

and rational.”

Unfortunately, new diseases occur most frequently in crowded, poverty-stricken, tropical lands—the areas where people are least prepared to identify and analyze viral trends, says epidemiologist Donald A. Henderson, dean of the Johns Hopkins University School of Hygiene and Public Health in Baltimore.

Moreover, says Robert E. Shope, a viral epidemiologist at the Yale University School of Medicine, tropical-disease programs and specialists are dwindling in number worldwide. In 1973, citing budgetary constraints, the National Institutes of Health closed the last of its laboratories for tropical virology. More recently, an important tropical-virus laboratory in Hawaii shut down. Now, Shope says, the U.S. military plans to close its tropical-disease lab in Kuala Lumpur, Malaysia, even though it has served as an “excellent listening post for new diseases.”

Given current social and ecological trends, virologists say, this hardly seems the time to cut back on such programs. Rather, Shope and others recommend constructing sophisticated, on-site laboratories in key tropical areas and creating a global “red alert” reporting system among hospitals in high-risk areas. Shope suggests supplementing local labs with mobile units staffed by microbiologists, epidemiologists and entomologists who could investigate diseases on call.

Such a network could be surprisingly economical, says Henderson. For as little as \$150 million a year, he calculates, a global consortium could finance 15 tropical medical centers and 10 U.S. research facilities, leaving \$25 million for selected projects in epidemic areas.

There’s little time to lose, warns historian McNeill. An expanding human population subject to urban overcrowding now provides an unprecedented opportunity for aspiring viruses. “If you look at the world from the point of view of a vigorous virus, or even a bacterium today, there’s a magnificent feeding ground out there, with billions and billions of human bodies where 25 or 27 years ago there was half that.”

He recalls what happened in the 1950s when a virus newly introduced to control the rabbit population went out of control in Australia. Ultimately, the rabbits evolved an ability to coexist with the virus, but not before 80 percent of them had fallen to the epidemic. “This seems to me a very exact model of what might happen to human populations exposed to a new and very lethal virus in the world today,” McNeill says.

Moreover, “the idea that the medical profession could stand as an effective obstacle to the propagation of such an infection seems to me optimistic, to say the least.” If our experience with previous outbreaks is any indication, McNeill says, “the doctors would be the first to go.” □

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home. They describe how their children became cheerful, enthusiastic learners. But most of them say it takes a long time to heal completely, and that some scars remain.

This is biased and anecdotal evidence. But it would be very interesting to see some controlled investigations in this direction. That so many children are “growing up sad” is too tragic for us to leave any leaf unturned.

Elizabeth C. Hamill

Director

Northern California Homeschool Association  
Berkeley, Calif.

Power conversion ‘urgent’

“Where Acids Reign” (SN: 7/22/89, p.56) is the first report I have seen detailing the mechanism by which tree dieback occurs. Nitrogen compounds (interestingly, including ammonia) precipitate the sequence of events that weakens trees and eventually leads to forest loss.

The article indicates that the major U.S. sources of atmospheric nitrogen compounds are motor vehicles, fossil-fueled power plants and industrial furnaces. Thus it becomes particularly urgent that we follow the French example and convert to nuclear power as rapidly as is consistent with safe and prudent construction.

In addition, another look might be taken at the automotive pollution control tradeoff between higher-temperature burning that produces more nitrogen oxide and less carbon monoxide or lower-temperature burning that produces less nitrogen oxide and more carbon monoxide.

Further, a question arises as to whether pH or nitrogen compounds are the key parameter causing forest loss. Perhaps the resources spent to further decrease particulate matter and sulfur dioxide should be diverted to reduce nitrogen oxides and ammonia.

Lloyd McAulay

New York, N. Y.

Unconventional cay

Your report on the discovery of a Maya site on Ambergris Cay suggests there may be other sites on other coral islands of Belize (“Late Maya Culture Gets an Island Lift,” SN: 7/8/89, p.20). This suggestion proceeds from a faulty premise. Ambergris Cay is not a typical coral island. It is my understanding that Ambergris is an island only by virtue of Spanish civil engineering: For military purposes during the colonial period, the Spanish excavated the channel that now separates Ambergris from the Yucatán. When the Maya lived on Ambergris, it was the southern tip of the Yucatán, not an island.

Jan Konigsberg  
Helena, Mont.

Ambergris is indeed atypical, says Elizabeth Graham of the Royal Ontario Museum in Toronto, because it is connected to Yucatán by a narrow spit of land. Nonetheless, she asserts, modern-day residents of Belize travel to Ambergris in boats rather than by land, and the Maya probably did not use the sandy channel for transportation. Graham knows of no solid evidence that the Spanish created the cay. Furthermore, she says she and her co-workers have now uncovered evidence of Maya occupation on nearby cays.

— B. Bower

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