

EVER since the shores of the world became a springboard for man's restlessness, and the desire for conquest was spurred on by religion, trade or loot, ocean racing has had its place in human affairs.

The history of sail goes back nearly 5,000 years. There is a widening of horizons, a mind-releasing freedom in the simple recital of ships' origins. The "square sail" on the Nile in 2650 B.C. The "dinghi" on the Ganges. The galleys of Ancient Greece. Portuguese mulettas and sailing ships of Rome. The junk and the dhow and the whalers of the Norsemen. The galleon, the frigate and bark. East and West Indiamen and the clipper *Cutty Sark*.

This recitation illustrates the remarkable pedigree of the modern ocean-racing yacht. In a fast-changing world the backcloth for its performance changes little and would be recognised alike by a seaman from any dynasty. He would feel at home in the contradictions of the inconstant weather, in the endless surge of the moonbound tides, in the false beckoning of shoals and shores.

If he returned today, the tedium of the middle watch would fit him like a wet hammock.

Whether the ship is driven for Queen or Pope, for pay or pleasure, makes little difference. In the tumult or the monotony, or in the rare fast easy passage, all is forgotten save experience to press on under sail against the old enemies of the wind, sea, tide and fatigue. Five tons or 500 tons, B.C. or A.D., square rig or fore and aft, the search for mastery continues.

In the less-formalised period of ocean racing, that is before A.D. 1866, the sanctions were more severe. The penalty of failure was often slaughter, captivity, shipwreck; or the decline and fall of an empire. In the blockade of Europe in 1803-5, some 40,000 men in 60 ships of the line with their attendant frigates, brigs and schooners cruised endlessly, winter and summer, off 3,000 miles of coastline: from Brest in the Western Approaches, off Rochefort and Ferrol to Cadiz and in the Mediterranean as far as Toulon.

Nelson never set foot off the *Victory* for two years and Collingwood had 22 months continuously without ever dropping anchor. Wooden ships and iron men indeed!

1866 is an important date, for in December of that year three American schooners, of length about 106 ft. and

BRITISH CLASSIC: Here is the start of the 1959 Fastnet Rock Race, from Cowes round the Rock off the Atlantic approaches to Ireland and back to Plymouth. The author Jerry Whitehead was navigator in this race aboard the sloop *Pym*, while in the picture are the American *Carina*, Sweden's *Anna Marina*, Britain's *Ramrod* and Holland's *Zeevalk* (Kees Bruynzeel of Stormvogel fame). *Pym* finished third in Class III. Photo: Beken of Cowes

26 ft. beam, set sail from Sandy Hook on a 3,000-mile race across the Atlantic to the Isle of Wight, for a wager of \$90,000. The winner was *Henrietta* in 13 days 21 hours 41 minutes. *Vesta* was second; *Fleetwind*, the third entrant, had the misfortune to lose six men washed overboard at night when a great sea knocked the ship on her beam ends.

Other Transatlantic races were held in 1870 and 1887. Then, in 1905, the three-masted schooner *Atlantic* won the Kaiser's Cup. Her record time of 12 days 4 hours for the 3,014 miles from Sandy Hook to the Lizard under sail is unbeaten today.

Meanwhile, in 1904 the first offshore event for amateurs was organised in America by Thomas Fleming Day—sailor, writer and editor. Six small yachts of less than 30 ft. waterline raced outside Long Island from Brooklyn to Marblehead and so twentieth-century ocean racing came to life. In 1906 the famous New York-Bermuda race of 660 miles was inaugurated; in the same year the Los Angeles to Honolulu race (2,300 miles) and in 1925 the race from San Francisco to Tahiti (3,700 miles).

It was not until 1925 that ocean racing came to Britain. In *British Ocean Racing*, by Douglas Phillips-Birt, there is a most interesting account by Weston Martyr, who had sailed in three Bermuda races, of how he generated interest and enthusiasm among yachtsmen in England, so that an ocean race was arranged with the blessing of the Yacht Racing Association and the first Fastnet Race took place in August of that year. "At a meeting, after the race, which most of the crews of the competing yachts attended, it was decided to form a club to be called the Ocean Racing Club, and to hold a Fastnet Race each year."

The club was governed wisely and well and grew in stature so that in 1931, in the short space of six years, the Commodore was able to inform the Committee that "His Majesty the King had been pleased to command that this club should henceforward be known as 'The Royal Ocean Racing Club'".

