

“SWISS” ASBESTOS EXPERT WAS PAID BY THE BRAZILIAN ASBESTOS INDUSTRY

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By **Conceição Lemes**, special report for *Viomundo* (www.viomundo.com.br) at (<http://www.viomundo.com.br/denuncias/perito-suico-em-amianto-foi-pago-pela-industria-brasileira-do-amianto/>)

Remember this name: David Bernstein. And this term: biopersistence. From now on you'll "hear" a great deal about both. At the center of the discussion is white asbestos or chrysotile, used in Brazil. First we will hear from the institutions that defend the use of this mineral in Brazil, as expressed on the industry's own websites.

The National Commission of Asbestos Workers (*Comissão Nacional dos Trabalhadores do Amianto* – CNTA) publicizes the following information: “The smallest biopersistence rate: ‘Recent studies confirm that Brazilian chrysotile is the world’s least harmful to human health’. The statement is from Dr. David M. Bernstein in a statement about the effects of the mineral on health (*sic*).”

“Today, unlike in the past, there is no risk to workers, who have practised controlled and responsible use, nor to the population who use products containing chrysotile, and the world needs to know that (*sic*),” highlights Adilson Santana, vice-president of CNTA, in a commentary in the organisation’s bulletin about the International Asbestos Conference, which took place in Mexico City in 2007. “The conference was marked by many presentations, which offered a general panorama on chrysotile asbestos and the defense of natural resources, such as that of the physician and researcher Dr. David Bernstein (*sic*)...”

The Brazilian Chrysotile Institute (IBC) makes the following point: “At temperatures above 800 degrees Celsius, chrysotile asbestos undergoes thermal decomposition and is transformed into forsterite (...); forsterite is not a fibrous substance, and it is harmless to human health. Biopersistence studies show that this product has a low level of toxicity. These data have been confirmed by the renowned Swiss medical toxicologist Dr. David Bernstein (*sic*).” The main purpose of IBC is to lobby for the interests of the asbestos industry.

The website of Grupo Eternit, the largest company in the asbestos business in Brazil, states: “Biopersistence means the length of time that fibers stay in the lung before they are eliminated. The fact is that chrysotile asbestos fibers remain a maximum of two-and-one-half days in the lung, while amphibole [asbestos] fibers stay more than a year. Workers in industries which follow the rules of controlled use are totally safe.”

“The union’s discourse is a copy of the corporate discourse”, says Eliezer João de Souza, president of the Brazilian Association of the Exposed to Asbestos (*Associação Brasileira dos Expostos ao Amianto* -- Abrea). Workplace safety engineer Fernanda Giannasi, a Labour Inspector at the Ministry of Labour and Employment (MTE) in São Paulo and coordinator of the Virtual Citizen Network for the Ban of Asbestos in Latin America, touches the wound: “CNTA = IBC = Eternit = David Bernstein + biopersistence.”

Bernstein argues that the time that the asbestos fiber spends in the lungs is what indicates its degree of harmfulness. That’s what he means by biopersistence. In 1999, when taking part in a public hearing on that issue in the Chamber of Deputies, in Brasília, capital of Brazil, he was praised as “a Swiss scientist who is the most respected authority in the area and internationally recognized in studies of fibers and particulates.”

At the time, he described himself as an independent researcher and made the following points, among others: 1) the chrysotile from the Cana Brava mine in Minaçu, in the north of the State of Goiás, spends very little time in the lungs, which eliminates the risk of carcinogenicity; 2) Brazilian asbestos is safe and is not harmful to health; 3) that his research on biopersistence, carried out on laboratory rats, had been used to advise the European Commission (the executive branch of the European Union) on the question of the classification of asbestos fibers. He had been invited to participate in the Commission’s work.

BRAZILIAN ASBESTOS INDUSTRY FINANCES BERNSTEIN

Bernstein was not completely accurate when presenting himself to the Brazilian representatives. Having graduated as a physicist and an American by birth, Bernstein ended up dedicating himself to toxicology and went on to live in Switzerland.

Recently his mask of neutrality and independence was ripped off at a hearing in the District Court of Ellis County, Texas. He had been called to testify regarding damages to be paid to a victim of mesothelioma in a case brought against Georgia Pacific (G-P), a company which manufactured chrysotile-based products. This chrysotile was also known as calidria which comes from a Union Carbide mine in California. Bernstein was called as an expert witness to defend G-P as he had done before on behalf of Union Carbide.

