Other uncertainties remain. Some fear, for example, that France's decision to include the development of a small manned space vehicle, Hermes, in the proposed programs it is submitting to the Rome meeting (*Science*, 7 December, p. 1175) threatens to disrupt the delicately balanced package that is currently being stitched together for the minister's approval. The package would give each of the three major ESA members lead responsibility for a separate project (France for the Ariane program, West Germany with Italy for Columbus, and Britain for the unmanned platform).

There is also a certain suspicion of NASA's motives in inviting foreign participation in the space station. Questions are being asked about whether NASA's enthusiasm for international endorsement of the space station may be as much motivated by a desire to protect it from domestic budget cuts by stressing treaty commitments as any genuine interest in cooperation.

ESA administrators also stress that any agreement with NASA must contain guarantees of Europe's freedom of action. They point with concern, for example, to the testimony of one NASA official, speaking last March to the Senate subcommittee on science, technology, and space, that "cooperative programs frequently link foreign space objectives to our own," with the result that they "have the effect of supporting our goals and may divert foreign resources from competing programs."

These suspicions are likely to lead to some tough bargaining in the months ahead over the terms and conditions of European participation, and unlike the situation with Spacelab 10 years ago, Europe is now negotiating from a position of relative strength. However, two factors in the discussions so far reflect a growing convergence of thinking between Europe and the United States. One is what ESA's Collet describes as an "act of faith" that manned space stations are the right way to go for Europe as well as the United States. The other is the fact that, as Gibson puts it, "the decision in most European countries is going to be wholly political."

Europe's space officials hope that a combination of the two will persuade ministers at the Rome meeting to dig deep enough in their pockets (the overall package they will discuss will require a 50 percent increase in the ESA budget by 19[illegible] to sign of that [illegible] ready to [illegible] collection of individual projects but as an integrated technological enterprise.

—DAVID DICKSON

Virgin Rain Forest Reprieved

Tropical biologists are jubilant over a $1-million grant from the MacArthur Foundation that should enable a key tract of virgin rain forest to be preserved in Costa Rica. A 19,000-acre strip that rises from sea level to almost 10,000 feet up the slope of an extinct volcano, the tract contains an extraordinary diversity of wildlife. It is also believed to be the last strip of uninterrupted forest in Central America covering such a wide range of elevations.

Preservation of this strip is considered especially important because it links an existing national park at the top of the volcano with a tropical research station and biological preserve, known as La Selva, at sea level. It provides a route for the migration of birds and mammals, which move up and down the slope to take advantage of different flowering and fruiting seasons. Deforestation of the slope would not only cut off this migration but it would also irrevocably alter drainage patterns, which in turn would endanger the lower forest at La Selva.

John E. Corbally, the MacArthur Foundation's president, noted in a statement that the La Selva research station is considered "essential to the work of North American biologists." Most U.S. tropical biologists have trained or conducted research in the preserve, for example. "Because of the unique location of this land, between the sea and the top of the mountains, this particular site is one of the most productive and valuable biological research and conservation areas in the world," he said.

Three years ago, biologists launched a successful appeal for funds to purchase a buffer zone around the La Selva preserve to help protect it from human encroachment (*Science*, 4 December 1981, p. 1106). At the same time, the Costa Rican government designated the strip of forest between La Selva and a 25 square mile park at the top of the volcano, known as the Parque Nacional Braulio Carrillo, a protected zone.

Those who own the land in the protected zone have, however, put pressure on the government either to buy them out and turn the strip into a national park, or lift the restrictions. The purchase price is about $2 million, a sum that the government could not find without draining resources from other conservation efforts. (Costa Rica has an outstanding record in conservation: in the past 10 years, it has set up a system of parks and reserves covering 8 percent of the country.)

The MacArthur Foundation has come to the rescue thanks largely to Murray Gell-Mann, of the California Institute of Technology, who won the Nobel Prize for theoretical work in particle physics. Gell-Mann, who says he was interested in the study of nature long before he was interested in physics, is chairman of the foundation's committee on world environment and resources. He heard about the efforts to preserve the tract of land and brought the matter to the attention of his committee, which voted unanimously to put up $1 million toward the purchase price.

The grant has gone to the Nature Conservancy, an environmental organization based in Washington, D.C., which is a member of a consortium of groups that have agreed to raise the balance of the funds. The consortium, which consists of the World Wildlife Fund, the Organization for Tropical Studies—a collection of universities and research institutes in the United States and Costa Rica that operates the La Selva research station—the National Parks Foundation of Costa Rica, and the Costa Rican National Parks Service, also hopes to raise $800,000 for an endowment fund to manage the preserve. The entire area will eventually be turned over to the Costa Rican government.

In addition to linking La Selva with the Braulio Carrillo park, the strip of forest is an ecologically rich area in its own right. A recent 2-week scientific expedition to the tract found that it contains an estimated 650 species of trees and 400 species of birds. Expedition members discovered at least 28 new plant species, and turned up 12 species that were [illegible] to [illegible] mammals inhabit the area, including jaguars, monkeys, and tapir.

—COLIN NORMAN