This, indeed, was "bread on the waters", for in the 1939-45 War the club provided more officers for the Royal Navy than did the Royal Naval College at Dartmouth!

Now, each year at least 15 annual or biennial offshore races are arranged by the R.O.R.C. The courses total over 5,000 miles in European waters. For example, across the North Sea to Sweden, Denmark or Holland; across the English Channel by circuitous routes to Northern France past Ushant to St. Nazaire or La Rochelle; the biennial Fastnet or across Biscay Bay to La Corunna, Santander or San Sebastian; and in certain years, on south around the corner, to Gibraltar of nostalgic memory.

105 Years of Ocean Racing Prowess

The adventurous story of the world's most demanding sport, since 1866, is told by

J. H. WHITEHEAD

who has sailed in more than 50 R O R C races and is now a business executive in South Africa . . .

AUSTRALIA'S TOUGHEST: The Sydney Hobart has risen to fame since the war and this year was won by Britain's Leader of the Opposition, Ted Heath, in his *Morning Cloud*. Here in 1962 Dr. K. Laws's *Goodwind* battles it out with another competitor and scoops a deckful of Tasman Sea over her gunwale. Our Cape Town—Rio race will add a new Southern Hemisphere classic to the list . . .

Recently, in November, 1969, a new event, the Middle Sea Race, was organised by the Royal Malta Yacht Club and the R.O.R.C. The distance was about 604 miles, the start and finish was at Marsamxetto Harbour, Malta G.C. For those of us who are desk-bound there is both solace and inspiration in the mere repetition of the course which states: "Leave the islands of Malta and Gozo to port and the following islands to starboard—Lampedusa, Pantellaria, Favignana and Levanzo. Leave Marettimo to port and the Aeolian islands, including Stromboli and Strombalichio, to starboard. Proceed southerly through the Straits of Messina to Malta, leaving Sicily to starboard."

Breathes there a man with soul so dead who, to fulfil an ancient longing, does not desire to leave Gozo to port and Sicily to starboard.

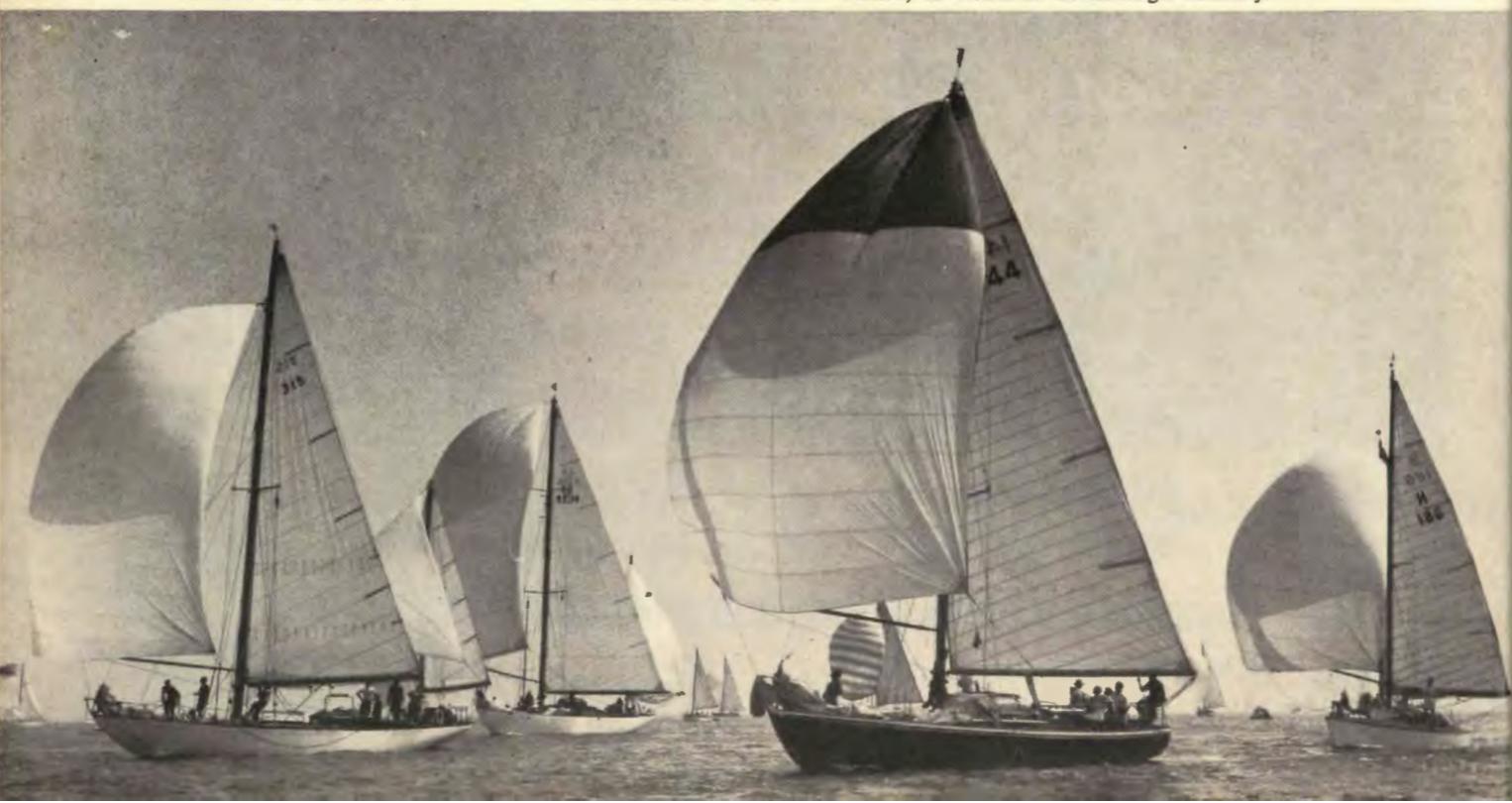
Turning now to the Southern Hemisphere, the annual Sydney-Hobart Race of some 650 miles was first started in 1945. First won by John Illingworth in the light displacement *Rani*—each year the race attracts an ever-

