder required.) The sender inflated the bladder, knotted it, and let it dry. A message could then be written on the outside of the bladder with a mixture of ink and glue. When the writing dried, the bladder was deflated and stuffed into a flask of appropriate size. The flask was filled with oil and corked. In this state, the secret message was hidden in the flask, and it could be carried around unnoticed. The recipient emptied the flask and removed the bladder to read the message. The bladder was reusable: an answer could be sent by sponging off the bladder, writing a new message, sealing it back into the flask in the same way, and returning it to the original sender.

“Especially secret messages,” Aeneas writes, “might take the following forms. Insert a book (probably a scroll) into your traveling gear which has the message coded by marking certain letters with dots at long intervals or by strokes of unusual length.” Thus *OrnisPetomenoseLipenoikiAn* disguises the word *opla*. The recipient merely has to transcribe the marked letters. This method has a long history that reaches up until the present. The *Washington Post* of 24 April 1918, for example, reported the story of Ram Chandra, an Indian revolutionary, who received information for his own newspaper in San Francisco through specially marked copies of the Koran sent from India which the Indian censors would not touch. A variant method requires using two copies of the same book and sending a code separately to indicate the designated words or letters; but this refinement had to await the invention of printing. The printing press both standardized books and made them easily available to the general public; and

the success of this method requires that the unaltered originals be identical in every detail.

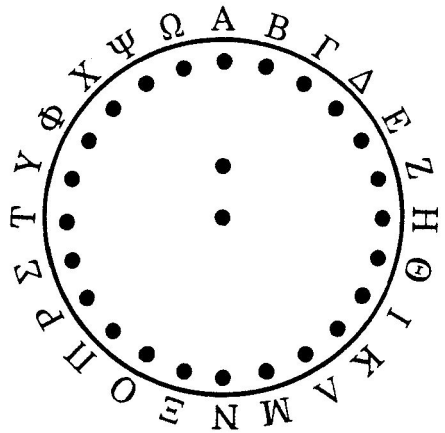
David Kahn in his study *The Codebreakers* explains some of Aeneas' methods for encoding messages. Among the simplest was replacing vowels for the plain text by dots: one for alpha, two for epsilon, etc. A typical message would look like this:

“Dionysius Docked”
 D:::N:::S:::S D::CK:D
 “LET HERACLEIDES COME”
 L:T H:R.CL::D:S C::M:

Aeneas Tacticus, 31.31
 Loeb edition, p. 171

A more complicated steganographic system used a disk that bore holes representing the letters of the alphabet. The encipherer passed yarn through the holes that represented the letters of his messages and the decipherer would undo the yarn and get the text in reverse. The holes in the center were used in between the letters that had to be repeated. Hermann Diels gives us a reconstruction:

A similar method used an astragal (a sheep's ankle bone) instead of a disk. The astragal had four flat sides which could be marked with dots; they were frequently used as dice. The 24 letters of the alphabet naturally fall into four groups of six. The thread would be passed through the appropriate letters with a needle. When this operation was finished, the appearance would be of a simple astragal with a ball of thread around it. The recipient would have to unwind it and transcribe the message. This device is the one certain invention attributed solely to Aeneas and not traceable to another source.



Hermann Diels
Antike Technik, p. 74
 Leipzig, 1924

Simple, uncoded messages could be disguised in several ways. They were written on thin strips of papyrus, then concealed in the shoulder of a tunic, tied to the bridle of a horse, or sewn into the leather skirts on a soldier's cuirass. Aeneas even reports a man from Ephesus who sent a message written on leaves bound to a wound on his leg.

In special cases a message might need protection from water or mud. Such messages, written on sheets of beaten tin, were sewn into sandals and walked through a checkpoint. If the communicators worked carefully, they could even slip the message unnoticed into the sandals of an unsuspecting person and then retrieve it while he slept. Similarly, small, rolled and inscribed plates of lead could hang from a woman's ears as earrings. One Roman example from a later time shows the general Hirtius sending messages on lead plates tied to the arms of a soldier who then swam the Scultenna River.

There are several Roman examples of communications techniques that were most likely used by the Greeks also. Commentators have expressed surprise, for instance, that Aeneas does not mention doves as letter carriers. Our only citation for their use is Roman but it seems likely that the Greeks used this method too. The Roman general Hirtius shut pigeons in the dark and starved them before fastening letters to their necks by a hair. Released near the city walls, the birds immediately headed for food and light at the highest building where Brutus waited for the message. By learning that food was left in certain spots, the pigeons became trained to return automatically with subsequent messages. Among other Roman techniques with probable Greek antecedents are practices like writing messages on animal skins tied to the carcasses of game or sheep, or fastening the message under the tail of a mule to escape a guard post. (Retrieving that one must have been fun!). Finally, the linings of scabbards sometimes concealed messages as well. One ingenious Roman needed to get information into a city surrounded by water and occupied by enemy troops. On the opposite bank, he sewed letters inside two inflated skins and ordered one of his better swimmers to get on the skins and swim the seven-mile strait. The soldier steered with his legs for a rudder and navigated the entire trip so skillfully that even when enemy soldiers spotted him, they mistook him for some unusual marine creature.

