

richment plant, Germany to capitalize on its industrial strength, Britain to grow cagier about sharing its bonanza of North Sea oil and natural gas.

The spirit of the Community is not the one-for-all-and-all-for-one spirit of *The Three Musketeers*. Experienced Community watchers say it is not the acuteness of a problem that makes a member state accept a Community solution but the fact that such a solution is more desirable than a national one. They do it because of "their own interest, not the common interest," says one middle-level Community official. "Why we have such trouble with the British [is that] they never understand what a

Community resolve means." The process of compromise and adjustment takes a long time, as in the case of energy policy, and the more senior officials of the Community have learned to live with the bureaucratic ballet in Brussels and to tolerate the delays. In considering whether the Community is a success or failure they tend to recall the Community's accomplishments in trade and to note that, after all, it is no small thing that the Community has made it unthinkable that the nations of Western Europe, for the third time in the 20th century, might again start killing each other by the millions.

—JOHN WALSH

**Erratum:** In a recent article on the Committee on Biomedical Research Impact (5 Apr., p. 44), we reported that the committee had raised \$32,000 from scientists interested in supporting its program to compile data on the economic benefits of biomedical research. Unfortunately for the committee we were in error; The correct figure is \$2000.

**Erratum:** In the editorial "Assessing the demand for scientists and engineers" by B. Vetter (5 Apr., p. 11), lines 2 and 3 of the first paragraph should read "... the total federal research and development budget of \$19.6 billion is up 10 percent over last year."

**Erratum:** In "Stratospheric ozone depletion and solar ultraviolet radiation on Earth" by P. Cutchis (5 Apr., p. 13), the legend to Fig. 5 was inadvertently omitted by the printer. The legend should read "Fig. 5. Direct solar UV irradiance and scattered UV irradiance on a horizontal surface at sea level for solar zenith angles  $\theta$  of 0°, 30°, 60°, and 75° and 0.341 atm-cm of total ozone [data from (10)]."

**Erratum:** On page 371 of the 19 Apr. issue the photo credit to the facing page was omitted. It should have read "Courtesy Darrel Freund, National Capitol Astronomers, Washington, D.C."

## Must Decide Where to Get the Nuclear Fuel of the 1980's

spurred the increase in planned nuclear power capacity.

What has evolved is a proposal by the Commission that a European enrichment capacity be created by the promoters of both technologies. Between now and 1985 Eurodif and Urenco are urged "to maintain competition as regards plant, construction and operation." In addition, European users are urged, given equal economic conditions, to place orders with European enrichment industries. And tax preferences are held out as a possible incentive.

The Commission proposal has been endorsed by the European Parliament, the Community's legislative arm, but not by the Council. The Parliament still performs a discussion rather than a decision-making function in the Community, and Council action will decide the issue.

The Soviet Union is something of a dark horse entry in the enrichment stakes. Now a supplier of fairly small quantities of enriched uranium to France, Germany, Italy, and other European countries, the Soviets have indicated they intend to stay active in the world market. Like the United States, the Soviet Union is believed to have developed sizable gaseous diffusion facilities for military purposes and to have surplus capacity available for enriching uranium fuel. Estimates differ on the size of the potential Soviet supplies, but some observers think that the Soviets might tide over new European nuclear plants until the Community countries develop their own enrichment capacity.

The Soviets have generally been setting their prices a few percent below the American price of \$36.40 per kilogram unit of separative work, with their contracts providing a diminishing margin over the years. The Soviets say they plan to continue to gear prices to the world market.

Prices set by prospective American and European sources in the future will be considerably higher. United Enrichment Associates, a consortium of American companies interested in building a new domestic diffusion plant, estimate the unit price at \$73 in 1984. The unit

price for the projected 9000-metric-ton per year Eurodif plant is presently quoted at about \$50 "unescalated," but with major escalations implied before production begins in about 1979. Urenco proposes to have two pilot centrifuge plants in operation by 1979, each producing some 200 tons or a total of 400 tons. Output would rise to a planned 2000 tons in 1980 and 10,000 tons in 1985.

A 1972 estimate by the AEC projected demand for U.S. production in 1974 at 4300 tons from domestic users and 3700 tons from foreign users. The 1972 forecast, which will soon be superseded by another AEC forecast, set total demand in 1984 at 26,400 tons from domestic plants and 24,600 from foreign plants, excluding those in the Soviet block. The forecast share of enrichment work by U.S. facilities in 1984 was put at 42,700 tons or about 60 percent of demand outside the Communist nations. That percentage is expected to be reduced in the new forecast.

### Many Open Questions

Increasingly, in both the United States and Europe, nuclear power will have to pay its own way with less direct subsidies provided by government or the indirect support of military nuclear programs. Many open questions confront the planners, particularly in Europe. For example, will Urenco really solve the chronic problems of centrifuge technology which have blocked progress into the production phase of the process? What will be the effect of rising electricity costs on the Eurodif's power-intensive diffusion process? How will currency exchange fluctuations affect the transatlantic economics of enrichment? Faced with these unknowns, the Europeans are likely to make the key choices less on the basis of cost-effectiveness analyses than on a mix of political and economic motives. The Community seems to be moving toward creating its own uranium enrichment capacity, even if the price of independence comes high.—J.W.