increasing international entry. Other races in Australian waters include the Montague Island Race of 370 miles and the biennial Sydney to Noumea race of 1,100 miles.

In South America, in 1947 a new race from Buenos Aires to Rio de Janeiro was introduced. This 1,200-mile event has been a triennial feature of the Ocean Racing calendar.

And soon, January, 1971, will mark the first ocean race between Cape Town and Rio de Janeiro, 105 years since *Henrietta*, *Vesta* and *Fleetwind* left Sandy Hook to race across the North Atlantic to the Isle of Wight.

This event is classic both in its conception and in its timing. It has a grand design and simplicity of purpose. The starting and finishing points are steeped in the traditions of the sea. They have been maturing for some 500 years waiting for someone to "open the bottle". The course links two continents and crosses one of the great oceans. The very length of the race will appeal to palates hardened by tens of thousands of miles of conventional offshore experience and also beckon the more esoteric 22 ▶



SOUTH AFRICAN YACHTING—March, 1970

18



AMERICAN BUSTLE: There are no more dedicated sailors than the Yanks, and here is the deck-scene aboard one of their greatest ocean racers, the 73-foot Ticonderoga, with South African Jan Lello straining his guts out on the big sheet winch and skipper Baxter Still keeping enthusiasm at fever heat. Big Ti held more course records than any other yacht. Photo: Johnny Wilson

CLOSEST FINISH: Huey Long, centre, wealthy American tanker broker, compares notes with Australia's America's Cup skipper Jock Sturrock and tough Vic Meyer after his Ondine took line honours by only 61 seconds in the Sydney Hobart. Long's new Ondine II is considered the most expensive ocean-racer ever built, costing between ½ and 1 million dollars.

Australian Information Bureau Photo



DEEPSEA RACING

◀ 19
lone sailor to enjoy a relatively short outing in the company of his fellow men!

This Cape Town-Rio Race should not only extend our knowledge of how to assemble, administer, man, provision and race an offshore fleet for a lengthy period at sea but it will, I hope, do a great deal to encourage and stimulate offshore racing in this country.

Successful participation in international ocean racing requires the water, the owners, the crews and the intention. Compared with all other sports, offshore racing is in its infancy in this country. It is not enough that the united efforts of a country should send one man on one boat to compete internationally, however successful this may be. Modern ocean racing is founded on dozens of boats, hundreds of crew and, in support, an organisation capable of mounting an attractive and compelling season.