He ended up shooting himself in the foot. When being questioned by Rick Nemeroff, the attorney for the victim’s family, Bernstein revealed, among other things, that the Brazilian asbestos industry had financed his research on chrysotile. The transcription of his deposition totals 143 pages. Below we reveal some of the most important passages.

Here you will find that some of the information which has been disseminated about Bernstein, in Brazil and elsewhere, does not constitute the whole truth. Following are some of the questions and answers, the actual Q & A from his deposition.

(...)

Q. And what are you being compensated? How much are you being paid?

A. I think I'm actually paid, in local currency, in Switzerland, it's called a Swiss franc, and my rate is 506 francs an hour.

Q. All right. And what is that converted to U.S. dollars?

A. It changes from day to day. Currently, I understand, it's around 1 .2 Swiss francs to the dollar. So I guess about \$415 an hour.

(...)

Q. The chrysotile study that you have been talking about with this jury, those are studies that have been done at the request of Union Carbide, a Brazil chrysotile mining interest, The Asbestos Institute and The Canadian government; is that correct?

A. That's correct.

Q. And I believe you told the jury that the earlier studies from the 1960s and 1970s, where you found chrysotile causing mesothelioma, those studies weren't funded by these groups, were they?

A. They were funded by other groups.

Q. Other groups?

A. Uh-huh.

Q. And now that these groups, which are involved in chrysotile mining or manufacturing or, in some cases, litigation, you're distancing yourself from those earlier studies saying we made mistakes back then with our science and we overloaded the rats, there might have been contamination and so forth. Is that your testimony to the jury?

A. That's part of it.

(...)

.....
TRIAL ON THE MERITS

DR. DAVID BERNSTEIN
.....

On the 16th day of October, 2007, the following

MICHELE McMANUS, CSR NO. 3567
Official Court Reporter
Ellis County 40th District Court
101 West Main Street
Waxahachie, Texas 75165
(972) 825-5064

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Trial Transcript
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A. That's correct.

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Q. How much money did they pay you? I'll take it in francs or dollars.

A. I don't have it in front of me at the moment.

Q. Would it refresh your recollection if I showed you Union Carbide's responses to interrogatories in litigation where they say they paid you \$400,623.20?

(...)

Q. So when the lawyers representing Union Carbide helped fund your studies, tell the jury how much money you took from them to do that work that you're relying upon today in court?

A. They asked me to do the scientific evaluation.

Q. How much money did they pay you? I'll take it in francs or dollars.

A. I don't have it in front of me at the moment

Q. Would it refresh your recollection if I showed you Union Carbide's responses to interrogatories in litigation where they say they paid you \$400,623.20?

(...)

The Court: Listen. Can you listen? Can you look at me and listen? Read my lips. How much money did Union Carbide, through their attorneys, pay you?

A. I think -- I don't have the sum in front of me. My recollection is in the order of about a hundred thousand Swiss francs. (...)

(...)

Q. Now, these scientific studies that you keep telling us about, and you have said this repeatedly, that the EPA and the European Commission came to you to do something. Neither the EPA nor the European Commission ever came to you to do an asbestos study, did they?

A. No, they have not.

Q. So if the jury were left with the impression that the EPA or the European Commission came to you for your opinions on asbestos, that would be incorrect, right?

A. Yes.

(...)

Q. (By Mr. Nemeroff). Now, Doctor, in summary, you understand -- I think you testified to this in the past, that epidemiology -- epidemiology is the study of people and the things that cause disease. You agree with me on that?

A. I agree with you.

Q. And you, sir, are not an epidemiologist?

A. I am not.

Q. So would this be a fair statement that you study asbestos in rats to see what happens?

A. That's true.

Q. And with respect to your qualifications, sir, you're not an industrial hygienist, are you?

A. I'm not.

Q. And you're not a medical doctor?

A. I'm not.

Q. And you're not a pathologist?

A. I'm not.

(...)

Q. And, sir, you disagree with every one of these agencies that chrysotile asbestos can cause mesothelioma; isn't that correct?

A. That's right.

Q. And you disagree with all of these countries, including the one that you decided to make your home, which has banned the use of this chrysotile study; isn't that correct?

A. That's correct.

Q. And that's based upon the studies that were paid for by this company, excuse me, not by this company, paid for by companies that manufacture and mine asbestos?