Aeneas tells us that in Epirus, local practice was to take a dog out of its master's house, fix a note inside its collar, and then at night release the dog to find its master. Dogs were better able to find their way in the dark than human messengers, and there was less risk of the enemy spotting the dog.

Glus, admiral to the Persian king, smuggled notes into the royal palace by writing them between his fingers. Because protocol required visitors to the palace to keep their hands inside their long sleeves as a precaution against assassinations, it is difficult to understand how memoranda written between his fingers would be useful. Aeneas, obviously impressed by this device, unfortunately gives no other details of its use.

Aeneas understood that important intelligence succeeded only if the right person received it and acted on it properly. Astyanax, tyrant of Lampsacus, received a letter informing him about an assassination plot against him but he failed to read it and laid it aside. By the time he finally opened it, the conspirators were upon him. They killed him with the letter still in his hand. A parallel case occurred later when Julius Caesar died holding in his hand a full exposure of the conspiracy against him.

Another writer whose work gives details about tradecraft is Polyaeus, a Macedonian rhetorician. He wrote a book of strategems dedicated to the joint Roman emperors Marcus Aurelius and Lucius Verus and intended to aid them in their Parthian War of 162 A.D. His examples, some fact, some fiction, came from numerous sources; and he himself admits not even making his own extracts but using earlier compilations. Discussing his sources is therefore useless, and each example must be judged on its own merits. For our purposes, the importance of these stories is not whether they occurred exactly as described, but that they show techniques known to the ancients.

One of Polyaeus' more clever stratagems appeared in a recent James Bond film. The tyrant Lachares, who tried to escape from Athens after Demetrius Poliorcetes captured it in 295 B.C., disguised himself as a slave, blackened his face, and carried a basket of money hidden under dung. He slipped out of the city, jumped on a horse, and escaped. A party of horsemen gave chase; but as they closed in, Lachares reached into the basket of money and started scattering gold coins on the road behind him. His pursuers dismounted to pick up the coins, and Lachares escaped to Boeotia. Lachares also once concealed himself for several days in a pit with just enough provisions to keep himself alive. He was hiding on the island of Sestos after the island had fallen to the enemy; and when he noticed a funeral cortege passing, he put on a black veil and a woman's gown to escape with the mourners through the city gates. Far simpler was the ruse of Demetrius Phalareus, who escaped from the King of Thrace by hiding in a load of straw.

Polyaeus tells of a successful royal disguise used by King Seleucus, who posed as an enemy armor-bearer after his own men had been defeated. He survived, and after regrouping his own army's shattered remains, donned again his royal robes.

An ingenious, if somewhat indelicate, device saved one captive held by pirates. Kept in close confinement on the island of Lemnos, Amphiretus the Acanthian waited for someone to ransom him. He secretly drank a mixture of salt water and vermilion (red mercuric sulfide) which gave him "the bloody flux." The pirates feared he was suffering from serious disease and would die unransomed. They let Amphiretus out of his cell for exercise and fresh air, hoping it would restore his health; once out of his cell, he waited for night and escaped.

Polyaeus has also contributed to our knowledge of methods for sending secret messages. One notable story came straight out of Herodotus and concerns the Median noble Harpagus who tried to aid the Persian king Cyrus. The Medes ruled Persia at this time and had the road system carefully guarded, making all clandestine communication difficult. In order to offer help in overthrowing the Median king, Harpagus sewed his message in the belly of a hare. The messenger arrived at Cyrus's quarters disguised as a hunter carrying a hunter's net with the hare inside. The messenger had been instructed to give Cyrus the hare and bid him cut it open with his own hand and with no one else present. This plan worked, and with Harpagus' help Cyrus revolted against the Median king.

Not only the Persians but all ancient commanders appreciated communications security and took pains to see that no information leaked from their own ranks. The Greek Demetrius, while leading a naval expedition, kept his destination secret even from his own men. He gave the captain of each ship sealed instructions and told him not to break the seal unless his ship became separated from the main group by a storm; only then could the captains discover their destination. Communications security could take stringent forms. In the flaps and seals department, Aeneas Tacticus, whose work was designed to prevent internal treachery, advocates outright censorship. He suggests that the outgoing and incoming letters of exiles should be brought to the censors before delivery. Alexander the Great read his own troops' mail to discover signs of disaffection,

Tradecraft

Finally, there is the story from Plutarch concerning the Spartan commander Lysander who was summoned home by means of a *skytale* to face charges against him leveled by the Persian Pharnabazus. Lysander went to Pharnabazus and pleaded with him to write a letter to the ephors, clearing him. Pharnabazus, however, wrote two letters, the one requested and a second, secret one exposing Lysander's treachery. When he sealed the letter, Pharnabazus made a simple switch; Lysander returned home with a list of his own wrongdoings and turned it over to his judges. It would have been much easier switching two conventional letters rather than the leather strip as described earlier. And again, we find a supposedly secret form of communications used by the Spartans in the hands of traitors and foreign rulers. When we add the evidence of Aristotle who asserts that the *skytale* was used by Greeks other than the Spartans, we begin to wonder just how many people were onto this "secret." For the *skytale* to be used as an effective tool for sending coded messages, it would have had to be kept a secret or its effectiveness would be nullified. This does not rule out the possibility that the strip of leather or papyrus could have been hidden, along the lines of those messages described by Aeneas Tacticus. But it is telling that Aeneas himself, our single most important source of information on ancient Greek cryptography, does not mention the *skytale* once. The silence of Polybius is equally suspicious. We can only conclude that it was unknown to them.

