used today. To the diving pioneers of the time Lemaire’s kit must have looked space age in the extreme.

The dress consisted of a drysuit made of a type of rubberised canvas, with a lining of soft flannel (“to be warmer”) which was sealed at the wrists and ankles, complete with hood. It was designed to be close fitting. It must have looked rather like the early rubber suits of the 1950s. The mask was almost a full-face mask, made of copper, sealing against the face with a soft dental cement of plasticine consistency “which could be adapted for any shape of face” and enclosing the nose to prevent mask squeeze.

The cylinder was a low-pressure cylinder pumped by hand to not more than 23 bar, the limit for the pumps built at that time, and much larger than its modern equivalent at about 1 m long, with a diameter of 150 mm. This was attached to the diver’s back with straps.

Air was supplied to the diver via a tube, and flowed constantly through a lung attached to the chest. As the diver went deeper, he would operate a valve to give himself more air. As you can see from the drawings (Figure 1), the rig was even fitted with an independent ABLJ, with its own emergency cylinder, equipped with both an inflation valve and a dump “for ascending and descending”.

The weight belt was rigged in such a way that it could be dumped very quickly by operating a lever at chest level. If the diver ran out of air, he merely dumped his weights, put his finger in the exhaust valve and breathed on the remaining air left in the lung until he got to the surface. As he would only have been diving in shallow water, this worked very well, with no known accidents.

Divers successfully used this outfit over a number of years to dive to 6-9 m for up to 30 minutes and reached depths of 20 m on occasions. The only item missing was a pair of fins, which really would have made the rig look like a modern-day copy.

D’Augerville intended his diver to swim, and described how to obtain negative buoyancy by adjusting the air in the ABLJ. The rig was fairly heavy, weighing in at 50 kg, but the diver would have been able to walk or pull himself around. A compass in a glass dome was even fitted at 50 kg, but the diver would have been able to walk or pull the air in the ABLJ. The rig was fairly heavy, weighing in

The equipment was extremely sophisticated for its time, and D’Augerville shows an amazing knowledge of the scientific principles he employed. Whether he was self taught or had help from someone else we shall probably never know. If it was his own creation, then he was a genius indeed, and clearly missed his vocation.

Unfortunately for Lemaire D’Augerville, his invention never caught on, and faded into obscurity, probably because of its limited depth range and use. Maybe it was just too futuristic for the divers of that era.

Daniel David is continuing with his research, and has made some exciting discoveries. He is gathering material for a book, and is an active member of the Historical Diving Society, seen exhibiting at recent dive shows and exhibitions. He continues with his research all over France. His revelations will no doubt upset one or two people who have claimed to be first with innovations which have made scuba diving possible.

Reprinted, by kind permission of the Editor, from DIVER, the magazine of the British Sub-Aqua Club, 1996; 41 (7) July: 40-42

The offices of the British Sub-Aqua Club are at Telford’s Quay, Ellesmere Port, South Wirral, Cheshire L65 4FY, United Kingdom.

DIVER is published by Eaton Publications, 55 High Street, Teddington, Middlesex TW11 8HA, United Kingdom. The annual subscription is £ 33 which must be paid in English pounds.

THE SPONGE DIVERS OF SYMI

Frank Allen

The small Greek island of Symi, in the south-eastern Aegean, was once home to some of the world’s finest sponge divers. Such was the value of their harvest that the island became one of the wealthiest seaports in the Mediterranean. Today, little of this is evident at first glance. Despite the exceptionally clear water and steep drop-offs that make this the perfect diver’s island, there are no diving schools or facilities. Strict laws prohibit sport diving in an effort to protect the many archaeological treasures still lying off the island’s shores. Visitors may venture under water only in snorkelling gear, to glimpse the island’s steep blue slopes in the fleeting seconds of a held breath. Today this rugged, steep sided island is sought out by those with a taste for tranquillity and the simple things in life, but to explore the narrow streets of the island’s town, Yalou, is to turn a page of diving history.

Imagine, if you can, sliding down an inclined plank from a boat into the sea, clinging firmly to a large, flat stone. You plummet vertically, clearing your ears against a primitive nose-clip while trying to judge the approach of the bottom a difficult task, as you have no mask. Using the rock as a crude hydroplane, you angle it upwards to avoid a
high-speed crash, and so arrive on the seabed to begin work. The depth is 20 m and your task is to locate and cut free as many sponges as you can before your breath runs out. This is a job made doubly difficult by the fact that you have no fins.