(...)

“THE EMBARRASSING SILENCE REGARDING THE AMOUNT PAID SMELLS BAD”

Bernstein's research and conclusions have been used by the industry around the world, including in Brazil, with the follows goals: 1) exculpating chrysotile from the damage caused by asbestos; 2) delaying laws and regulations which restrict or banish the mineral; and 3) avoiding the payment of damage claims to victims. Since the beginning of the 20th century, it was already known that asbestos causes asbestosis, more commonly known in Brazil as “stone lung”. This sickness causes the lungs to become stiff and leads, little by little to the loss of respiratory capacity; and it can lead to named "slow death". The carcinogenicity of asbestos was already proven by the 1940s.

On September 3, this reporter sent her first email to David Bernstein. The questions were as follows:

- 1) We know that you have research projects financed by the Brazilian asbestos industry. Could you confirm this? What is the name of the company which financed this work?
- 2) If the information which we have is true beyond the shadow of a doubt, could you tell us how much you received? Which research projects were financed with these funds? We know that one of them concerned the biopersistence of Brazilian chrysotile. Were other projects financed?

First e-mail, no answer. Second, same thing. Third too. In the fourth: “All funding is referenced on the first page of each publication and if you would like more information, please contact the respective companies.”

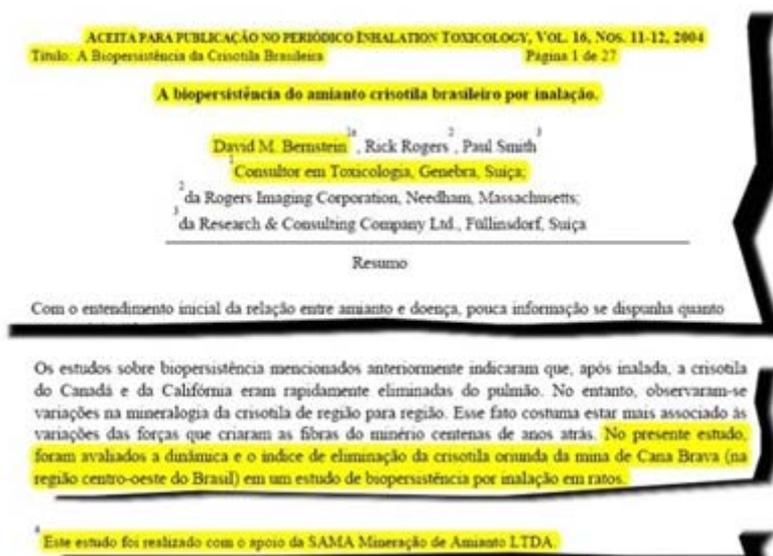
We then asked for copies of these works to be sent by e-mail. Or, considering that they were public, that he give the name of the companies which financed him and say how much they paid. Again he dodged: “I am travelling and I do not have them available. You can download them in the website of the journal Inhalation Toxicology. I hope you do read the publications.”



At the same time, I began to question Marina Júlia de Aquino, the President of IBC. Through her press office, she hit the ball back to Bernstein: “When the Brazilian Chrysotile Institute was created, Dr. David Bernstein had already carried out his research. The question, therefore, ought to be addressed directly to him.”

We also asked Grupo Eternit. Despite a number of different email and telephone contacts by this reporter with the press office of the company, the response was total silence. The Brazilian industry which financed Bernstein’s research on chrysotile was,

in fact, SAMA, the asbestos mining subsidiary of Eternit Co., in Minaçu, in the north of Goiás state. SAMA owns the only active asbestos mine in Brazil, the Cana Brava mine. We found two publications in which SAMA is cited as the financier: ironically one of them, on IBC's own web site, is available in Portuguese and English.



“It smells bad...the embarrassing silence of Bernstein and his clients, when attempts were made to get them to reveal how much the Brazilian asbestos industry paid for the services of this scientist,” concludes the environmental consultant Barry Castleman, author of *Asbestos: Medical and Legal Aspects* in its 5th edition .

Since 1999 Castleman has been a consultant to the World Bank and to the European Commission for asbestos-related issues. He also serves as an expert witness on the public health aspects of asbestos and the histories of asbestos companies. Every year he is called as an expert witness in 20 or 30 trials, almost all of them mesothelioma cases. He states: “Bernstein will continue to be paid by asbestos interests. He is the most recent in a long tradition of scientists who have been contracted to publish research and conclusions about public health which are favorable to the asbestos industry.”

