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Irminger Sea: Oct 24
The Long, Long Stream by Dallas Murphy

In 1768, while England and her American colonies were still on speaking terms, Benjamin Franklin visited London in his official capacity as postmaster general. There he heard a curious complaint from the Colonial Board of Customs: Why did it take the British mail ships (called packets) two weeks longer to reach New York from England than it took the average merchant ship to reach Newport, Rhode Island? There was no difference between the ships; both were equally slow. And compared to the distance across the Atlantic, there was no real difference between New York and Newport. Why then the big difference in crossing times? Franklin had no idea, but he had sources.

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Though he always claimed to be a landlubber, Franklin hailed from a long line of seafarers, notably the Folgers, among the original settlers of Nantucket. His cousin, Captain Timothy Folger, a rising star in American whaling, happened to be in England at that very time. Franklin invited him to dinner and put the question: "Why does it take two weeks longer to sail from England to New York than to Newport?"

It doesn't, said Folger. The difference had nothing to do with the destinations—and everything to do with the captains. Merchant skippers routinely avoided the Gulf Stream when crossing from England. The mail-packet captains, on the other hand, sailed dead into its foul easterly set. When Folger and his fellow captains, whale hunting on the fringes of the Gulf Stream, encountered west-bound ships, they informed the captains that they were stemming [sailing against] heavy current and advised them to alter course to get out of the current. Appreciating the tip, merchant skippers did so. The bullheaded packet captains did not, sailing passage after passage against the Gulf Stream. "They were too wise to be counseled by simple American fishermen," Folger told Franklin.

Sailors and oceanographers ask different questions about the sea, but in Franklin's time, there was no such a thing as an oceanographer. The ocean was something to cross as fast as possible in order to make money. But consider the "current problem" from the mariner's viewpoint. The best navigator in the world can't recognize that his/her ship is sailing in a current on the open ocean just by looking. The only way to know is somehow to compare speed and heading through the water with speed/heading over the bottom. In the pre-electronic days, mariners used celestial navigation. By measuring the positions, the "altitude," of the Moon, Sun, and selected stars relative to the horizon, navigators could calculate their ship's position on Earth. This is still called a "fix." By comparing a series of fixes to the compass heading and speed through the water during a day's run, a navigator could figure out the set and drift of a current. However, celestial navigation was dependent on weather; if you couldn't see a celestial body and the horizon at the same time, you couldn't get a fix. GPS, among the greatest boons both to navigators and oceanographers in the history of seafaring, changed all that. Since the GPS knows where on the Earth it is moment to moment, it's easy to compare speed/heading over the ground with that through the water.

His talk with cousin Folger re-stimulated Franklin's interest in the Gulf Stream (Franklin was interested in everything), and he spent the return passage to Philadelphia hauling up water samples in a bucket, comparing their temperatures, jotting notes, pondering. Back home he pursued his study by interviewing whalers and merchant sailors, who, honored, told him everything they knew and put their logs at his disposal. Franklin was not the first to seek scientific knowledge of the ocean from those who make their living on it. Henry the Navigator, a Portuguese prince, did that in the 1430s, and so did England's Royal Society in the 1660s. But Franklin was among the first natural scientists to systematize mariners' log in a dedicated study of the Gulf Stream. Out of it came his famous Gulf Stream Chart, first published in 1770, in England, where it was completely ignored. Several other versions followed, notably in France.

Then late in life, Franklin published "Maritime Observations," 1786. "As I may never have another occasion of writing on the subject, I think I may as well, once and for all, empty my nautical bucket." It brimmed with ideas—for sea anchors, catamaran hulls, shipboard lightning rods, watertight compartments, and a soup bowl designed to stay put in heavy weather. Including a copy of his Gulf Stream chart in "Observations," he contended that the Stream's distinguishing characteristic was heat. You could tell when you're in the Gulf Stream by measuring the ocean's temperature. Racing sailors still do that very thing in the Newport-to-Bermuda race.

There's a story that during the American Revolution Franklin kicked around the idea of using the Gulf Stream as a terror weapon. If somehow it could be deflected, as with a dike, England would be plunged into a new ice age. If it's true, it shows that Franklin, way ahead of his time, understood the relation between the Stream and England's moderate climate.

The important point is that Franklin, despite the absence of adequate tools, was collecting data at sea and ashore, shaping it into a theory, and publishing it for public consumption. He was "doing" oceanography. How thrilled the old genius would be to witness the modern practice of oceanography and its discoveries, particularly about the Gulf Stream. Just consider this single observation, surprising even by today's standards: Dr. Bob, on this trip, has identified water of Gulf Stream origin sloshing around the mouth of Kangerlussuaq Fjord on the east coast of Greenland some 90 miles above the Arctic Circle!

Kangerlummi by Nick M?ller

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