

by Joan Arehart-Treichel

Hildrus Poindexter was born and reared in the poor rural and racially prejudiced Deep South of the early 1900's. Thanks to his mother, to a minister and to the local black physician, Poindexter aspired at an early age to escape his environment and to become a physician. Working long hours at odd jobs, he put himself through grade school, high school, college and medical school. He received a medical degree from Harvard University in 1929, and a doctorate in bacteriology and parasitology from Columbia College of Physicians and Surgeons in 1932.

For five decades, Poindexter's work in tropical medicine has carried him to 105 countries on six continents. He has treated thousands of patients in the developing countries, trained thousands of doctors, nurses, dentists and laboratory technicians, and set up dozens of health education projects. He has hobnobbed with kings and presidents, mystics and witch doctors. He was a physician to the King of Laos in 1954, holds the honorary chieftainship of two African tribes. He has received numerous awards for helping developing nations overcome tropical diseases, most recently the American Public Health Association's Edward W. Browning Achievement Award "for outstanding contribution in the prevention of disease."

Poindexter is professor of community health practice at Howard University in Washington and serves as a consultant to the State Department's Agency for International Development.

Medical editor Joan Arehart-Treichel interviewed Poindexter about world progress in the eradication of tropical diseases.

How many tropical diseases have been identified? What are some of the major ones?

There are some 50 known tropical diseases. Some are indigenous to the tropics; others are prevalent in the tropics because of socioeconomic conditions. The major parasitic disease is malaria. Millions of people in Africa and Asia are infected with the malarial parasite, which is carried by tropical mosquitoes. Hookworm infections are rampant in the tropics because hookworms thrive in tropical waters and soil, especially in those polluted with human feces. Schistosomiasis, also known as bilharzia, is a serious parasitic problem. Snails that live in fresh or slightly salty tropical waters transmit schistosome (parasite) larvae to humans who bathe or wade in the water. River blindness is a widespread parasitic disease. A toxic element secreted by a parasitic worm attacks the optic nerve. The parasite is transmitted by the bite of a tiny black fly. Trachoma (a viral-like infection of the conjunctiva and cornea of the eye), diarrhea, dysentery and tuberculosis are also serious infectious disease problems in the tropics.

How prevalent are tropical diseases compared with several decades ago?

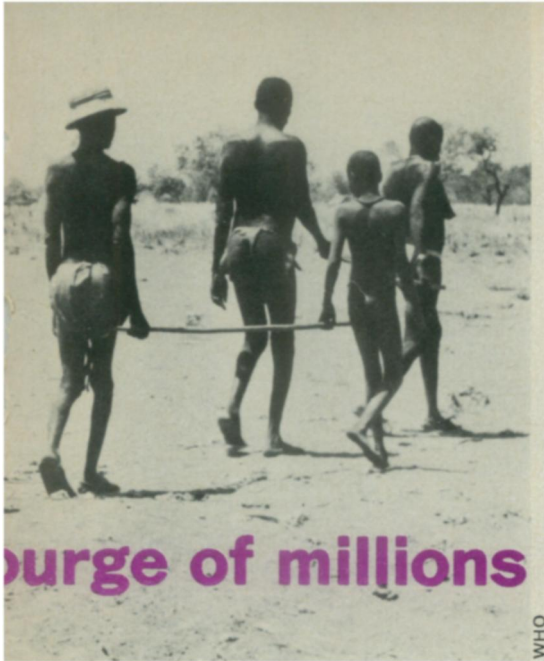
Malaria has been drastically reduced, largely through mosquito eradication and drug treatments. At the end of 1972, 73 percent of the 1.84 billion people living in the original malarious areas of the world were in areas where malaria had been eradicated or where eradication programs were in progress. Hookworm infections are being reduced, largely because more people in the tropics wear shoes and use sanitary toilets. Sleeping sickness has been radically slashed, primarily because the tsetse fly has been eradicated or re-

duced. I saw several hundred cases a day in West Africa in 1947 and only nine cases in 1963. But livestock in the tropics still die from sleeping sickness by the thousands, depriving people of much-needed protein and draught animals. Trachoma is being reduced because children are given antibiotics to put in their eyes. Drug treatment is reducing tuberculosis.