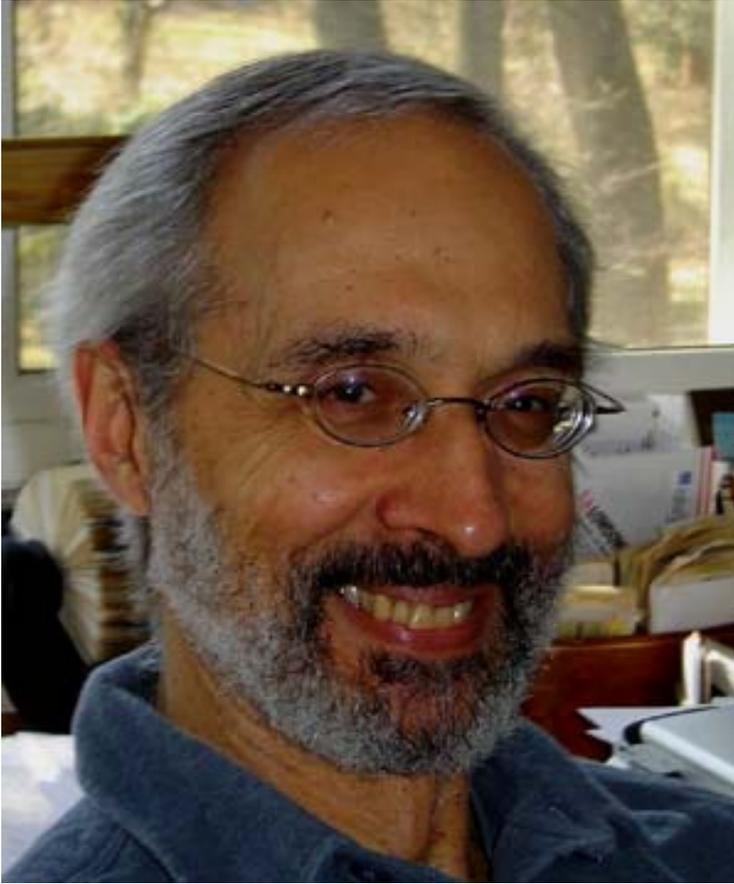
“In 1999, when Bernstein testified at the Brazilian Chamber of Deputies, we were put off by the fact that he seemed to associate only with industry people. Now we know why,” observes Fernanda Giannasi. “Bernstein is an eager participant in a very well-planned campaign orchestrated on an international basis to deny the harm caused by this murderous fiber. Doctors from the most prestigious faculties of medicine take part in this sham. Bernstein, as the Americans say, ‘is the best that money can buy’.”

Laurie Kazan-Allen, coordinator of the International Ban Asbestos Secretariat (IBAS), based in England, is furious: “Given the fact that David Bernstein is neither an

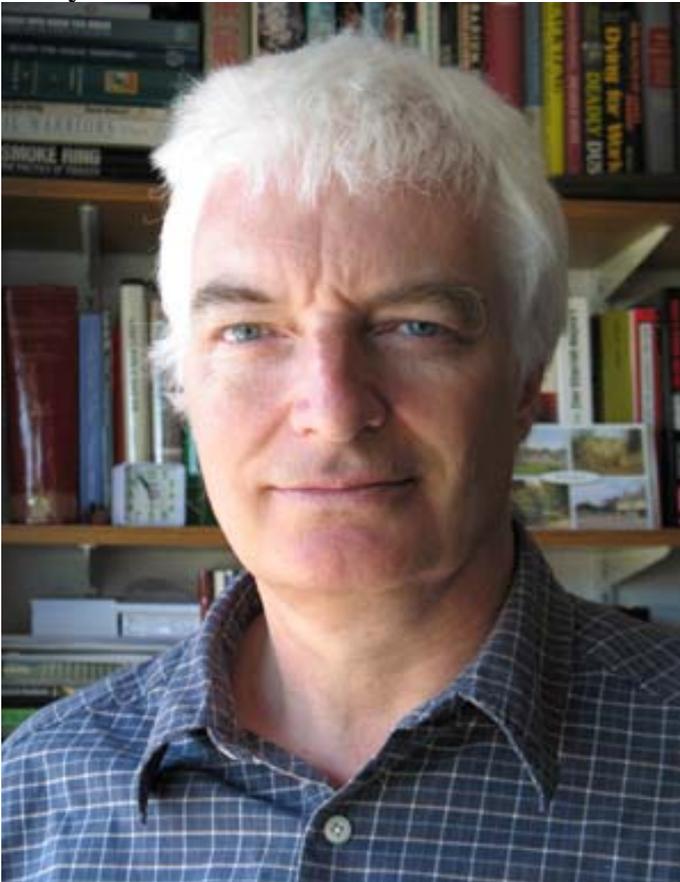
epidemiologist, industrial hygienist, medical doctor, or pathologist, and that all scientific organizations reject his conclusion that chrysotile is not carcinogenic, I am extremely curious to know how exactly he is servicing the asbestos industry...which has paid him so much money.”

