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ers" who advise clients about new technologies that might be useful to them.

Yet, the technologies in which Western consulting firms specialize (e.g., design and problem-solving services) are not easily transferred, Goulet observes. It is easier to train engineers to build dams than to train feasibility experts of consultant-firm caliber who can evaluate dam siting, cost, and design problems. It is the absence of these skills that makes developing countries technologically dependent on outsiders. The difficulty with consulting firm contracts for technology transfer is that a lot of problem-solving takes place but not much transfer of technology.

"The 'transfer' of technology is no neutral, value-free technical activity," Goulet concludes. It occurs in a competitive arena. It is up to the developing countries to devise more sophisticated policies to make this process serve their long-term social goals and national objectives.

Exploiting the Gulf Stream

"Benjamin Franklin and the Gulph Stream" by Frederick P. Schmitt, in *Oceans* (May-June 1978), Oceanic Society, Fort Mason, San Francisco, Calif. 94123.

Ben Franklin, America's Renaissance man, was the first person to map the waters of the Gulf Stream, gleaning data on the great "ocean river" from his own scientific observations and the whaling experience of a Nantucket sea captain.

Franklin's interest in the "Gulph Stream," writes Schmitt, curator of the Whaling Museum at Cold Spring Harbor, N.Y., was stirred in 1769 by complaints that the supposedly fast mail packets plying the Atlantic between Falmouth, England, and New York were taking two weeks longer than ordinary merchant ships bound from London to Rhode Island.

Although Franklin had noticed the great stream, with its carpet of floating gulfweed, as early as 1726 during a sea voyage to London, he did not appreciate its significance until his cousin, Captain Timothy Folger, explained that the fast westbound merchant ships were skippered by Rhode Island men who understood that it was wiser to cross the Gulf Stream quickly than try to buck its northerly three-mile-per-hour current. Franklin persuaded his Nantucket cousin to prepare a sketch of the "ocean river" with instructions on how to benefit from or avoid its brisk flow.

As Deputy Postmaster General of the British Colonies in North America, Franklin had copies of Folger's sketch sent to Falmouth where, Schmitt writes, "the packet skippers paid no attention."

Franklin, the scientist, continued his studies of the Gulf Stream, measuring its temperature during subsequent transatlantic voyages with a thermometer suspended from a line. He knew the waters were warmer in the current, and he hoped to devise a method for navigators

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Nantucket whaling captains gave Ben Franklin the data to prepare this 1769 chart of the "Gulph Stream."



Courtesy of the American Philosophical Society

to determine exactly when they entered or passed through the stream. Franklin found 18th-century mariners reluctant to take advice from a landsman. Modern day scientists, Schmitt observes, recently employed satellite photographs—not Franklin's charts—in a study aimed at persuading captains of ocean-going vessels to take advantage of the Gulf Stream's swift currents to save fuel.

"Greenhouse" for Truffles

"French Science Robs the Truffle of its Gallic Romance and its Rarity, with the First Crop from a Greenhouse" by Rudolph Chelminski, in *Horticulture* (May 1978), 125 Garden St., Marion, Ohio 43302.

The black truffle (*Tuber melanosporum*), so highly prized for the mysterious subtlety of its flavor in *pâté feuilletée*, *foie gras* and *poularde de Bresse*, has become prohibitively expensive (\$160 per pound at retail) for all but the wealthiest, most obsessed gourmards. But now a research team for the French Institut National de la Recherche Agronomique (INRA) has, for the first time, succeeded in seeding, cultivating, and bringing to fruition the highly prized delicacy.

All past attempts at truffle seeding have failed, says Chelminski, a former *Life* staffer now living in France. Moving truffle-producing soil from one locale to another did not work; and all too often, productive truffle grounds have mysteriously turned barren. Truffle production in France, which amounted to 2,000 tons in 1892, now average 25 to 50 tons per year.

The successful "greenhouse" cultivation of truffles was the work of agronomic engineer Jean Grente, director of INRA's plant pathology station at Clermont-Ferrand. Grente began his efforts on the assumption that the truffle is not a parasite, as commonly believed, but rather mycorrhizal in nature—living in mutually beneficial symbiosis with