



Title 185

The intermediate-depth submarine, the **Mesoscaphe Ben Franklin** in which Jacques Piccard drifted submerged in the Gulf stream from 14 July to 14 August 1969, covering 2800 km. It was constructed by Grumman Aerospace in 1968 following the design of J. Piccard who was accompanied by five scientists, one Swiss, three American and one English. *Courtesy Jacques Piccard.*

I first met Professor Auguste Piccard in the summer of 1936 in Santander, where the University of Madrid had organised a summer course for non-Spanish students. We were housed in an old royal castle on the rocky shore of the North Spanish coast with a delightful private bay for our daily swim. There I saw a very tall professor in a minute swimming trunk with astonishing spectacles, one of his unsung inventions. They are now commonplace, small attachable sun filters, to be turned up when not needed. I had never seen these before, although others may have used them earlier. Professor Piccard was already world famous for his balloon ascents into the stratosphere, 15781 m in 1931, and in the following year to a height of 16940 m. I never saw him again, he died in 1962, aged 78 years. Many years later in Switzerland, I met his son Jacques Piccard. [See Title 104]

The record balloon ascents were successful because Piccard had constructed an air-tight spherical gondola of aluminium and an over-sized balloon, only slightly filled on the ground, but fully inflated at high altitudes. Based on the same principle, he invented later a submarine, consisting of a pressure resistant steel sphere, attached to a lighter-than-water gasoline filled 'buoyant balloon'. This allowed him, with heavy weights magnetically attached to his gondola, to descend to record depths of water. He called it a 'bathyscaphe' and named it *The Trieste*.

His son Jacques, like his father a physicist-engineer, helped him in the design and construction of the bathyscaphe, and together they descended in *The Trieste* to a depth of 3099 m near the Island of Ponza in Italy. By 1964 Jacques had constructed a standard type submarine for tourists, the *mesoscaphé* and I had a voyage in her in the Lake of Geneva. Jacques Piccard had also become world famous by then, as in his bathyscaphe *Trieste* (by then sold to the US Navy) she had under his command, reached the unbeatable record depth of 10916 m in the Mariana Trench in the Pacific Ocean.

Undismayed by his failure of the tourist submarine, Jacques conceived the idea of drifting submerged in the Gulf Stream with a new submarine also a 'mesoscaphé' (intermediate depth), named *Ben Franklin*. It was soon called the 'Underwater Kon-Tiki'. His drift started in West Palm Beach, Florida, and ended near Halifax, Nova Scotia, a distance of 1444 nautical miles, after 31 days, at an average speed of 2 miles per hour. A great scientific success!

But as it coincided with the Apollo 11 flight, it never received any publicity and was but sparsely acknowledged. As I was in Florida at the time and knew about it, I went to see Jacques and talked to him fully. My report, 64 column-centimeters, appeared only on 8 September 1969 in the *Daily Telegraph* but was welcomed by Jacques when he saw it.