

process of confrontation escalated when a new Rector announced that he would dismiss six other professors. "In spite of our efforts to explain directly to the highest military authorities the value to our country of a modern university, and despite the fact that their sons and daughters were attending it, those in power remained completely insensitive." The result was a series of assemblies of teachers and students, with talks of strikes; finally the army took over and sealed off the campus.

"Nobody could enter the campus, and all our research animals and the flies of the geneticists were going to perish. I alone obtained an authorisation, which read: 'Professor Salmeron is authorised to enter the grounds of the University of Brasilia'. I have kept this piece of official democracy to this day." Finally, towards the end of 1965, as the Rector demanded that Salmeron countersign the firing of not six but 16 scientists, he resigned instead and made public 250 other individual letters of resignation that his colleagues from other departments had prepared. "For five months, we tried to find work as a group of physicists in other Brazilian universities, away from the centre of power that Brasilia represents. We did not succeed and I finally came to Europe, accepting an invitation of Victor Weisskopf, then General Director of CERN."

'I have no confidence in this political overture'

As to whether he will return to Brazil now, Professor Salmeron says "I do not understand what is going on in Brazil. I have no confidence in this political overture — people only do what they are allowed to do. There is some influence coming from the intellectuals, but in the case of the nuclear agreement with West Germany, the influence of the scientists was zero. They were told only after things happened. One should not have illusions. I can only imagine going back in the distant future, and it would depend on the existence of a real stable change in the Brazilian situation which would allow me to undertake projects with a perspective. I shall not drop everything in Paris to take the risk of losing everything again."

Most other senior scientists who suffered the persecutions and destructions of the past hold the same cautious opinion. Professor Pereira da Silva explains that he "met twice with the fate of losing everything after building a research group; it's already too much." After his first exile in 1964 he agreed to return to a medical school in São Paulo, leaving behind the work on lambda phage on which he was working with Nobel prize winner Francois Jacob. "This was in 1968 when there appeared to be a political lull. But after nine months spent organising a new laboratory in microbial genetics, I and my

How the military banned 'exotic ideas'

The life and death of the Oswaldo Cruz Institute in Manguinhos is typical of the long-lasting unstable interaction between scientific institutions and government in Brazil. The Institute was created at the turn of the century, and its first director, Oswaldo Cruz, received his initial training at the Institut Pasteur in Paris. At that time Rio de Janeiro was a swampy, dirty place, harbouring all kinds of epidemics and chronically affected by yellow fever.

In 1902, Oswaldo Cruz publicized Finlay's discovery that the mosquito *Aedes aegypti* was a transmitter of yellow fever, and coordinated a public sanitation plan to eliminate it. Although this plan succeeded in eradicating the disease within a few years, official resistance was great and Cruz was often ridiculed in the press, and even in Congress, for bringing in "exotic theories".

Two years later, Cruz proposed to institute compulsory vaccination against smallpox. A virulent Antivaccination League immediately emerged, bringing together military men, workers' organisations and old-fashioned medical surgeons — whom the young scientists at Manguinhos described as "always wearing dark suits and using their medical authority to declare quarantines and sign autopsy reports in times of epidemics." Their opposition to compulsory vaccination was in the name of individual freedom of conscience: "vaccination was forced upon us and we may even use force against it. This government must be rejected by the people." Partly as a result of the League's campaign, military cadets rebelled in 1904, in an attempt to bring down the first republican government of Brazil. The government, however, won

the day and the combined medical and military victories led to dramatic increases in funding for medical research at Manguinhos. In the following years malaria was intensely studied; Carlos Chagas identified the *Trypanosoma cruzi* and left his name attached to Chagas disease. Serums and vaccines of all kinds were developed.

"Today," says Professor Ubatuba, "all these achievements seem to be forgotten. That house of science at Manguinhos was destroyed in 1970 when ten of us were forcibly retired. Furthermore, eight of us had our political rights taken away for ten years as stipulated in the Fifth Institutional Act, the act which closed down Congress." The tone had been set by the Health Minister of the military government who had declared, when a new director of the institute took office: "if it is true that there are no frontiers for science, it is also certain that there are frontiers for scientists. The exotic ideas that have infiltrated Manguinhos will be definitely banned . . . Manguinhos of the future will be a busy hive and not what a few wanted, a centre of subversive ideas. The institute will have all the support it needs for its research."

Professor Herman Lent, one of the eight, and former member of the Department of Zoology, recalls in his book *The Massacre of Manguinhos* that the director of the institute had accused its researchers of "conspiring in their laboratories".

A commission of inquiry, headed by a military man, did not find any evidence but it praised the director who "although a poor professional and a poor administrator is a reliable anticommunist". **M.B.**

colleagues were fired once more, and I went back to the Institut Pasteur."

Another decree of exception, the Fifth Institutional Act, was used in 1969 to fire 25 professors from the University of São Paulo and 44 from the Federal University of Rio de Janeiro. Among the latter was physics professor Jose Leite Lopes, who had also gone back to Brazil in 1968, to the Federal University in Rio. He was also reappointed director of the Theoretical Division of the CBPF, the Brazilian Centre for Physics Research, to which he had previously attracted Richard Feynman and C.N. Yang on sabbatical. Federal funding for physics research had improved substantially in the meantime. But in April 1969, Professor Leite Lopes heard on the radio that he had been dismissed from the University of Rio. "The 44 names were read in alphabetical order; you only waited for yours to come up. That was the end."

A few months later, while lecturing in Pittsburgh, he learned of his further

dismissal from the CBPF. "Four colleagues resigned in protest; I got telegrams of support; the SBPC and international societies protested. It was all very comforting at the time. Then there was a lull, to be followed by 12 more firings in 1972 . . .". He now heads the Theoretical Division of the Nuclear Physics Laboratory in Strasbourg, and says "I shall be going back this summer for the first time in ten years, at the invitation of the physics department of my former university in Rio. Beside this I want to see what it is possible to do, and to discuss ideas. It looks from here as if some progress is being made and I am eager to see how far it goes."

Dr Julio Puelles in Paris takes a still more hesitant attitude. "I was among the nine doctors fired from the Faculty of Medicine in São Paulo in 1964; I was also part of the group which prepared a model for the University of Brasilia in 1963. I was one of those found innocent in our trial in