Mariculture Rig

PETER FEND

A proposed functional structure of importance in human ecology and economy: By structures such as these one could upwell the soil nutrients that have washed from our lands into the oceans. These could become the raw materials for a lush vegetation which, when harvested, would yield all the nonpolluting gas fuel—whether hydrocarbon or hydrogen gas—that an industrial civilization could demand.

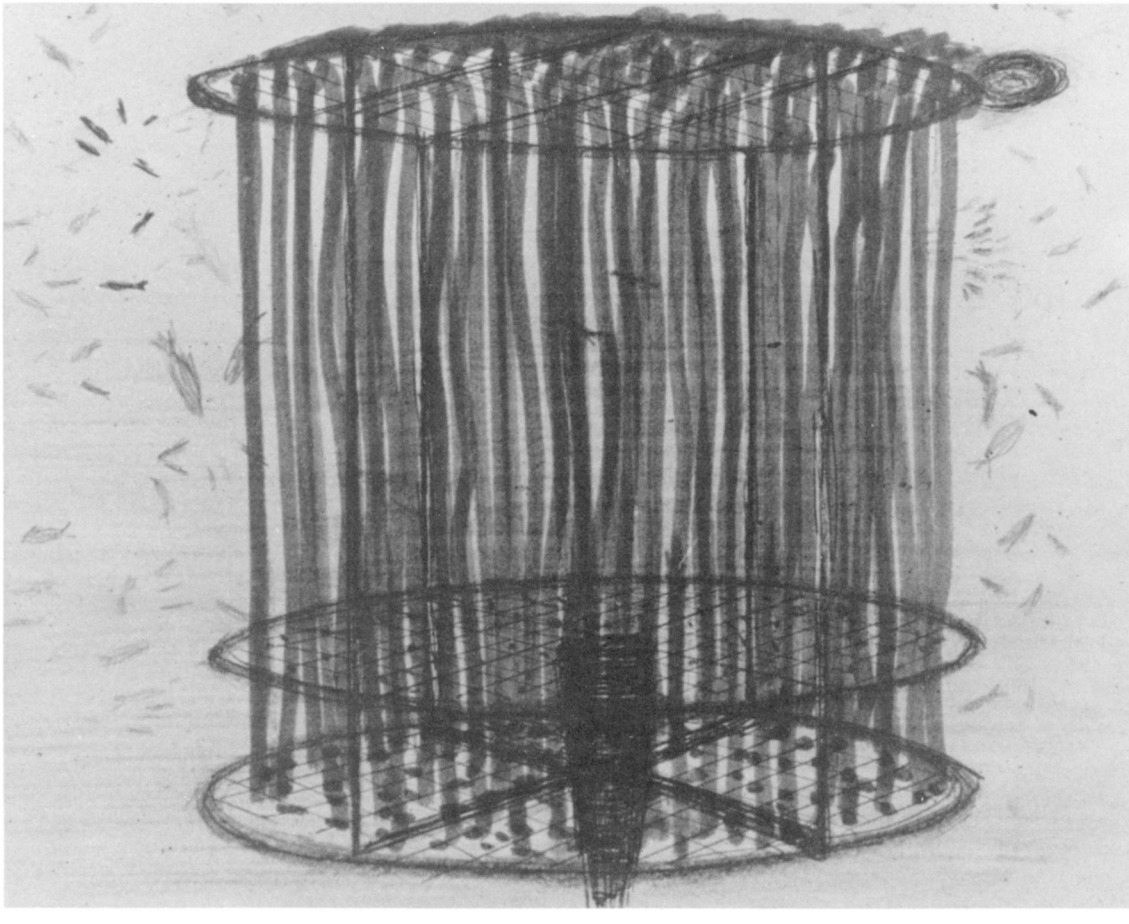
Scientists as prominent as Werner von Braun and Wheeler North at Cal Tech have foreseen structures such as this causing an eventual replacement of the present fossil-fuel industry, both polluting and depletable, with a biologically safe and replenishable indirect-solar industry.

Concepts derived from recent artworks—such as by Walter de Maria, Dennis Oppenheim, Vito Acconci, and Robert Smithson—suggest ways to resolve functional problems with the test structures built so far. Patents are being arranged under the aegis of the Ocean Earth Construction and Development Corporation, an architecture firm deriving its paradigms from the radical breakaway art—from Futurism, Constructivism, and Conceptual art—and from current biology. The architectural consequence is clean air cities.

Features of the Rig:

1. Rotatable but hydrodynamically stabilized by rigid fins, so that the structure spins—increasing exposure of plants to nutrients—but goes nowhere.
2. Adjustable holdfasts, which grip the plant stems to allow nutrient absorption, one each, placed on several tiers. The adjustability permits frequent harvesting from below, not above. As the plant grows skyward (up to ten feet a week), the holdfasts are loosened and transferred to a tier below, and the stem extending free at the bottom is cropped. This allows weekly rather than semiannual harvests and increases overall yield per year many times over.
3. Upwelling spouts at the bottom, coupled with micronutrient sprayer at the top, allowing for maximum mixing of nutrient-rich water throughout the plant structure. This promotes plant growth and in turn allows for concomitant growth in fish populations.

The chief art concept is one of underpull. The science is now sanctioned, for example by Japan's Ministry of International Trade and Industry. At issue: with what design; toward what urban market; under whose overall regional plan? ●



Peter Fend, *Ocean Rotor,* 1979, pencil on photographic board, 8 × 10 inches. Taken from Macroalgae Rig, designed by Fend, based on concepts from Oppenheim, Acconci, and Smithson, and developing a primary sector based on Joseph Beuys's "Fat Corner" cycle.