

and the tactics that brought success to these Yankees of the ancient world—for such the Athenians really were.

When we read that an old Greek galley was propelled by means of oars, we naturally conclude that it was a slow and clumsy affair; but this is far from the truth. In fact, a first-class Athenian man-of-war, or “*trireme*,” was a light, trim craft, built upon graceful lines, and in speed no contemptible rival even of the modern steamship. One of our great “*ocean greyhounds*,” with its enormous panting engines, consuming coal so fast that the parboiled stokers can scarcely shovel it in fast enough, is able by strenuous effort to make slightly more than 20 miles an hour. A *trireme*, under the most favourable conditions, could probably make about fifteen miles an hour—a rate quite equal to that of any ordinary steamboat. This is certainly surprising. How was such an achievement possible?

It will perhaps seem less incredible when we consider the speed which may be reached in a racing shell driven by the muscle of trained oarsmen; but the cases are not closely parallel. The wonderful effectiveness of the *trireme* was secured by a system which brought to bear fully three times the number of oars which can be utilised in a boat of the same length to-day.

This method was developed slowly. The Homeric warriors seem to have made their perilous voyages in open boats urged forward by a long line of rowers ranged on each side in single file—about fifty in all. Then it was found that much power could be gained by placing a second tier of oarsmen above the first on raised benches, with oars long enough to reach the water just beyond the blades of those below; and by this means the possibilities of speed were much increased. Such a craft was called a *bireme*; the *trireme* soon followed.

In this perfected form three tiers or “*banks*” of oars were used on each side. The men were given barely room enough to make an effective stroke; they were packed together, rank upon rank, as closely as the soldiers massed in the phalanx which made the Greeks invincible on shore during the same period, and the sides of the ship bristled with oars as thickly as the battle-front with spears. The oarsmen in each tier were just three feet apart; but this gives a very imperfect idea of the compactness of the whole array. Let us begin with the man nearest the bow in the topmost bank. Almost between his knees, two feet below and one foot toward the stern, sat the corresponding oarsman of the second bank. Deep in the hold, two feet lower and one foot further aft, sat his fellow in the third and last bank. The full rowing crew was nearly 200, and, as all pulled in unison, the combined strength of so many brawny arms would drive the big rowboat onward with a speed almost equalling that of a screw propeller.

Neither were the oars of such length and weight as to be unmanageable. Those of the highest bank were only about fourteen feet long, while the longest now in use in the British navy measure eighteen feet. The oars of the lowest bank were barely seven and a half feet in length—much shorter than those commonly used in a racing shell nowadays.

*Shorthand.—For Junior Civil Service. Time allowed: 3 hours.*

#### INSTRUCTIONS TO SUPERVISORS.

1. Inform candidates before the time for taking up this subject that they may use pen or pencil as they please for taking notes, which should be written on ruled paper, but that they must transcribe those notes into longhand with pen and ink.

2. Inform candidates that when once you have commenced to dictate you cannot stop until the passage is finished.

3. Dictate the passages at the following rates of speed:—

(a.) 50 words per minute.

(b.) 80       "       "

(c.) 100      "       "

N.B.—It will be well to practise reading these aloud some time beforehand, looking at a watch or clock, so as to accustom yourself to reading at the exact rate indicated. The matter to be read is marked off into sections, each of which is to occupy a minute. The Supervisor will perhaps find it advisable to mark it off into smaller sections, each containing the number of words to be read in fifteen seconds, and to read one section in every quarter of a minute. As the candidates hear the passage read only once, the reader's articulation ought to be very clear, and the candidates ought to be so placed as to be able to hear well.

4. Candidates are at liberty to take down one, two, or three passages, as they choose. All the passages required by candidates are to be dictated before any one begins to transcribe; and there should be as little delay as possible between the readings.

5. Inform candidates that rapidity in transcribing notes into longhand is essential, and note carefully on the transcribed copy the exact time taken in transcription. Candidates must not look at their notes while a passage that does not concern them is being read.

6. Inform them also that the clearness and accuracy of the shorthand notes (which must in every case be sent in attached to the transcript) will be taken account of by the examiner; and that they must not alter the shorthand notes after the dictation is finished.

#### PASSAGES FOR DICTATION.

(a.) At the rate of 50 words per minute. Takes 10 minutes.

A very remarkable adventure of two young men upon the River Mersey has come to light. It appears that on Monday evening the two young men in question, whose names are Dawson and Dingwall, left Tranmere in a small dinghey for the purpose of visiting a chum on board a steamer lying off New Ferry. It was nearly dark when they left, and they found a strong tide