Your only luxury is a light line tied around your wrist. One sharp tug will get you a free ride back to the surface. After a short rest, down you go again.

This was the ancient way of sponge-diving, or “naked diving.” It is a technique beautifully depicted on a has-relief in Yalou’s small museum. It was the method used by local hero Stathis Hatzis in July 1913, when he secured a line to the fouled anchor chain of an Italian battleship off the island of Karpathos. Reaching a depth of 88 m in an incredible dive lasting more than three and a half minutes, he was rewarded with a gold medal and the right to travel free for life on any Italian ship of his choice.

But it was not Symi’s naked divers who brought fame and fortune to the island. It was the arrival of technology. At some time during the middle of the last century, a set of Augustus Siebe’s revolutionary diving gear turned up on the island and transformed its primitive sponge diving industry at a stroke. By using the distinctive copper helmet and canvas suit, divers could not only see clearly underwater for the first time, but could venture deeper and for longer than ever before.

The introduction of this equipment heralded a “gold rush” for sponges. By 1880, fortunes were being made from the rich harvests gathered by the island’s first generation of technical divers. Much of this money was reinvested in the industry to provide more boats, crews, and divers. Waterfront properties were converted into processing plants, where whole families were employed to beat, clean, clip and pack the precious sponges for export to every major city in the world.

Soon almost every islander was involved in the sponge trade, working at sea or finding employment in the supporting enterprises ashore. By now, the building trade was trying to keep pace with increasing demands for new villas, which took shape high on the hillsides overlooking the harbour. They were more spacious and opulent than anything previously seen on Symi.

In the town’s only foundry, the original Siebe diving dress and pump were copied and reproduced by Symiot craftsmen, using basic blacksmith’s tools and a forge. As a result, most diving was being done with locally made gear, which could be replaced or repaired on the spot.

As the most accessible sponge beds were gradually depleted, the divers were forced to venture deeper and further afield. Working in the indigo twilight beyond 60 m, with no knowledge of decompression illness or dive tables, their working lives were short.

Many would survive deep diving over a long period, only to be killed or crippled for life when narcosis so muddled their minds that they were unable to answer simple signals on their lifelines.

Believing their divers to be in the clutches of some unknown horror far below, the linesmen would pluck them from the seabed and haul them back to the surface as fast as muscular arms could work. In such situations, most divers would die purple-faced and broken, at the feet of men whose only thought had been to save their lives.

By 1910, the sponge fleet was spending up to seven months a year away from home searching for new grounds and its passage was marked by a sad trail of divers’ graves. Divers continued to push the limits in leaky suits and with foundry-made pumps barely able to supply enough air to keep them alive.

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One man in three was either dead, crippled, or marked for death before he reached marriageable age. For the families waiting at home, sponge diving became known as The Tyranny. It took away husbands, fathers and sons, and left behind a community to carry on as best it could.

The situation could not be sustained, and eventually the Symiots gave up diving altogether. By 1919, the boats leaving Symi were still manned by Symiots, but they carried volunteer divers from the nearby island of Kalymnos,
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who became the ones to risk their lives. The Symiots risked only their money.

With the later development of man-made sponges, the industry gradually spluttered to a halt, and by the 1950s it had faded into history.

Today, the gentle mask of tourism hides much of this story, but the inquisitive visitor can still find evidence of Symi’s diving past. Old copper helmets, ancient pumps and even the old foundry can be found among the sleepy streets of the town. Along the quay, a sprawling boat yard still marks the spot where hundreds of sponge-boats first took to the water. On the hillsides many crumbling villas, once the pride of wealthy sponge merchants, maintain a forlorn vigil across the harbour.

Perhaps the most touching of all links with the past is the way it is remembered in dance. The Bends Dance, performed in Symi to this day, is a depiction of vigorous youth reduced to shuffling helplessness by the voracious demands of The Tyranny. It is a fitting reminder of what was once the true price of a sponge.

Meanwhile, beneath the sea, sponges are gradually making a comeback. They are not yet plentiful, but they can be found readily enough by a fit snorkeller and can be collected, as in ancient times, on a held breath at depth.

Reprinted, by kind permission of the Editor, from DIVER, the magazine of the British Sub-Aqua Club, 1997; 42 (6) June: 70-71.

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