

prostitutes are regularly screened for infectious disease. Legal prohibition of prostitution has not succeeded in preventing large numbers of prostitutes from becoming infected. In a recent paper (*Science*, 5 February, p. 597), Walters repeats some seroprevalence data. In Newark, for example, 52% of the prostitutes tested positive for HIV. Among incarcerated prostitutes in Miami, seroprevalence was 19%, while seroprevalence of monitored prostitutes in Nevada is extremely low.

Finally, Walters argued that statutes outlawing private homosexual acts between consenting adults be revoked and that laws prohibiting discrimination against homosexuals be enacted. "This would have great symbolic significance," said Walters. At the same time such a move would encourage homosexuals and bisexuals to provide accurate information about risk-taking behaviors which would help researchers define more precisely the parameters and direction of the epidemic. ■ W.B.

## Bad Bees Buzz North; USDA Builds Barrier

Africanized honeybees continue their trek from Brazil to the United States. They are expected to arrive en masse in Texas between 1989 and 1990, much to the glee of tabloid newspapers but to the dread of the honeybee industry.

The northern edge of the Africanized honeybee front has already reached the southern Mexican states of Quintana Roo, Chiapas, and Oaxaca. To slow down the aggressive but commercially unproductive insects, the U.S. Department of Agriculture (USDA) is busy erecting a genetic "bee barrier" in Mexico. Plans call for destruction of feral colonies of advancing Africanized honeybees as well as the introduction of large numbers of freshly mated European honeybee queens. "The idea is not to stop the Africanized bees but to get them to cross with the European honeybees," said Robert Danka of the USDA's Agricultural Research Service in Baton Rouge, Louisiana, in a telephone interview with *Science*.

So far, the bees have not mellowed much. According to David Roubik of the Smithsonian Tropical Research Institute in Balboa, Panama, the Africanized honeybees in Central America are nearly identical to bees from Central Africa. Roubik was speaking at a AAAS symposium on the biology and impact of Africanized honeybees.

Africanized honeybees are hybrids created by crossing African and European subspecies of *Apis mellifera*. Introduced in 1956 in an attempt to create a more hearty race for

the tropics, the Africanized honeybees defend their hives more aggressively, sting more readily, swarm more prolifically, and, worst of all from a commercial standpoint, produce less honey.

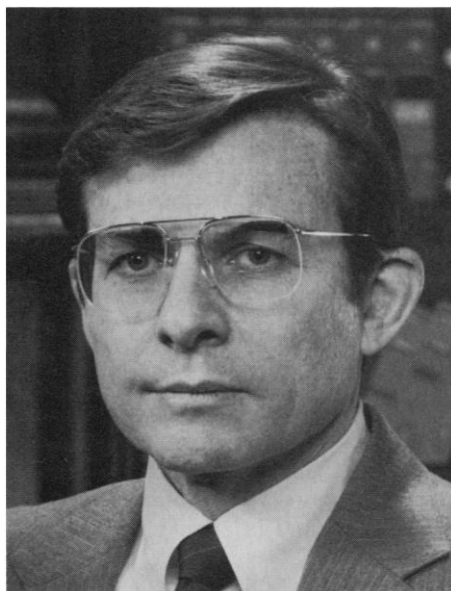
In a paper prepared for presentation at the symposium, Sarah Locke of the University of California at Davis reported that the Africanized bees pose "a serious threat" to commercial beekeeping and to agriculture dependent on pollination by bees. Commercially managed European honeybees, particularly the race of yellow Italians which is the bee of choice in the United States, are the

## Will Receding Budget Strand Science?

"A high tide lifts all boats," said Peter Likins, president of Lehigh University, speaking about government support for research at the AAAS meeting on 14 February in Boston. "But," he asked, "What does a low tide do? It beaches whales."

A receding federal budget, Likins suggested, may leave some projects like the new science and technology centers of the National Science Foundation (NSF) high on the sand. Although the centers were created by presidential directive and were singled out for attention in Ronald Reagan's State of the Union Address a year ago, they were not funded in the 1988 budget.

It was evident from these and other comments in a session on federal science policy that managers of research are worried not only about the centers but about the effect that an ebb tide of funding would have on scientists not connected with a center or a



**Peter Likins:** "economic justification is now the only game in town."

primary pollinators of crops worth approximately \$5 billion annually, Locke noted.

Will the Africanized bees be able to survive the winters in America? Al Dietz, a professor of entomology at the University of Georgia in Athens, believes that they will. "There is essentially no difference in ability to survive between Africanized and European honeybees," said Dietz in a telephone interview. Dietz placed a hive of Africanized honeybees at 2700 meters in the snow-covered Andes in Argentina. Dietz said: "The question is: Did they make it? The answer is: They did." ■ W.B.

big institutional project.

The President made wonderful promises last year, Likins said, but "reality has intruded" in 1988, and it is becoming harder all the time to justify spending public funds on basic science. Because the problems created by the trade deficit and sluggish industrial growth are widely recognized, there is a tendency to describe all new federal projects as helping solve them.

The resulting policy trend, Likins said, is a "shift toward more clearly targeted research." Because NSF is the chief financier of untargeted research, "the policy shift has been most dramatic in that agency," visible recently in the emphasis on science and technology centers. But it is "dangerous" to put too much emphasis on the economic value of science, according to Likins. "The credibility of the scientific establishment has been very high in America, and we can put this achievement of several decades in jeopardy by stretching too far the protective cloak that we call 'strengthening industrial competitiveness in the global economy.' Better justification than this can be found for the superconducting supercollider and the space station, to cite two quite different examples of megaprojects often defended with economic arguments of dubious merit." It is important to keep in mind that scientific research has an inherent value.

Given that "economic justification is now the only game in town," Likins asked, "How should we play it?" Specifically, in the case of the science and technology centers, what should the science community seek from the government? Arguing that "the best defense is a good offense," Likins urged his listeners to marshal evidence for the case that isolated, untargeted research contributes at least as much as group projects to innovation (for example, the discovery of low-temperature superconductors). He said that the new research centers should probably be regarded as experimental, and that they should remain "comparatively few in number" until they have proved their worth. ■ E.M.