“His reasoning is ridiculous,” affirms the physician David Egilman, associate professor at the Medical Clinic of Brown University, in Massachusetts, US, and a witness in legal disputes regarding a company which used to own an asbestos mine. “He can only see ‘biopersistence’ in the lung and everybody agrees that chrysotile causes lung cancer. Chrysotile is the most ‘biopersistent’ type of fiber in the pleura; thus, if ‘biopersistence’ is the key issue for carcinogenicity, then chrysotile is the main cause of mesothelioma. For all that money, they should have got themselves a better theory.”

“The fact that chrysotile is less biopersistent does not mean it is innocuous to health; it is like cigarette smoke,” compares the physician Ubiratan de Paula Santos, an assistant professor of Lung Diseases of the Heart Institute of the Hospital das Clínicas, the teaching hospital of the Faculty of Medicine of the University of São Paulo (Incor/HC/FMUSP). “Smoke has zero biopersistence. It just enters and leaves. But if someone smokes all day, they are constantly irritating and renewing the lesion, with the following result: just as cigarette smoke can cause lung cancer in the long term, so chrysotile can cause lung cancer and mesothelioma.”



Barry Castleman



Geoffrey Tweedale



Laurie Kazan-Allen



Ubiratan de Paula Santos

The truth is that the work of Bernstein follows the “science of tobacco” model. Whenever any threat arises to the survival of any industry, a new theory is dreamed up to delay the discussion. This is what David Michaels calls the science of the defense of the product in his new book *Doubt Is Their Product*. The title comes from an internal memorandum of the tobacco industry which said “Doubt is our product.”

“The memorandum said that so long as some sort of debate could be kept going on whether smoking kills, it would be possible to slow down regulatory action,” explains Castleman. “That is exactly what the asbestos industry has been doing since the 1930s, when already it was manipulating research in order to prevent the discussion from gaining momentum. The goal is to shut down debate entirely, if possible. They were always able to find some important scientist who had some research which denied the existence of any new hazard which was uncovered.”

“Of all the studies which attested to the ‘absence of risk’ of chrysotile, are there any which were not financed or supported in some way by the asbestos industry? I am wracking my brains to recall at least one!” ironically speaks Geoffrey Tweedale, an English historian who specializes in corporate histories. Professor Tweedale is the author of the book *Defending the Indefensible: The Global Asbestos Industry and its Fight for Survival*, co-authored with Jock McCulloch, also an historian..

Tweedale is assertive: “There is nothing new about the tactics used by the asbestos industry in Brazil; they have been developed and put into practice for decades. Certainly in Europe the asbestos industry influenced (and in many cases financed) physicians, journalists, and politicians in a number of different ways. In the United Kingdom I am not aware of any case of the direct payment of bribes to labor unionists and members of the judiciary. In this sense, the Brazilian situation is even more shocking.”

“SERIOUS ACCUSATIONS”; “FLAGRANT CONFLICT OF INTEREST”

Indeed, history does repeat itself. What Brazil did was just to reproduce the model that existed outside. Nothing new. The Brazilian industry financed Bernstein’s research which saved the Brazilian chrysotile industry’s face. Curiously, it covered and still covers the expenses of a good share of the research on asbestos by Mário Terra Filho, Ericson Bagatin and Luiz Eduardo Nery, all of them medical doctors and professors, respectively at the Faculty of Medicine of the University of São Paulo (FMUSP), the Medical Sciences Faculty of the State University of Campinas (Unicamp), and the Federal University of São Paulo (Unifesp). Their study is the one which came to the conclusion that none of the Brazilian workers who began working with asbestos after 1980 have fallen sick from an asbestos-related disease. That conclusion functions as a

sort of mantra which has been beaten to death through constant repetition by the asbestos lobby.

