Malaria and gold fever

Hans Veeken

The mineral rich territory of the Yanomami Indians of northern Brazil has been invaded by miners—who have destroyed the environment and introduced disease. Médecins Sans Frontières agreed to help combat the malaria epidemic. Conditions in the rainforest and villages and the health care facilities are described. Mere medical aid cannot prevent the Yanomami from being decimated.

"The best thing we can do is to leave the Indians alone. They have been able to take care of themselves for over a thousand years," said Sydney Possuelo reproachfully to me. Sydney is the president of FUNAI, the organisation which looks after the interests of the Amerindians in Brazil. We sat comfortably on a terrace along the riverside in Boa Vista, a town in the far north of Brazil, bordering Venezuela. I was visiting the project of Médecins Sans Frontières, helping FUNAI to combat malaria. Sydney's remark confused me: didn't we come here at the request of FUNAI to support the Indians with a medical programme? Sydney noticed my disorientation and explained: "It is good that you have come to help; for some groups of Indians it is already too late, and medical aid is indispensable to save them from extinction." During the trip his words would echo through my head: what were we doing here; would these Indians be better off without the interference of the outside world, including the help of Médecins Sans Frontières? Should the Brazilian government continue to develop this poor region? In 1990 the gold miners, who invaded this area on a massive scale, dug up \$120 million worth of gold, so the temptation to continue seems irresistible.

Desperados

The Yanomami Indians are seminomadic, living in the border areas of Brazil and Venezuela. It is estimated that there are still 7000 of them left in Brazil. They still live in the stone age, hunting and gathering plants for subsistence. During the past 20 years, however, their hunting grounds have been progressively opened up by contact with Western civilisation. Since the discovery that the Indians live on top of vast mineral deposits, the situation has deteriorated dramatically, with an uncontrollable influx of miners. The concomitant destruction of the environment, the introduction of new diseases, and the loss of their territory all deprive the Indians of their social security. Médecins Sans Frontières offered, on request from FUNAI, to help combat the malaria epidemic. Malaria is by far the greatest killer among the Indians since the gold miners invaded their territory.

At the airport of Boa Vista a small aircraft was waiting to take us to Homoxi, one of the FUNAI posts in the jungle. Between some boxes we found a small Indian boy who needed to be taken back to his village (malocca). He did not utter a single word during the trip, terror struck. The plane flew over miles of rain forest and the pilot pointed out the damage caused by the *garimpeiros*, as the miners are called. Scattered illegal airstrips can be seen, and the river banks are deforested, leaving scars in the jungle that hurt the eyes.

On arrival at Homoxi, the pilot made another circle

in the air and shouted in my ear: "We cannot land, there is a helicopter on the airstrip!" Indeed, the helicopter belonged to the federal police, who were trying to repatriate miners from the area. Operation Selva Livre II was in full swing. The federal government was trying to expel the invaders, at least temporarily, from Yanomami territory. Some Indians were waiting in the distance; they did not seem too bothered to have a helicopter in their backyard.

The gold diggers came up to our expectations: desperados, unshaven, suntanned, with revolvers on their hips. They were friendly, though, and on good terms with the Indians—not surprisingly, as the miners give the Indians small handouts and even some food, often in exchange for work. Thus some Indians end up mining themselves, ruining their area unwittingly and neglecting their own sources of subsistence. The gold diggers in Homoxi put up their hammocks under the same thatched roof as the Indians. Homoxi is a mere three barracks. One of these is the outpatient clinic run by Celia, a nurse working for Médecins Sans Frontières. She runs the primary health care for approximately 600 Indians who live in the immediate neighbourhood, which includes all maloccas that can be reached only by a two day walk through the jungle.

Killer disease

Celia explained the situation: "Malaria, doctor, that is the killer disease here. It all started when the gold miners invaded the area; could you explain the relation?" It seems unlikely that malaria did not occur formerly. Malnutrition, intensive contacts with infected miners, resistance to antimalaria drugs, and the stagnant, brackish pools created by mining have all contributed to the increased incidence. It is still impossible to explain it completely. It has been proved, however, that diseases such as influenza, tuberculosis, and sexually transmitted diseases were not prevalent before the miners' invasion. Nowadays these diseases account, together with malaria, for the decimation of the tribe. In the past two years health officials have counted only 270 births—and 412 deaths. Last year swift action was necessary to prevent the tribe from further calamities. An active programme of case detection and treatment of malaria has improved the situation.

Sick patients are temporarily admitted to a barrack next to the clinic. The nurse took me by the arm: "Could you have a look at this patient?" In a corner of the clinic a drip dangled above a hammock. At first it seemed that the patient was a child. It turned out to be a woman of 35 with severe jaundice. She weighed a mere 29 kg. She was suffering from hepatitis and the end seemed near. I explained to Celia that we could not do much but wait. The Indian children played with syringes around the sick patient. When I returned in the evening I was seized with alarm when I discovered that the hammock had gone. "Do not worry," Celia said, "she is still alive, but for the night the family insisted on taking her to where they sleep. We could go and see her, if you want."

