

## Interview: Dr. André Dodin



# We need to have clean water if we are to conquer diseases

*On Feb. 28, Dr. André Dodin, head of the Ecology Department at the Pasteur Institute, discussed the spread of cholera with Ivès Zilli of the Schiller Institute in France. The interview first appeared in the French newspaper Nouvelle Solidarité. The translated version here has been abridged.*

**Q:** How many deaths can one expect from this cholera epidemic?

**Dodin:** The number of deaths does not depend on the epidemic. It depends entirely on the number of doctors and the number of clinics, because cholera is not a serious disease, but a process of excitation of a normal physiological process. That is, when you ingest it, you multiply the problems in your digestion by a factor of 15. That requires a clinic for five sick people and a physician for ten. No one should die from cholera. The medication is extremely simple, it's salt-water, so it's not even reimbursed by public health insurance; therefore, it is not an illness, which should burden the social security system!

**Q:** How do you explain that, in 1991, we've managed to have thousands of deaths from cholera in Peru?

**Dodin:** . . . Look at the level of sanitation in Peru, the level of sanitation in Africa! . . . There is defective public health absolutely everywhere, and note that cholera is striking only where there is no hygiene.

In 1913, there was still cholera in Europe, but only in the countries where there was no hygiene. . . .

**Q:** Could one foresee an expansion of the epidemic throughout the South American continent, which as a whole has hygienic conditions little better than Peru?

**Dodin:** It's not even a question of foreseeing it. It's a certainty. The day before yesterday, it was Ecuador. Brazil is already affected in the region of São Paulo; sanitary barriers could delay its arrival, because the territories are immense, but only delay its arrival.

**Q:** You are saying then, that the treatment is salt-water, under guidance from a clinic?

**Dodin:** Salt-water is the simplest, or Coca-Cola, which

works very well in the rehydration of children. On the other hand, the epidemic has to be stopped, because it will become costly, with the secondary problems of rehydration, physicians, clinics. . . . That is what will be a burden to these countries, plus the economic restrictions which are being taken. Argentina can't export fish any more; they can't export either shrimp or lobsters.

**Q:** Are these prohibitions against imported fishmeal legitimate?

**Dodin:** Fishmeal means nothing. It's not the fish that carry the cholera. It's the fish handler who has filthy hands and who is infected by cholera, who is going to contaminate the fish put into the deep-freeze. The cholera vibrio [bacterium] only affects man. And it affects man in a very precise place: It only comes out through the anus. You become the link between everything that passes from your hand, which came out of the anus: The anus is going to contaminate the excrement, the sewage system—if there is no sewage system, that's even worse—and also people's filthy hands.

**Q:** But aren't they in the process of pushing Peru under even more by banning its major resource, fishmeal?

**Dodin:** Exactly. There was a cholera outbreak in Teheran in 1962-63, and they forbade the export of carpets. It's completely idiotic! Carpets have never transmitted cholera.

**Q:** Why does the World Health Organization not protest these measures?

**Dodin:** WHO is not an organization that gives directions; it makes recommendations, that's all. It is stupid to forbid the entry of fish or fresh-frozen fish into France. There is an extremely thorough sanitary control which is done by veterinarians on arrival at Rungis. Shrimp and fresh-frozen fish are checked to see that there is no cholera vibrio, and therefore there is no risk whatever in this area.

**Q:** And what about the existence of a vaccine?

**Dodin:** Of no value. I prefer to use Javelle water as a disinfectant to wash my hands, or yellow scrubbing soap. If you vaccinate against cholera with an excellent vaccine, you will

protect against the cholera, for sure—but you will not protect against amoebas, you will not protect against the other diarrheal diseases. If you provide potable water, you will protect against them all.

**Q:** In the past, you have criticized the people who wanted to solve everything with drug therapies, and you prescribed, instead, an increase in hygienic levels and a concomitant rise in living standards.