Unfortunately schistosomiasis is not going down—on the contrary. Since the Aswan High Dam was built on the Nile River in Africa, breeding places for the snail carriers of schistosomes have soared. The disease is also on the increase, to some extent, in the Philippines. In 1970 a cholera epidemic broke out in the Indonesia area. It is now widespread in Africa and much of Asia. Venereal diseases were not common in the African tropics in 1947; they are now.

How do tropical diseases affect people in the developing countries?

Malaria is often fatal in young children. In Africa it takes the lives of more than one million children a year. Diarrhea and dysentery can be fatal in little children. Most of the tropical diseases, though, tend to debilitate people rather than kill them. As a result, educational, agricultural and industrial progress in developing countries is drastically curtailed. Even if youngsters survive malaria, the malarial parasite isn't driven from their blood, but remains at a critical level, causing anemia and penalizing children in their thinking and physical coordination. In Liberia, I found, some 68 percent of the children who run barefoot through irrigation canals and swamps have hookworms. The worms cause blood loss and anemia. The children are accused of being lazy in school, when in fact



anemia is the cause of their lethargy. In Sierra Leone, I found, some 48 percent of the children who dive in creeks for diamonds or gold have schistosomiasis. The schistosomes lay eggs in the blood vessels around the bladder and rectum, then filter into the liver. The eggs interfere with red blood cell production and lead to anemia. Here again, the children are impaired mentally and physically.

Does poor nutrition enhance people's susceptibility to tropical diseases?

Greatly. The bulk of persons who are anemic from tropical diseases also lack enough protein in their diets. So their bodies cannot replace lost blood cells. Tuberculosis is now prevalent in cities in the tropics. The disease tends to strike persons with poor diets. During recent work in Nigeria I treated many children for tuberculosis who were already emaciated due to protein deficiency.

Do people's beliefs keep them from practicing preventive medicine against tropical diseases?

Yes, many times. A common belief among many rural Vietnamese is that soil, even if polluted with human feces, cannot hurt people, because the soil is part of man. In Africa, childhood illnesses are often attributed to foul play rather than to infectious diseases, so parents seek the help of a witch doctor rather than that of a physician. However, witch doctors are effective in helping people overcome psychosomatic problems that stem from their particular culture. In Nigeria, witch doctors and physicians cooperate in the treatment of patients.

How do tropical diseases affect population growth in developing countries?

Tropical diseases help keep the population down, which presents a dilemma. The humane thing is to treat people for diseases, but at the same time, treatment aggravates the population problem. What is needed is to continue to treat people, but to also dramatically increase family planning. The governments of some developing countries in South America and Africa are encouraging family planning. Others are not.

Who has done the most to eradicate diseases in the tropics?

The World Health Organization, largely because they are not circumscribed by politics. For example, WHO now has a long-term (1974-93) program under way to combat river blindness over the 181,347 square miles of the Volta River Basin in Africa. Biodegradable insecticides will be used on waterways where parasite larvae live.

What problems remain to be overcome in eradicating tropical diseases?

People have to be educated in how the diseases spread. Agricultural and livestock productivity in developing countries must be improved. The governments of these countries must support such advances. Prevention of diseases must be given a higher priority.

Who should do this?

The developing countries, with the help of the developed countries. The United States used to provide aid with no strings attached, but now we require developing countries to pay for some of the development themselves. I think this is much better.

If you could have any tropical disease challenge met in the next few years, what would it be?

To get rid of malaria, hookworm and schistosomiasis.

(Left to right) Poindexter in his Howard University laboratory. In certain areas of central Africa and South America all adults are blind from river blindness and depend on the children to lead them around until the children become blind too. A member of a WHO-assisted Iranian national malaria eradication team examines a boy suffering from malaria. (Below) When Poindexter visited the Carib tribe in Surinam, South America, he sought out the mother of the chief of the tribe because she appeared to be one of the tribe's most influential members. Once he gained her confidence and friendship, she helped him help the tribe eradicate malaria, hookworm, dysentery, schistosomiasis and other tropical diseases.

