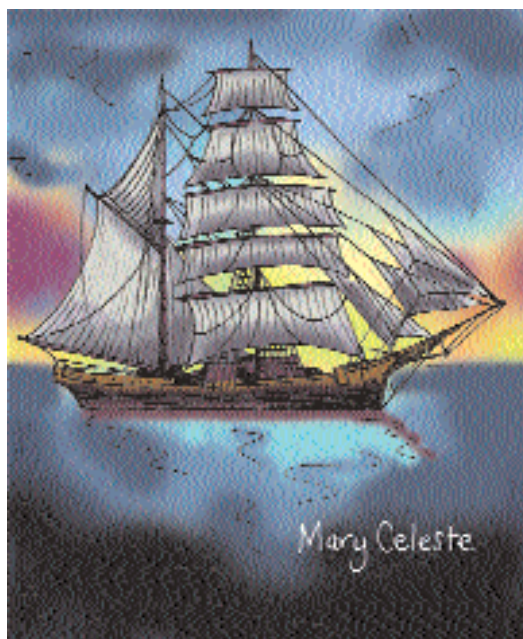


## Floating mysteries

The sea has a habit of producing intriguing mysteries without warning. I was interested to note in my local paper a spooky story relating to a little schooner called *Marion G. Douglas* which in 1919 was spotted by the inhabitants of Bryher in the Isles of Scilly close inshore and heading for the rocks. As was the habit of the fishing folk, two gigs were launched and a few islanders clambered aboard the vessel, wondering what they might encounter in the shape of corpses or disease, since no living person was visible. However, bunks and cabins were empty and the boat appeared to be in working order. There was an intact cargo of timber, and the islanders received a welcome salvage award, particularly appreciated in those days of deprivation after the war. It appeared eventually that the schooner had run into foul weather off the coast of America and its crew taken off by a passing steamer. Subsequently the craft had found its way across the Atlantic unmanned for 13 days.



Almost inevitably, the incident was compared with the famous case of the *Mary Celeste* (not, as often misquoted, the *Marie Celeste*) which was discovered in December 1872 in mid-Atlantic by a barque called the *Dei Gratia* bound from New York to Gibraltar. The aimless behaviour of the brig suggested lack of control; and no person could be discerned on her decks and there was no response to repeated signals.

When the rescuers boarded her everything was found to be in good condition, with sound hull, masts and yards, food and water, and a cargo of barrels of alcohol. The cabins revealed the crew's clothing and sea-chests, a table with a half-eaten breakfast, a sewing machine, books

and music, and a harmonium. The cash-box was untouched, and so was jewellery, ruling out mutiny and theft. The only missing article was the ship's chronometer. The ship's boat remained on its davits, so had not been used for escape. The only suspicious finds were possible blood stains and axe cuts along the bows. Nothing unusual appeared in the ship's log, which contained entries up to 11 days before the salvage. Apparently a voyage of some 400 miles, on the starboard tack, had been made after the last log entry.

To this day, no explanation of the mystery of the *Mary Celeste* has been forthcoming. Theories have been developed, and the episode has been used to inspire sensational fiction — from Arthur Conan Doyle, in particular.

## Vital resource

Water is one of the essentials of life, and we have seen in recent decades that great political pressure can be exerted on some regions of the earth by threats to local water supplies. Even in highly developed countries the question of domestic water supplies and the need to economise on our water consumption have led to fierce controversy.

A commentary published in *The Lancet* for 15 March includes the warning that our survival depends on the outcome of the water crisis which is due to be examined at the World Water Forum in Japan. The United Nations Water Development report to be presented there states that over the coming 20 years the average water supply per person throughout the world will fall by one third. At the moment, 1.2 billion people have no access to safe water for drinking, and 3 billion have to endure inadequate sanitation. Water-related diseases annually kill 5 million people, including 2 million children younger than five years. The most crucial issue is said to be inability to finance sustainable access to water of good quality, and funds will have to be derived from financial markets, water authorities, governments and public grants.

According to the UN, the absolute minimum water requirement is 50 litres daily per person, which includes five litres for drinking, 20 litres for sanitation and hygiene, 15 litres for washing and bathing, and 10 litres for preparing food. But in 40 of the most water-famished countries the total per person is only 7.5 litres daily.

Lack of water goes hand in hand with poverty. Unfortunately, the expanding demand for water will drain some of the world's major river systems and the rural

poor will be most grievously affected. By 2025 it is estimated that 2.7 billion people, constituting a third of the world population, will face water scarcity. Meanwhile, every child born in the countries of the developed world will consume 30 to 50 times the quantity of water available in developing ones. Action and not political rhetoric is urgently demanded.

## Facing the weather

We are today becoming acutely conscious of the possible influence that changes of climate may exert on our civilisation. Politicians are still inclined to poke fun at those who warn of the ravages of global warming and rising sea levels, but they are deluding themselves over this as over many other factors of our environment. Many studies are now emerging of the effects which climatic change may have had on our ancestors in various regions of the earth.

Increasingly popular with anthropologists and historians are the celebrated cultures of the New World, including the Aztecs, Incas and Mayas. In a paper published in *Science* for 14 March, a group of scientists from Zurich and the United States have described their investigations of the evidence of climatic deterioration and the abrupt and spectacular collapse of the Maya civilisation of the Yucatan peninsula between AD 700 and 950, a period known as the Terminal Classic Period. They employed a method called bulk sediment chemistry to study the annual laminated sediments of the Cariaco basin of northern Venezuela, with the titanium content as indicator of droughts.

The concentration of titanium in sediments deposited over the past 2,000 years was lowest between about 500 and 200 years before present (BP), indicating dry conditions. Between 1,070 and 850 BP higher titanium concentrations were evidence of warmer and wetter climate. Before 1,070 BP (corresponding to AD 930) intermediate values showed arid conditions, peaking at about 1,750, 1,650 and 1,200 BP. The Maya culture was dependent on a consistent rainfall cycle in a seasonal desert to enable food crops to be grown, and various strategies were adopted, such as reservoirs and canals, to enable some water storage. Climatic emergencies led to the abandonment of major cities and their re-occupation from time to time, but between AD 750 and 950 there was a demographic disaster of the first magnitude. Control of artificial reservoirs by the ruling caste may have collapsed when the ceremonies and technology devoted to maintaining them crumpled. The larger regional centres suffered most, and Maya society fell apart. Perhaps we might learn a lesson from these distressing events, and guard our water better.