The article *Company doctors said Manoel [de Souza] was healthy. But he had lung cancer*, published by **Viomundo** on July 14, 2008, and updated on August, 2008, when Manoel died (*Manoel de Souza, other victim of asbestos*), also denounces the following points:

1) Mário Terra Filho, Erison Bagatin and Luiz Eduardo Nery, who are the lead researchers in asbestos research, are the same doctors who, through their private consulting firm, participated in Medical Groups which negotiated private out-of-court settlements to compensate victims for the damage caused by exposure to asbestos.

2) Some of the asbestos research of these three doctors is thus financed with public money. At the same time they serve as industry consultants and perform diagnosis on ex-employees in the asbestos industry to determine their compensation eligibility. These doctors even have the prime role in determining how much each disabled ex-employee will receive, by classifying them by type of illness they are suffering from and their degree of disability, according to criteria determined solely by the company and published in the Agreement each compensation recipient must sign. The notions of “private” and “public” are confused in the minds of the ex-employees: where does one begin and the other end?

3) There is a conflict of interest in both the doctor-patient relationship and in their research on asbestos.

4) In addition, the three Medical Group members neglect important information which they should be sending to the government entities in charge of economic development and scientific research in Brazil.

5) They hide crucial information from ethics commissions in regard to their research at the universities where they work. That is exactly what happened with the project “Environmental Exposure to Asbestos: Evaluation of the Risks and Effects on Health”, which was presented to the Commission on Ethics for analysis of Research Projects (CAPPesq) of the Clinical Directorate of the Hospital das Clínicas of the Faculty of Medicine of the USP. The proposed budget for this research was R\$ 4,000,000.00 reais* (US \$2,150,000.00). They only disclosed 1,000,000.00 reais* (about US \$628,000) from the National Council on Research and Development (CNPq). It was withheld that a good amount of the remaining funds were to be supplied by the Brazilian asbestos industry.

”None of this was said or described [in 2006] at the time of the presentation of the project to the CAPPesq,” affirms Euclides Castilho, then president of the ethics commission and a Professor at the Department of Preventive Medicine at the Faculty of Medicine of USP, Brazil’s premier university. “I see this as a very grave situation. It demonstrates a flagrant conflict of interest. It constitutes a violation of Resolution 196/96 of the National Health Council. The most important principle here is the one of social control and defense of society.”



Professor Euclides Castilho, Fernanda Giannasi and Eliezer João de Souza: a meeting at the Faculty of Medicine of USP in solidarity with the ex president of the CAPPesq and to ask for his support for the verification of possible violations.

“Their conduct is quite typical of doctors financed by industry,” observes Geoffrey Tweedale. “Find a country where this hasn’t happened. It doesn’t exist!”

Laurie Kazan-Allen compares the case to the situation in India: “The shameful situation of the relationship of the medical community in India to asbestos workers is very similar to the scandal of the Brazilian researchers who received financing from the asbestos industry to do research which, not surprisingly, showed that chrysotile asbestos is not “dangerous.” Last week, along with various colleagues from India, Laurie launched a new book in both Bombay and Amsterdam entitled *India’s Asbestos Time Bomb*. Coincidentally, a report was released which condemned Indian doctors for their secret agreements with a local asbestos industry.

Abrea president Eliezer de Souza, who is himself suffering from an asbestos related disease, is overcome with indignation. “How can these doctors sleep, knowing that they are acting against us workers?” he asks. “It is too much inhumanity, irresponsibility and lack of ethics.”

