displacement, 180ft. long, steamed at 13¼ knots and carried an arma­ment of six 4-in. Q.F. guns, four 3-pdrs. and two machine-guns. They were single-screw vessels, built of steel, sheathed and coppered. The “ Condor ” class, which comprises six vessels built between 1898 and 1901, are very slightly modified “ Torches,” having 20 tons more displacement and 6 in. more beam, with the same length, speed and armament. They are able, however, to maintain a higher Continuous speed, being fitted with water-tube boilers. In 1901 to 1902 there were laid down four sloops of the “ Fantôme ” class, which are larger vessels than the “ Condors,” being 1075 tons dis­placement and 185 ft. long. They are twin-screw vessels, built of steel, sheathed and coppered. They have water-tube boilers, giving 1400 H.P., and a speed of 13¼ knots. Their armament is similar to that of the “ Condor.” All the foregoing vessels are fitted as sailing vessels as well as steam. The “ Beagle ” is schooner-rigged, the others all barque-rigged.

Of the gun-vessel or gunboat type, one of the earliest built for the British navy is represented by the "Staunch,” a twin-screw vessel designed by Mr G.W. Rendel, and built at Elswick in 1867. The guiding principle in the design of this vessel was that she should simply be a floating gun-carriage, propelled by steam and provided with plenty of manœuvring power. The 9-in. 12-ton gun which constituted her armament was arranged to sink into and be raised from a well by means of hydraulic power. She was only 180 tons in displacement and 75 ft. long, and had a speed of 6½ knots. The “ Medina ” class, consisting of twelve gunboats built about 1876, were twin-screw vessels of 363 tons displacement and 110 ft. length, and had a speed of 8} knots. Their arma­ment was light, consisting only of three 64-pdrs. and three machine guns. They were fitted with bow rudders in addition to those at the stern, in order to increase their manœuvring power. The “ Paluma ” and “ Gayundah ” were built at Elswick in 1884 for the Queensland government. They had a displacement of 360 tons and were 115 ft. in length, were schooner-rigged, but had twin-screws and a speed under steam of 10 knots. They carried one 8-in. B.L. gun forward, which was mounted behind a breastwork and had a considerable arc of training; one 6-in. gun, which was mounted aft; and three machine-guns. The “ Protector ” was a more important craft. Built for the government of South Australia in 1884, she was 920 tons in displacement and 180 ft. long, had twin screws and a speed of 14 knots under steam. She carried one 8-in. B.L. gun forward, mounted as in the “ Paluma,” five 6-in. 4-ton guns, and five Gatlings. The “ Cockchafer ” class (1881) and the “Thrush” class (1889) are sea-going cruising vessels of a different type, carrying much lighter guns than in the "Staunch ” class. The former, of which four were built, were composite-built, single-screw ships of 465 tons displacement and 125 ft. length, with a fore-and-aft rig and a speed under steam of 9½ knots; the latter, of which there were nine, were schooner-rigged composite vessels of 805 tons displacement and 165 ft. length, with a single screw and a speed of 13½ knots. The armament of the “ Cockchafers" consisted of two 64-pdrs. R.M.L. guns, two 2o-pdrs. R.B.L. guns, and two machine-guns; that of the “Thrush” (fig. 109, Plate XXVI.) was of six 4-in. B.L. guns and four smaller guns (she was commanded by H.M. King George V. when he was on active service in the navy). The “ Bramble,” launched in 1898, is a representative of what in 1910 was the most recent type of first-class gunboat. Her displacement is 710 tons, or 100 less than the "Thrush.” She is 180 ft. long and has a speed of 13½ knots, is built of steel, sheathed and coppered, and carries two 4-in. Q.F. guns, four 12-pdrs. and ten machine-guns. She has water-tube boilers, twin screws and machinery of 1300 I.H.P.

Four of these vessels have been built, named the "Bramble,” “ Britomart,” “Dwarf” (fig. 110, Plate XXVI.) and “Thistle.” They were designed specially for service on rivers in hot climates; their draught is limited to 8 ft.; their sails are reduced to a very light fore-and-aft rig, and they are fitted with a complete shade deck of teak and felt. They were still on active service in 1910, but no new vessels had been laid down since 1897.

A number of gun-vessels have been designed for special services, among which may be mentioned the “ Mosquito" *(fig* III, Plate XX.) and “ Herald,” two stern-wheel steamers for the Zambezi built by Messrs Yarrow in 1890. They are of 80 tons displacement and 77 ft. long, having a speed of 10½ knots and carrying an armament of four 3-pdrs. and eight machine-guns. They arc built in sections, each of which forms a separate pontoon, so that the whole vessel can be readily taken to pieces for transport and easily put together in the water. These two gun-vessels were handed over to the Colonial authorities on the river Zambezi. Built for somewhat similar service, but of different design, are the four shallow-draught river gunboats of the “ Sandpiper” class. They are steel twin-screw boats, built in 1897, also y Messrs Yarrow. They are 88 tons in displacement, 100 ft. long and 20 ft. broad, and carry’ an armament of two 6-pdrs. and four machine-guns. Their speed is 9 knots, and they draw only 2 ft. of water, their screws working in arched tunnels, the summits of which arc above the water-level outside. These arches always remain full of water, and serve the double purpose of enabling sufficiently large screws to be fitted for the economical propulsion of the vessel without increasing the draught, and of protecting them from damage. The “ Woodcock ” and “ Woodlark ” are larger vessels of the same type, designed for service on the rapid and shallow rivers of China. They were built by Messrs Thornycroft in 1897, are 120 tons in displacement, 145 ft. long, 23 ft. beam and 2 ft. draught of water. They have twin screws, also carried in arched tunnels, and their speed is 15 knots. They carry the same armament as the “ Sandpiper ” class. In 1901 the “ Teal ” and “ Moorhen,” designed for service in China, were also constructed in sections, but are considerably larger than either the “ Mosquito ” or the “ Woodcock,” being about 180 tons displacement. They are twin- screw vessels, the propellers being in tunnels, as in the “ Woodcock,” and their speed is over 13 knots. Their furnaces will burn wood. They carry two 6-ρdrs. and four machine-guns. The latest vessel of this type in 1910 was the “ Widgeon,” of similar construction, built by Messrs Yarrow in 1904 and carrying the same armament. She is 160 ft. long, 24 ft. 6 in. beam, 2 ft. 5 in. draught, 195 tons displacement, 800 I.H.P. and 13 knots speed.

Fig. 112 (Plate XX.) and fig. 113 show a light-draught gunboat of the “ Sultan ” class, of which several have been built for service on the Nile. She has *a* displacement of 140 tons, a length of 143 ft., a beam of 24 ft. 6 in., a draught of only 2 ft. and a speed of 12 knots. Her armament consists of one 12-pdr., one howitzer, and four Maxims, and she is protected by a ½-in. bullet-proof breastwork.

The gunboats of other navies are generally similar to those described above. The Brazilian twin-screw gunboat “ Tiradentes," built in 1892, of steel, sheathed with teak and coppered, was

165 ft. long and 800 tons displacement, and attained a speed of 14∙5 knots. She had an armament of four 4∙7-in. guns, three 6-pdrs. and four machine-guns, and carried a considerable spread of canvas.

In torpedo gunboats and torpedo craft generally, possibly the last thirty years of the 19th century showed more development and greater diversity than in any other type of war vessel then existing. The first small high-speed boat we have any record of is the