There are, I think, two major reasons for this relatively slow growth.

Firstly, to quote from the companion to the December, 1969 Ocean Race: "Owing to the inhospitable nature of the South African coastline, with its lack of suitable anchorages, harbours, inlets, etc., and the well-known vagaries of water conditions, bordering usually on the tempestuous, organised ocean racing is of comparatively recent origin and up to 1967 had taken place only around the Cape Coast."

Secondly, it is only in recent years that materials used in sailing have acquired more stamina than men.

To illustrate this point, it is not long ago when the final indication that one had held on too long without shortening sail came when the sails carried away or the sheets used to part. When these were replaced by new synthetic materials we had a season or two when the masts used to go over the side—so wood gave way to alloy.

The next weak points were metal fittings—and these all had to be redesigned, strengthened, and pretreated. Then came the uneasy moment in the rising gale when nothing gave way—except the helmsman's concentration—and the ship would broach-to. You never saw such a scurry of

22

SOUTH AFRICAN YACHTING—March, 1970

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THROUGH or OVER

◀ 21 Over

In this category we already have to-day a wide selection of hydrofoil and hover craft, but these vessels seem, above all, to be suited to definite specific applications, and we are still a long way from achieving really high speeds with them in rough weather.

We have to-day a type of craft also which, by virtue of its forward motion, utilises aerodynamic effect for lift. A particularly successful example of this configuration is the circuit racing catamaran; but these craft cannot be considered as airborne craft as they remain in contact with the surface of the water a great deal of the time.

Would a winged hull which lifts right out of the water be a possibility worth investigating? Certainly one could do no better for really high speeds with a minimum of power installed than lift the hull clear of the surface. If the height of the craft could be varied at will above the surface of the water, this would completely eliminate all contact with the sea in rough weather; the possibly dangerous and certainly uncomfortable effects of hull impact would thus be avoided.

The problem here seems to centre on maintaining satisfactory aerodynamic stability when the craft is out of the water. It will clearly be necessary to adopt air controls to pilot such a craft; we must, in fact, think in terms of aircraft design, using proven configurations such as the conventional wing before tail or the "canard" (Fig. 2, page 20).

What advantages would a winged craft in fact have over an aeroplane? First of all, the ground effect factor could be used to advantage; secondly, a water propeller might be more efficient for the speeds in question than an air propeller. Against this we have a limited height range, which would necessitate some fairly expensive electronic equipment (gyroscopic controls, etc.) to enable the craft to simulate successfully the antics of a bird flying low over the sea and, at the same time, to keep the propeller in the water (Fig. 3). Other complications might be caused by the indispensably long transmissions, which would demand extensive berthing areas in port, as well as very deep draft.

Through

This type of craft requires considerably more power for a given speed than the "flying" example described above for the over concept. It is necessary also to have a fast planing hull with extremely good penetration, and with what I call a neutral hull form, at least in the bow area (Fig. 4); that is to say, a bow so designed that when faced with a wall of water it penetrates it rather than causing the hull to lift. After this initial penetration the bow (ram) would take the rest of the hull with it. The G loadings would be reduced in relation to the fineness of the bow, thus permitting higher speeds with greater comfort.

Whether the habitable hull volume attached to the ram is designed so as to remain above the crest of the wave or go under it, depends on the purpose for which the boat is built. The former solution would be indicated more for a pleasure craft, whereas the latter seems more applicable in the case of a pure work boat (Fig. 5).

In my opinion, the main problem in producing a successful design of this nature lies in finding a simple system for adjusting the trim to suit various weather conditions. One solution might be the use of variable-incidence forward hydroplanes. If we assume that such a craft is capable of negotiating rough seas at 200 km per hour (108 knots), then the forward distance covered in a second will be approximately 55 metres (180 odd feet); in such a case it is not hard to realise that extremely refined equipment, such as is used in high-speed aircraft when weather conditions are tricky (for example, modern automatic pilots), will be essential for driving such a craft when split-second reactions are required.

Experiments are currently under way to try out the validity of this third type of craft which, if successful, might well be the answer to the problem of negotiating rough seas at high speed in a relatively simple manner . . . at least until we come up with something better. ■

SOUTH AFRICAN YACHTING—March, 1970

23