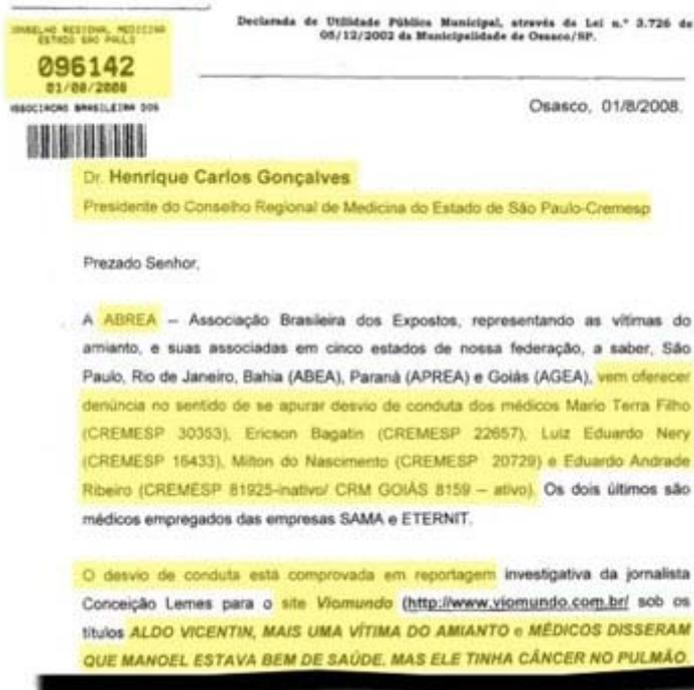
“The denouncements published by *Viomundo* have changed history in Brazil. They are a watershed: before them and after them,” affirms Fernanda Giannasi, a symbol of the struggle against asbestos in Brazil. “Lots of people were fooled by these industry doctors, who cross-dressed themselves as neutral researchers and ethical professors at our most important universities.”

“The judges, when reading one of their reports, accepted their results as great scientific truths. The workers believed that they were being sent to peerless doctors at highly credible medical faculties. Politicians bowed down to them, along with the national press, which, before the publication of our accusations, would listen to the ‘medical authorities,’” points out Fernanda Giannasi. “Now it has been proven that neither the doctors nor their research is exempt. On the contrary, their research was carried out on commission by and for the asbestos industry. They sullied the images of their institutions, which were used to legitimize the thesis of so-called safe use of chrysotile in our country, claiming that it constitutes no threat at all to the health of the public.”

CREMESP OPENS UP AN INVESTIGATION. USP PROMISES A TRANSPARENT INVESTIGATION

Based on the articles *Aldo Vicentin: One more Victim of Asbestos* and *Company doctors said Manoel was healthy. But he had a lung cancer*, by Conceição Lemes, Abrea petitioned the Regional Council of Medicine of the State of São Paulo (*Conselho Regional de Medicina do Estado de São Paulo* -- Cremesp) and the institutions involved to investigate the accusations. Abrea itself represents thousands of asbestos victims around the country, in the states of São Paulo, Rio de Janeiro, Bahia, Paraná, Goiás, and more recently in Minas Gerais.

“These are very serious facts which are being exposed in these complaints,” says Dr. Henrique Carlos Gonçalves, a medical doctor and president of Cremesp. “The struggle of the workers exposed to asbestos is perfectly correct from the social point of view. And Cremesp, in addition to being an organization which supervises the practice of medicine, has involved itself in social struggles over the years.” Cremesp immediately opened Official Inquiry No. 096142.



At USP the accusation was made directly to Dr. José Otávio Auler, Jr., the Clinical Director of the Hospital das Clínicas of the Faculty of Medicine. The target of the inquiry is Professor Mário Terra Filho, chief of the Occupational Lung Disease Outpatient Department at the São Paulo Heart Institute, which is organizationally linked to the HC-FMUSP. Dr. Auler quickly established an Ascertainment Commission to investigate the case; and on October 18 he will present his conclusions. “The investigation will be free from outside influences and neutral,” promised Dr. Auler.



Dr. Henrique Gonçalves, president of Cremesp, and Eliezer João de Souza, president of Abrea.



Professor José Otávio Auler Jr, Clinical Director of HC-FMUSP

At Unicamp, the accusation was sent to Professor Carmen Silvia Bertuzzo, the coordinator of the Committee on Ethics in Research of the Faculty of Medical Sciences. At Unicamp the target of the investigation is Ericson Bagatin, professor of Occupational Health. “We opened up an inquiry to ascertain these facts; we are in the middle of the process of verification,” says Professor Bertuzzo. “As soon as we finish, we will send you our final report.”

“This research project was not sent to the Committee on Ethics in Research at Unifesp,” says its coordinator, professor José Osmar Pestana Medina. “The question is being discussed under the mandate of USP and the Regional Medical Council.” In this case the target of the investigation is Luiz Eduardo Nery, Professor of Lung Diseases.

MANOEL’S DEATH CERTIFICATE: THERE IS NO ASBESTOS: “FEAR”.

