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## VIEWPOINT: THE INTELLECTUAL ARROGANCE OF THE NORTH

*by John Eberlee*



Credit: Eco Latino, Ottawa

Large-scale production of the world's first vaccine showing both safety and efficacy against malaria could begin as early as 1997. But the vaccine might already have been in use if not for the "intellectual racism" of scientists in the North.

That is the view of the vaccine's developer, Colombia's Dr Manuel Patarroyo, WHO bore 6 years of attacks from the international research community after reporting his work. "When we first published our data in 1987, they said, 'It's impossible that a malaria vaccine is coming from Colombia.' They were reluctant to accept that there was not just a malaria vaccine, but the world's first chemically synthesized vaccine."

Patarroyo, founder and director of the Immunology Institute at the National University of Colombia in Bogota, joked during an Ottawa luncheon sponsored by IDRC and the Canadian Science Writers Association that had he been American "I might have already received the Nobel Prize."

Patarroyo's experience is featured in *Southern Lights: Celebrating the Scientific Achievements of the Developing World*. The Colombian immunologist has a message for the developed world: "There are lots of good scientists in the developing world working hard to solve the problems of mankind." Patarroyo's war on malaria began in the early 1980s when he organized a monkey colony in the Amazon jungle as an

experimental model for malaria. His team isolated different molecules of the malaria parasite, then immunized the monkeys with each one.

"We found four molecules to concentrate on. We then went back to the Amazon and identified the specific pieces of the structures that induced protective immunity. We mixed them up and made a vaccine cocktail," explained Patarroyo.

Critics dismissed the results, published in *Nature*, on grounds that the vaccine had not been tested on humans. When data showed the vaccine to be safe in humans, they criticized the method of transmitting the parasite -- via intravenous injection rather than by a mosquito bite. In fact, injections are more scientifically defensible, since it is impossible to tell whether a mosquito harbours the malaria parasite or in what numbers.

While this issue was debated, Patarroyo launched a major clinical trial involving 25,000 Colombians. Although the results clearly showed the vaccine's efficacy, critics charged that the trial had been improperly designed. Nor were they satisfied by subsequent trials in other countries, which met standard epidemiological criteria.

"The efficacy rate of the vaccine was 40% in Colombia, 55% in Venezuela, 60% in Ecuador, and 35% in Brazil," said Patarroyo. But the critics said that it might not work in Africa where the malaria challenge is greatest. However, a recent trial in Africa places the vaccine's efficacy at 31% for malaria morbidity. The next steps in Africa will be to determine the vaccine's impact on malaria mortality in order to understand its public health effectiveness.

The scientific world has now bestowed over 50 awards on Patarroyo. But Patarroyo has refused offers from drug companies of up to \$68 million for the vaccine rights, choosing instead to donate them to the WHO.

"It is not my project in life to become a millionaire, or to be powerful or famous, but really to solve what I want to solve. That is my life project, my life purpose," he declared.

**John Eberlee is an Ottawa writer.**

*Southern Lights: Celebrating the Scientific Achievements of the Developing World* by David Spurgeon  
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