It is not that males are more intelligent than females, or vice versa, but rather that the sexes tend to have different patterns of ability, Kimura says. Men, on average, outperform women in mathematical reasoning tests and in following a route on a map, whereas women tend to do better in arithmetic calculation and in using landmarks to navigate a route. Women also tend to have greater verbal fluency and to have better perceptual skills (e.g., rapidly identifying matching items), while men have an advantage when called upon to manipulate imaginary objects. Males also have an edge when it comes to "guiding or intercepting projectiles," as in throwing darts or catching balls. Three-year-old boys outperform girls of the same age in tests of such "target-directed motor skills." In tests of young adults, experience playing sports did not account for the difference.

The most likely explanation for such sex differences, Kimura says, is the impact of sex hormones on developing brains in fetuses and very young children.

Especially compelling evidence of the sex hormones' influence comes from studies of girls who, as a result of a genetic defect or other condition, were exposed before birth, or just after it, to unusual amounts of male hormones, or androgens. Studies by Anke A. Ehrhardt of Columbia and June M. Reinisch of the Kinsey Institute, Kimura says, have found that these girls "grow up to be more tomboyish and aggressive than their unaffected sisters." Sheri A. Berenbaum of the University of Chicago and Melissa Hines of UCLA found that when such girls are given a choice of toys, they opt for cars and trucks, "the more typically masculine toys."

Kimura believes that the apparent sex differences "arose because they proved evolutionarily advantageous." In the distant past, when humans lived in relatively small groups of hunter-gatherers, men and women needed different skills.

Since the sexes do differ in the way in which they solve intellectual problems, Kimura notes, men and women may well have "different occupational interests and capabilities, independent of societal influences." Any particular individual might be able to do very well in an atypical field, of course. But one would probably not find as many women as men in professions that emphasize spatial or math skills, such as engineering or physics. On the other hand, Kimura says, "I might expect more women in medical diagnostic fields where perceptual skills are important." Inequality? Blame it on Mother (or Father) Nature.

Saving Tropical Forests

"The Tropical Timber Trade and Sustainable Development" by Jeffrey R. Vincent, in *Science* (June 19, 1992), American Assoc. for the Advancement of Science, 1333 H St. N.W., Washington, D.C. 20005.

Sustained management of the world's tropical forests is an ideal of many environmentalists. The boom-and-bust export pattern of the tropical timber trade stands in the way, however, and the United States and other developed countries are often blamed for those destructive ups and downs.

There is no question that the pattern exists, acknowledges Vincent, an associate at the Harvard Institute for International Development. In one tropical country after another, soaring timber exports have depleted old-growth forests. Development of second-growth forests was not managed, and domestic timber-processing industries collapsed. The pattern emerged in West Africa during the 1950s and '60s, and is being repeated in Southeast Asia. Thailand and the Philippines have already gone bust. But the fault does not lie with the developed countries, Vincent maintains.

Behind the pattern is rising global demand for wood products. But developing countries themselves account for much of the increase, Vincent points out. In 1989, only about one-third of the logs and pulpwood (used in making paper) harvested in developing countries was exported, and much of it went to *other* developing countries. In fact, developing countries (excluding China) *imported* almost as much in wood products that year ($11.5 billion) as they exported ($12.7 billion)—and took in a good deal of that from the developed countries.

Critics also argue that high tariffs in the developed countries have stunted the Third World wood-processing industries that would encourage good forest management. But the tariffs have been cut in recent years under the General Agreement on Tariffs and Trade. Today, in many cases, developing countries' *export* taxes are higher than the tariffs.

The developed countries are also accused of manipulating world prices. Prices for many

tropical wood products are relatively low, Vincent says, but the reason is that most tropical timber exports, such as plywood and sawed wood, must compete with wood products from the temperate regions. That keeps prices down.

The policies of tropical nations themselves have exacerbated the boom-and-bust pattern, Vincent asserts. The forests in most tropical countries are government-owned; harvesting concessions are typically short-lived, doled out as a form of political patronage. The concessionaires have little incentive to conserve forests. There are two ways to change this, Vincent argues. Governments can increase their fees to finance public-forest management, or they can grant concessionaires contracts that are longer, renewable, and transferable. That would give them a stake in the forests' future and ample reason to regard forests as what they really are: valuable natural assets.

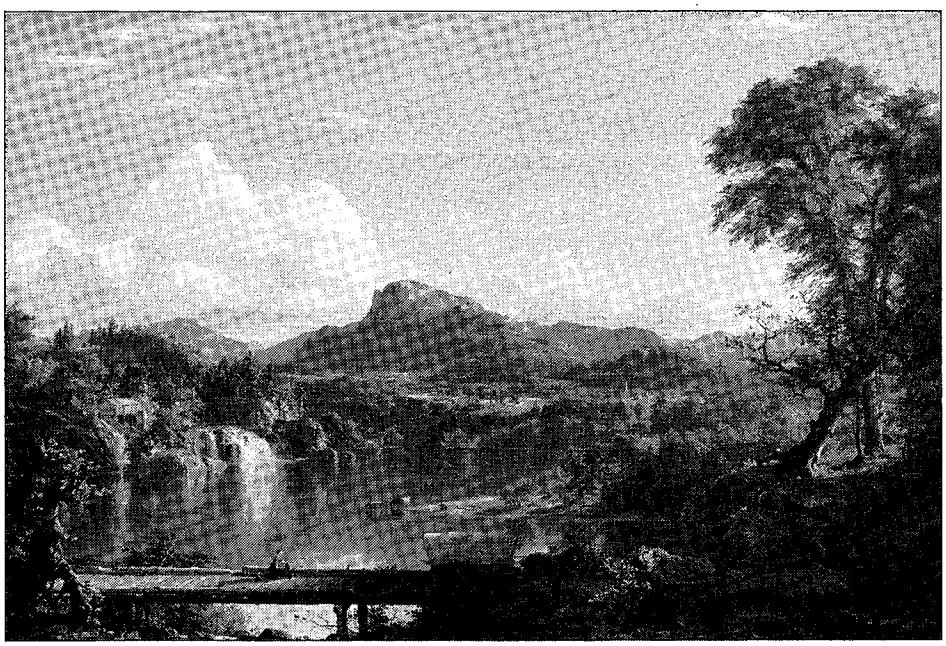
ARTS & LETTERS

Paradise Regained

"Retreat to Arcadia: American Landscape and The American Art-Union" by Carol Troyen, in *The American Art Journal* (Vol. XXIII, No. 1, 1991), 40 W. 57th St., 5th fl., New York, N.Y. 10019.

In 1851, the New York-based American Art-Union held one of its most influential exhibitions. Three of the show's paintings were so powerful and accomplished that they became much-imitated models of a pastoral form of landscape painting, according to Troyen, an associate curator at Boston's Museum of Fine Arts. In a nation beset by growing sectional and economic tensions, these archetypes, she says, shored up the "foundering ideal" of America as an arcadian paradise.

The inspiring works were done by three young painters just starting to make their mark in the New York art world. John F. Kensett's (1816–72) *Mount Washington from the Valley of Conway* was especially innovative. It depicts snow capped Mount Washington in New Hampshire as a majestic and gracious setting for farming and civilization, and bathes the whole vista in a golden light. Guidebooks of the 1820s and '30s had described the sparsely populated area as dangerous and forbidding, and



Man is in harmony with nature in Frederic Church's New England Scenery.