The report *Doctors’ company said Manoel was healthy. But he had lung cancer* was published on July 14. On August 6, Manoel de Souza e Silva Junior, 64 years of age, died as a result of lung cancer caused by asbestos and smoking. He had worked at SAMA from August 1982 through November 1996.

“It’s really difficult. People really miss Manoel,” says his wife Dona Maria Lucia crying. In August she would have celebrated her 45th wedding anniversary. “My life is over now,” she says.

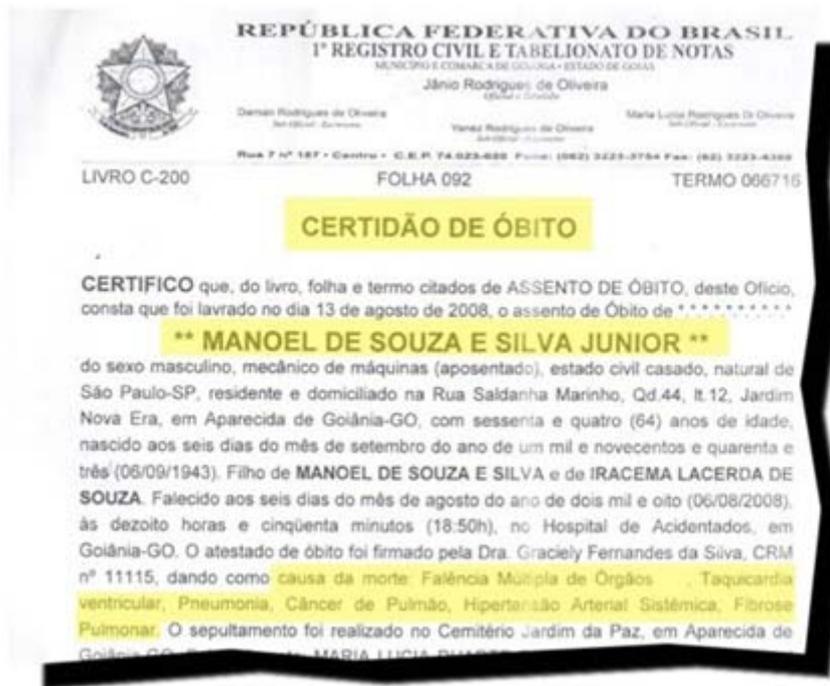


“The last time Manoel went to the SAMA office for a medical exam, they gave him some crackers and some other snacks,” she recalls. “Manoel told them: “You want to buy us with this.” He wouldn’t stand for it -- it made him furious. He had lost his friend Ildo, who worked in the office and died of lung cancer. They claimed that he smoked too much. Ildo never stuck a cigarette in his mouth, and even told everybody else not to smoke!”

“In all these years, that group of scumbags from SAMA and their doctors have got off scot-free. They never had the slightest idea that a worker could open his mouth,” she said with pride. “Now, I want all of them to pay, including those doctors from their Medical Group. Not just for what they did to Manoel, but also for all the workers who were victimized by the same lies.”

“Right at the end, when he had only a few moments of lucidity, Manoel begged me and the seven children: ‘Never give up the fight. Take it to the finish’,” she said, her voice trembling with emotion. “And that’s what we’ll do.”

“In Goiás, the fear of retaliation from SAMA is very real. It is so great that the word asbestos never shows up on the death certificate of my father,” according to his daughter Lúcia de Souza e Silva Marques -- known to everybody as “Lucinha.” “And that, in spite of the fact that Dr. Ubiratan de Paula Santos, a lung specialist from the Faculty of Medicine of USP, made available a sworn statement that his lung cancer was caused by asbestos and by smoking.”



“Undeniably, there is collusion to hide the cases of asbestos-related disease and to contribute to their invisibility in the country”, concludes Fernanda Giannasi. “The ‘absence’ of sick people and lack of statistics delay the debate on the ban of the carcinogenic fiber. Under the pretext that there are doubts on whether Brazilian asbestos from the state of Goiás is harmful or not, our politicians avoid putting an end to this environmental health tragedy, unprecedented in modern industrial history. Doubt is their product, not ours. We are sure. Asbestos kills!”

** On September 28, 2008, when the story was released, 1 dollar was worth around 1.59 reais. So, 1 real was worth 0.62 dollar. On April 13, 2009, 1 dollar was worth 2.172 reais; 1 real= 0.46 dollar.*