

of galleys so distinguished the Italians, of the later Middle Age at least, did certainly apply, rightly or wrongly, the classical terms of *Bireme*, *Trireme*, and *Quinquereme*, in the sense of galleys having two men and two oars to a bench, three men and three oars to a bench, and five men and five oars to a bench.*

That this was the mediæval arrangement is very certain from the details afforded by Marino Sanudo the Elder, confirmed by later writers and by works of art. Previous to 1290, Sanudo tells us, almost all the galleys that went to the Levant had but two oars and men to a bench; but as it had been found that three oars and men to a bench could be employed with great advantage, after that date nearly all galleys adopted this arrangement, which was called *ai Terzaruoli*.†

Moreover experiments made by the Venetians in 1316 had shown that four rowers to a bench could be employed still more advantageously. And where the galleys could be used on inland waters, and could be made more bulky, Sanudo would even recommend five to a bench, or have gangs of rowers on two decks with either three or four men to the bench on each deck.

26. This system of grouping the oars, and putting only one man to an oar, continued down to the 16th century, during the first half of which came in the more modern system of using great oars, equally spaced, and requiring from four to seven men each to ply them, in the manner which endured till late in the last century, when galleys became altogether obsolete. Captain Pantero Pantera, the author of a work on Naval Tactics (1616), says he had heard, from veterans

Change of
System in
the 16th
century.

* See *Coronelli, Atlante Veneto*, I. 139, 140. Marino Sanudo the Elder, though not using the term *trireme*, says it was well understood from ancient authors that the Romans employed their rowers *three to a bench* (p. 59).

† "*Ad terzarolos*" (*Secreta Fidelium Crucis*, p. 57). The Catalan Worthy, Ramon de Muntaner, indeed constantly denounces the practice of manning *all* the galleys with *terzaruoli*, or *tersols*, as his term is. But his reason is that these thirds-men were taken from the oar when crossbowmen were wanted, to act in that capacity, and as such they were good for nothing; the crossbowmen, he insists, should be men specially enlisted for that service and kept to that. He would have some 10 or 20 per cent. only of the fleet built very light and manned in threes. He does not seem to have contemplated oars three-banked, and crossbowmen *besides*, as Sanudo does. (See below; and *Muntaner*, pp. 288, 323, 525, etc.)

In Sanudo we have a glimpse worth noting of the word *soldiers* advancing towards the modern sense; he expresses a strong preference for *soldati* (viz. *paid* soldiers) over *crusaders* (viz. volunteers), p. 74.