

who had commanded galleys equipped in the antiquated fashion, that *three* men to a bench, with separate oars, answered better than three men to one great oar, but four men to one great oar (he says) were certainly more efficient than four men with separate oars. The new-fashioned great oars, he tells us, were styled *Remi di Scaloccio*, the old grouped oars *Remi a Zenzile*,—terms the etymology of which I cannot explain.*

It may be doubted whether the four-banked and five-banked galleys, of which Marino Sanudo speaks, really then came into practical use. A great five-banked galley on this system, built in 1529 in the Venice Arsenal by Vettor Fausto, was the subject of so much talk and excitement, that it must evidently have been something quite new and unheard of.† So late as 1567 indeed the King of Spain built at Barcelona a galley of thirty-six benches to the side, and seven men to the bench, with a separate oar to each in the old fashion. But it proved a failure.‡

Down to the introduction of the great oars the usual system appears to have been three oars to a bench for the larger galleys, and two oars for lighter ones. The *fuste* or lighter galleys of the Venetians, even to about the middle of the 16th century, had their oars in pairs from the stern to the mast, and single oars only from the mast forward.§

27. Returning then to the three-banked and two-banked galleys of the latter part of the 13th century, the number of benches on each side seems to have run from twenty-five to twenty-eight, at least as I interpret Sanudo's calculations. The 100-oared vessels often mentioned (e.g. by *Muntaner*, p. 419) were probably two-banked vessels with twenty-five benches to a side.

Some details
of the 13th
century
Galleys.

The galleys were very narrow, only $15\frac{1}{2}$ feet in beam.||

* *L'Armata Navale*, Roma, 1616, pp. 150-151.

† See a work to which I am indebted for a good deal of light and information, the Engineer Giovanni Casoni's Essay: "*Dei Navigli Poliremi usati nella Marina dagli Antichi Veneziani*," in "*Esercitazioni dell'Ateneo Veneto*," vol. ii. p. 338. This great *Quinquereme*, as it was styled, is stated to have been struck by a fire-arrow, and blown up, in January 1570.

‡ *Pantera*, p. 22.

§ *Lazarus Bayfius de Re Navali Veterum*, in *Gronovii Thesaurus*, Ven. 1737, vol. xi. p. 581. This writer also speaks of the *Quinquereme* mentioned above (p. 577).

|| *Marinus Sanutius*, p. 65.