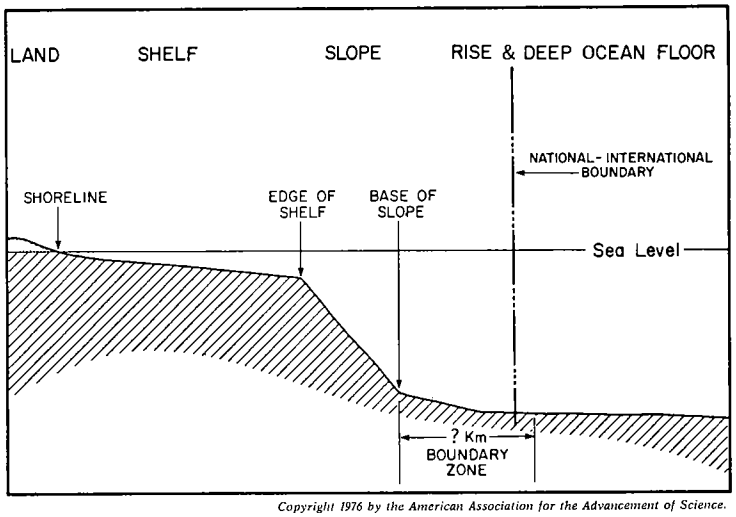
limit or base of the continent (or island)." A clear international boundary would be drawn by the coastal nation within the margins of a "boundary zone" extending oceanward from the approximate base of the slope for an internationally agreed distance (Hedberg recommends at least 100 kilometers—54 nautical miles). Such a boundary zone would bypass uncertainties in defining the precise location of the base of the slope and allow the final boundary to be drawn by simple straight lines connecting fixed points of latitude and longitude. Hedberg suggests that the boundary concept be used only to set a national/international division of rights to mineral resources beneath the oceans (requiring drilling or mining and fixed installations on the ocean floor), not to settle more complicated jurisdiction over oceanic waters for navigational purposes or fishing rights.






*Profile of the proposed delineation of a boundary between coastal state and international jurisdictions.*

## *Plumbing The Depths*

"The Deep Seas—Unexpectedly an Astounding Variety of Life" by Bruce Abell, in *Mosaic* (May–June 1976), National Science Foundation, 1800 G St., N.W., Washington, D.C. 20006.

Until about two years ago, most scientists believed that the deep seas —those regions between 200 meters and the ocean floor—contained little life. Low temperatures, absence of light, high pressures, and limited food and oxygen all indicated an extremely inhospitable environment. But today, writes *Mosaic* editor Abell, "improved sampling devices and some persistent scientists" are bringing to the surface "an

astounding variety of deep sea animals"—such as *G. Ingens*, a shrimp-like crustacean that lives off the California coast at depths of 1,000–2,000 meters. Deep-sea ecosystems produce no food. (No light means no plants and no photosynthesis.) But some experts believe that fish carcasses are a major source of food in the depths, where "food is like rain, coming down in drizzles or cloudbursts."

Scientists are also studying links between the deep seas and our own food supplies. For instance, bluefin tuna often swim down to 400 meters to feed. How do pollution and heavy fishing of these predators affect the deep seas as a stable link in our food chain? How do creatures survive in deep water that has only 5 percent of the oxygen content of surface water?

Two new devices are facilitating research: a sled-like contraption which dredges a meter-wide swath of ocean floor, and the "box corer," which raises a much smaller sample of floor sediment to the surface intact. Much American research is conducted in laboratories onshore, but scientists are attempting research in the ocean depths using deep-diving craft and remote-controlled equipment.

## *Science Policy and The Political System*

"United States of America" by Gene M. Lyons, in *International Social Science Journal* (no. 1, 1976), UNESCO, 7 Place de Fontenoy, Paris 75700.

The interplay between science and politics in the United States is analyzed in this essay by Lyons, dean of the faculty at Dartmouth College. With the President and Congress asking scientists for advice about an increasingly technical world, the "imperatives of science" influence politics. But politics influences science too—supposedly "value-free" technical advisors become partisan as they ally themselves with politicians and government agencies to vie for research subsidies. This two-way relationship, combined with a traditional American decentralization of authority, insures that "nothing that can be strictly termed 'science policy' emerges from the American political system." The confusion is heightened by the scientific community's tenuous presence in the White House, writes Lyons. President Ford is creating a small scientific staff in his office. In 1973, a much larger White House advisory group was abolished by Richard Nixon, who felt its functions were better performed at other agencies. The fragmented Congressional committee system also contributes to lack of direction. Any science bill comes under the purview of not one but many committees, and usually reflects the political priorities of committee members. The American Association for the Advancement of Science (AAAS) has tried to bring order to the whole question of science policy by defining it as two functions: "science in policy" (scientific advice to decision-makers), and "policy for science" (government support for research). Not surprisingly, the AAAS favors placing a Council of Science and Technology Advisors in the White House to oversee both functions.