**Dodin:** I said that at the very beginning of the 1971 epidemic in Africa, when we were ill-informed about the disease, and there was no other means than to give some fanazil. That's a long-acting sulfamide, which worked remarkably well, and which has doubtless protected Africa. But it also let us get away without making any effort whatever vis a vis individual hygiene. And now what has happened? The vibrios that cause cholera have become resistant to sulfamides. It's not enough to tell Peru to take sulfamides, because they are useless.

And then, what should be done about malaria? Nivaquine was given to everyone. Strains of hematozoa have become resistant to nivaquine. We've forgotten, even seriously, the issue of the swamps. But the problem is exactly the same. We are playing the sorcerer's apprentice with our chemical formulas. It must also be said that these vibrios have little chemists as crafty as people, and they know how to adapt immediately.

**Q:** Regarding Africa, where there is more an endemic than epidemic situation, which you estimated would affect 1 million people by the end of the 1980s. Is the epidemic in Peru connected to the one in Africa?

**Dodin:** Certainly, but the relationship is quite distant. It has the same origin. Europe, which does not have cholera for sanitary reasons, has not been, therefore, the conduit for the vibrio to make its way to South America. On the contrary, it's the same origin. What went into Africa came from Soviet planes, which had brought back sick students into Guinea and Egypt, and the one in the Pacific rim came via the East, from the islands of Oceania. The vibrio, instead of coming by plane, moved along the coast from port to port, and its appearance in the ports of Peru has the same origin as the vibrio coming from the Celebes and Moluccas.

**Q:** Where does the situation in Africa now stand?

**Dodin:** In Africa, there are always cases of cholera, especially in the refugee camps. But cholera is not a microbe of war; it is a microbe that follows refugees. Since refugees live in deplorable sanitary conditions, the camps are invaded by cholera.

**Q:** Is it appropriate to be upset over what is going on in Iraq with all its refugees?

**Dodin:** Yes. The world has become terrifically shrunken. Who did you have in Iraq, in Iran; who do you have in

Lebanon, in Kuwait? You have Indians and Pakistanis who originally came from there, who have gone back to their homes. Even if there hadn't been the vibrio in those regions then, it necessarily follows that you will have a worker who will come home with the vibrio and deposit it someplace. It's parallel to sanitation.

**Q:** Sanitation also means living standards. Doesn't this contradict the policy of the International Monetary Fund, which is making such harsh demands for debt repayments?

**Dodin:** I was just talking this morning with some veterinarians. Is it normal to turn over meat for destruction, because it is only two days out of date? This meat, which could just as well have been frozen and exported to other countries, is going to be given to dogs. We have milk quotas. Do you think this is smart, when little Africans have no milk? This is completely aberrant! They have no potable water! That's aberrant, too! At least give them disinfectants for water, like Javelle water, an excellent disinfectant for water. The Fund could do something for public health, and that would be great, but they don't care.

**Q:** In seeing what took place around the Gulf war, one can well ask how it was possible to pull together \$40 billion so fast.

**Dodin:** All I know is that Follereau said: You give me what one bomber is worth, and I will stop leprosy in the world. There is an absolute lack of appreciation of public health policy.

**Q:** Do the politicians pay enough attention to people like you?

**Dodin:** Yes, in France. It goes parallel with public health. Where there is good sanitation, politicians listen to you, because they have seen the results. In France, since 1972, there have been *imported* cases of cholera, but what is not known, and which is to the credit of the politicians, is that there has been no cholera in France for 20 years. It would have been quite possible to terminate my job. But the politicians have maintained it—which means they have understood its necessity. Especially as these centers are only of global and not national concern. I think that, where there is good public sanitation, the politicians realize the value of public health.

**Q:** France has a mission to accomplish in the Third World: It has the use of the Pasteur Institute and other laboratories, as well as its water treatment technologies. Vaccination would not be enough, above all when you sometimes see, in this era of AIDS, the same needle being used on thousands of patients!

**Dodin:** Certainly. In a nutshell, you have to involve all the elements. For example, you have to bring in the necessary number of syringes; you cannot stick 25 people with the same syringe.