The word *skytale* is discussed by scholists and grammarians of much later periods and the erroneous notion that the *skytale* was a cryptograph employed by the Spartans seems to have come into existence then. Kelly attributes it to Apollonius of Rhodes. The fact that it was described at all by *any* ancient author is certainly proof enough that the technique was known. But when or where it was used has yet to be demonstrated. All we can say for certain is that it was ancient and that it was Greek, but it was never classical and certainly not Spartan.

Milk and Arrows

From the Roman poet Ovid we learn that secret writing could be used for purposes other than military ones. In his *Art of Love*, Ovid tells of lovers sending clandestine communications:

Will a guardian forsooth prevent your writing when time is allowed you for taking a bath? when a confidant can carry a written tablet, concealed by a broad band on her warm bosom? when she can hide a paper packet in her stocking and bear your coaxing message "twixt foot and sandal?" Should the guardian beware of this, let the confidant offer her back for your note, and bear your words upon her body. A letter too is safe and escapes the eye when written in new milk: touch it with coal dust and you will read. That too will deceive which is written with a stalk of moistened flax, and a pure sheet will bear hidden marks.

Although invisible ink per se was unknown to the ancients, this passage indicates that they could write with a sort of milk. Pliny describes how letters could be traced on the body with this milk then allowed to dry; when sprinkled with ash, the letters became visible.

The dead drop was well known in antiquity. Herodotus gives the best example. Timoxenus was a Greek who wanted to betray the city of Potidaea to the Persian Artabazus. He arranged to use a certain tree in the city as the drop. Artabazus would secure his message to an arrow and shoot it into the tree. One fateful day, Artabazus tied the message around the notched end of the arrow, feathered it, and aimed at the drop. Unfortunately, due to a bad wind, bad aim, or perhaps an improperly feathered arrow, the shot missed its mark and hit a local citizen. A crowd gathered immediately, discovered the message, and turned it over to the generals. The plot to betray the city was uncovered and thus prevented. In this case, the term dead drop has more than a tinge of irony.

Herodotus also described the most famous secret message in Greek history, a message important not only because of its unique delivery but also for the information it carried. The revolt of the Ionian Greeks against Persia began when Histiaeus, a Greek residing at the Persian court, wanted to communicate with his son-in-law Aristagoras, tyrant of Miletus. He shaved the head of a trusted slave, tattooed the message on the slave's head, and let the slave's hair grow back. The slave went to Aristagoras with verbal instructions to shave his head. Aristagoras complied and read the message urging him to begin the revolt against Persia.

The study of intelligence collection presents a special problem for historians of all periods. Intelligence activities are supposed to be done clandestinely and therefore are not routinely recorded. For this reason, studying intelligence has become, in the words of one writer, "the missing dimension" of most political and diplomatic history. In addition, ancient spies, unlike their modern counterparts, did not retire and write memoirs. Ancient writers dot their works with such phrases as "he received intelligence that . . ." or "news arrived of . . ."; but they rarely report who transmitted this information or how. (Sources and methods.) Indeed, they may not have known. The ancient intelligence officer, if he were not successful, might draw the historian's notice indirectly because his failure meant his execution or a major military disaster. On the other hand, when an ancient intelligence officer succeeded, he remained unheralded and faded into obscurity, unnamed and unrewarded, at least publicly.

. . .

Aeneas, Polyaeus, Herodotus, Onasander, and Polybius are forerunners of modern writers on the art of intelligence. The Greeks, who considered their *polis* or city-state the height of civilized life, knew well that "the necessity of defense against aggression devolves upon a watchful citizenship."

The examples we have just surveyed have been taken from widely divergent periods of Greek history, but they bring two facts clearly into focus: although the Greeks did not have a centralized intelligence service, they appreciated the importance of having good intelligence, and they brought to intelligence gathering the same cleverness and ingenuity that they brought to many other fields they pioneered. These ancient tricks for collecting information and concealing messages seem amusing to us because of their quaintness, and simplistic by modern standards of technology. Their cryptograms would hardly deceive a modern military censor, but could well have fooled a simple-minded gatekeeper or a barbarian policeman in an age when reading and writing were

uncommon. Tricks with vowels and consonants, for example, were unheard of even among educated people. Like other elements of great inventions now part of our thought and action, the ideas behind these ancient practices still apply. The Greeks were acutely aware that intelligence played an important role in military operations and in defending their cities. Without proper intelligence they failed or suffered major setbacks. For lack of a scout in 405 B.C., for example, the entire Athenian fleet of almost 300 ships was destroyed at Aegospotami, and the Peloponnesian War ended in a Spartan victory.

The Greeks, too, paid a high price for intelligence failures.

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