One needs patience to treat the Yanomami. In cases of malaria vivax, for example, they are not willing to

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Yanomami Indians at Homoxi, northern Brazil. Hammocks are used even in the referral hospital

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take drugs for two weeks. At any moment one could find the barrack deserted. They have more important things to do: most of the time a festivity or settling a feud with a hostile malocca.

One, two, many

The next morning we planned a vaccination session in the neighbouring malocca, one and a half hours' walk away. During the night it rained cats and dogs and I swung uncomfortably in my hammock. At dawn it was still pouring down. "It is no use waiting," Celia said when she noticed that I was staring apprehensively at the clouds. "You will get soaked anyway—we have to wade through the river six times." Two Indian boys who spoke some Portuguese guided us. Singing, they took the lead and indeed within an hour we were soaking wet.

The landscape has been ruined by the miners: the river has often been diverted, the banks are barren, empty drums lie scattered around, water pumps are deserted, rubber tubing follows the tack for miles. The fish in the river are gone, killed by the mercury that is used to mine the gold. Naturally, the game fled long ago to safer grounds.

We arrived at the malocca, a big round communal hut in which several nuclear families lived together. Every family marked its "corner." It was pitch dark, and smoke hurt the eyes. Most Indians stay in their hammocks, somehow apathetic; greeting is not common. The children were familiar with Celia and surrounded her enthusiastically, although it was obvious she had come to vaccinate. Surprisingly, the children who were able to stand, from two years on, do not cry. The older children watched the scene and roared with laughter because of the grimaces made by the children stifling their pain. The vaccination session ran smoothly—the biggest effort was to find the right person. The Indians often change names. The Indians believe that all these injections are against malaria; we left it like that. We took some slides to examine the blood once we got back to Homoxi. There were three pregnant women. They were checked and seemed in good condition. They would deliver in the woods, whatever pathology might show up.

After two hours we walked, with empty stomachs, back to Homoxi. I was lucky because most maloccas are much further away. The team walks a lot but sticks to the rule to sleep only in villages and not in the open jungle. This implies that some maloccas cannot be reached on foot, only by helicopter. Luckily the needs in those maloccas are less because they have not been invaded by the miners.

Training the Yanomami in microscopy is impossible.

They are unable to read and write—and they also do not know how to count; it is one, two, and many.

Acrobatics

The next day we flew to Caju, a little town in the Macuxi area. The Macuxi, another Indian tribe, are more acculturated than the Yanomami. Many of the miners driven away from the Yanomami territory shifted their operations to the Macuxi area. Again it was pouring with rain, and there was a fierce wind. The territory is mountainous. I doubted whether it was the right moment to set off, but the pilot did not hesitate; he guided the plane through the thick clouds and into a valley. From my position in the back of the plane it seemed a dead alley, and I asked myself whether he had made a mistake. We flew so low it seemed I could touch the mountainside. At the end the pilot banked sharply around the mountain. A small path appeared in front of us. Was he serious? I panicked; how could he possibly land there? But nowhere could I see a more suitable place. The plane skimmed the path and suddenly, right behind the slope, an airstrip showed up. Then the pilot cursed and jerked the plane up. We skimmed the strip and I could see why he was angry: the airstrip was littered with cattle. We had to repeat the whole approach. I swore to myself that I would leave the organisation, but five minutes later we were safely on the ground and the pilot behaved as if nothing unusual had happened. That man knew how to fly.

In the health post an Indian girl was being trained by our team as a microscopist to diagnose malaria. The post was crowded with miners, many of them also suffering from malaria. The pilot was a bit sceptical and told me they really came to see the Indian beauties. Although the programme is designed for the Indians the gold miners are helped as well. Their life seems miserable; under harsh circumstances they try to make a living.

Referral hospital

Caso do Indios is the referral hospital for the Indians in Boa Vista. It is situated outside town so that the Indians are not exposed too much to civilisation. The compound of the hospital consists of several traditional round huts. I was surprised that there are no beds—all the patients lie in hammocks. "How many hammocks are there?" I asked the nurse. "It depends," she answered; "In some huts the patients put up hammocks in three layers above each other; others are nearly empty. Indians from one malocca have their own hut. They prefer to be together, even if the place is crowded. If we mixed them with Indians from other maloccas or different tribes, they would run away or fight each other with bows and arrows." The hospital is small and clean, and it looks cosy. Staff is difficult to find, I was told. Not many Brazilians are interested in the Indians. Those who are working for the Indians, however, seem to be highly motivated. For the sick patients it must be difficult: right from the stone age, in an airplane, to the city. Admission to the hospital is free, of course; the Indians are not familiar with money.

It is obvious that mere medical aid cannot prevent the Indians from being decimated. Sydney Possuelo seems to be right: we should have left them on their own. Civilisation is doing more harm than good, but there is no way back. The Yanomami area is demarcated, and the demarcation should be respected. This is difficult as there are more than 200 illegal airstrips in the area. Expelled from the Yanomami area, the miners head straight for the Macuxi area. Medical science is powerless to combat the disease from which the miners suffer: gold fever is resistant to therapy.