the French navy are now being built, and the dimensions of one or two other modern ships about which considerable interest has been excited. The dimensions of the vessels designed by Sir William Symonds are obtained from Edye’s Scales of Displacements, and from a list which was publish­ed in the United Service Gazette, and which we have en­deavoured to verify ; we therefore believe them to be cor­rect.

The dimensions of the French ships were procured in the French dock-yards during the summer of 1837, and are certainly correct. The London and Castor are obtain­ed from Edye’s Scales of Displacements ; the Sapphire and Orestes from Morgan and Creuze’s Papers on Naval Archi­tecture ; and the other dimensions are from the best avail­able authorities.

Dimensions of Modern English Ships of War.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Names, &c. | | Guns. | Length of | | | | Extreme Breadth. | | Depth in Hold. | | Burden in Tons. |
| Gun-Deck. | | Keel for Tonnage. | |
| Designs of Sir William Symonds. | First Rate. | 110 on  3 decks | Feet. | Inch. | Feet. | Inch. | Feet. | Inch. | Feet. | Inch. |  |
|  | Royal Frederick, now Queen | 204 | 0 | 166 | 5 | 60 | 0 | 23 | 9 | 3099 |
|  | Second Rate. | 82 on 2 decks. |  |  |  |  |  |  |  |  |  |
|  | Vanguard | 190 | 0 | 155 | 3 | 56 | 9 | 23 | 4 | 2589 |
| Third Rate. |  |  |  |  |  |  |  |  |  |
|  | Boscawen | 70 on 2 decks. | 180 | 0 | 146 | 8 | 54 | 0 | 22 | 4 | 2212 |
|  | Fourth Rate. |  |  |  |  |  |  |  |  |  |
|  | Vernon | 50 | 176 | 0 | 144 | 61/2 | 52 | 81/2 | 17 | 1 | 2082 |
|  | Fifth Rate. |  |
|  | Pique | 36 | 160 | 0 | 131 | 0 | 48 | 8 | 14 | 6 | 1622 |
|  | Sixth Rate. |  |
|  | Vestal | 26 | 130 | 0 | 105 | 9 | 40 | 71/2  0 | 10 | 6 | 913 |
|  | Carysfort | 26 | 130 | 0 | 106 | 10 | 40 | 10 | 6 | 911 |
|  | Corvettes. |  |
|  | Rover | 18 | 113 | 0 | 90 | 13/4 | 35 | 5 | 16 | 9 | 590 |
|  | Calypso | 18 | 120 | 0 | 99 | 51/2 | 37 | 6 | 18 | 0 | 731 |
|  | Brigs. |  |  |  |
|  | Columbine | 16 | 105 | 01/2  5 | 84 | 0 | 33 | 61 | 7 | 11 | 492 |
|  | Serpent | 16 | 102 | 79 | 10 | 32 | 3 | 15 | 0 | 434 |
|  | Racer |  | 100 | 8 | 78 | 91/2  4 | 32 | 43/4  4 | 14 | 10 | 431 |
|  | Pantaloon | 16 | 91 | 10 | 71  170 | 29 | 12  23 | 8 | 323 |
| London | on | 92 on 2 | 54 | 2598 |
| Sir Robert Seppings | decks, | 205 | 6 | 4 | 4 | 2 |
| Castor | | 36 | 159 | 0 | 133 | 7 | 43 | 0 | 13 | 6 | 1283 |
| Inconstant, Admiral Hayes | | 36 | 166 | 6 | 133 | 55/8  7 | 45 | 5 | 13 | 7 | 1422 |
| Modeste, Admiral Hon. G. Elliot | | 18 | 120 | 0 | 98 | 32 | 9 | 7 | 11 | 562 |
| Sapphire Orestes } Professor Inman | | 28  18 | 119  109 | 0  11 | 100  92 | 4 | 33  30 | 8  6 | 8  7 | 0  6 | 605  459 |

Dimensions of Ships composing the French Royal Navy.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Line-of-Battle. | | | | Frigates. | | Corvettes. | |
| Number of Guns | 120 | 100 |  | 90 | 60 | 52 | 32 | 24 |
|  | **Feet. Inch.** | **Feet. Inch.** | | **Feet. Inch.** | **Feet. Inch.** | **Feet. Inch.** | **Feet. Inch.** | **Feet. Inch.** |
| Length on gun-deck between rabbets | 209 5 | 205 01 |  | 198 6 | 178 11/2 | 172 1 | 138 71/2 | 125 4 |
| Moulded breadth..... | 55 33/4 | 54 111/2 |  | 53 53/4 | 47 7 | 45 21/2 | 36 01/4 | 32 71/4 |
| forward | 24 113/4 | 23 103/4 |  | 23 4 | 19 111/2 |  | 14 9 | 13 61/2 |
| Draught of water. aft | 26 8 | 26 01/2 |  | 25 4 | 21 31/2 |  | 16 3 | 14 10 |
| mean | 25 101/4 | 24 111/2 |  | 24 4 | 20 71/2 | 20 8 |  | 14 21/4 |
| Load, displacement in tons | 4940 | 4393 |  | 4013 | 2542 | 2267 | 999 | 738 |

*Description of the manner of performing the calculations in­cidental to designing a Ship, with Investigations of some of the principal Elements of the Design.*

The labours of the numerous men of science who have devoted either the whole or a portion of their attention to the various problems embraced in the theory of ships, have left but few of its abstract principles uninvestigated ; most of the properties of a ship have been examined, and the laws on which they depend clearly defined, either by the

aid of mathematical demonstration, or by experimental in­duction. There are however some questions, which, though solved in theory, still depend on the results of physical ex­periment for perfecting their practical application.

The elements of naval construction, a term very gene­rally applied to the theory of ships, may be classed in two divisions ; those which are solely dependent on known laws of nature, and those of which the solution involves laws of nature which are yet imperfectly developed.

The first division embraces by for the greater part of those