

Globalized Virus Infections

The Case of Foot-and-Mouth Disease in Uruguay

by

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The world is once again suffering from infectious diseases just as it was 200 years ago, when the medical and biological sciences were in their infancy. Today, however, these diseases present themselves with unusual strength. AIDS cases have increased from hundreds or thousands in the 1980s to more than 36 million, and foot-and-mouth disease, which affects hoofed animals, has spread practically throughout the globe, afflicting even developed countries such as Britain and the majority of the Western European countries. Given current levels of scientific and technological development, how can all this have taken place?

Environmental dangers and catastrophes can never be separated from their economic and political contexts. For example, the explosion of a Union Carbide plant in Bhopal, India, in December 1984 killed between 2,000 and 5,000 persons and left more than 86,000 with permanent lung damage (the number of claimants reached 600,000). The Bhopal plant was operating under security measures inferior to those at its sister plant in West Virginia in the United States. Its vapor detection devices were of poor quality, its emergency systems were inadequate, and none of these were automatic (Sem, 1995; Karliner, 1997). Furthermore, the presence of this plant in India cannot be understood without reference to the Green Revolution, a project designed to revolutionize Indian agriculture with hybrid seeds that required a high input of chemicals, among them the pesticides produced by the Union Carbide plant (Wisner, 2000).

Again, between April 24 and 27, 2001, a meeting was held in Nigeria to address the AIDS epidemic. Ninety-five percent of the victims of AIDS live in developing countries, and of these 25 million live in Africa. The HIV virus

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had been identified only 15 years before. Ironically, since World War II, infectious diseases had increasingly been considered under control, and the developed world had directed its funds toward the study of cancer and heart disease (Lewontin and Levins, 1996). Despite the availability of enormous financial and technological resources, epidemiological policies have failed. Measures are taken only after health problems become economic ones or the disease has spread from poor black populations to wealthy white ones, prompting the United Nations to urge countries to produce generic medicines cheaper than brand-name ones—a policy that the governments of Brazil and South Africa have already adopted. Was it necessary for half a million Western Europeans and a million persons in the United States to be infected before measures of this type were called for when it was known in 1990 that there were more than a million cases in Africa?¹

Examples like this can easily be multiplied, and the moral of all these stories is that infectious diseases should not be studied in isolation; their historical contexts are also part of the problem. Courses of action taken in the past shape conditions in the future (Lewontin and Levins, 1996: 107). As social conditions change, old diseases have returned and new ones have appeared. The cases of AIDS and foot-and-mouth disease are paradigmatic.

A series of global changes has had a direct impact on the spread of infectious diseases both in humans and in other living beings. Among these are increasing poverty, increasing migration, the privatization of research and education, and the expansion of international commerce and competition.

POVERTY

According to the United Nations, the number of poor persons (those who receive less than a dollar per day) has increased in the past 50 years. Whereas in 1947 the poor made up 17 percent of the world's population (400 million), in 1997 they made up 24 percent (1.3 billion). According to the World Bank's (2000) criteria, relative poverty affects 32 percent. Paradoxically, the past 50 years have been those of the so-called postwar boom, the largest development of capitalism in history—a very tangible demonstration that capitalist development has not increased well-being for the majority of the world's population. In turn, poverty directly results in difficulty of access to doctors and treatments, malnutrition, physical debilities, and reduced immunity to diseases. This is similarly true of animal diseases; poverty facilitates their spread. On the outskirts of Montevideo, for example, the poor are forced to survive through means that raise grave environmental and health risks for themselves and the population in general. The collection and sorting of

refuse for the feeding of families and animals (mainly pigs and horses) affects or potentially affects the health of these people, as well as serving as a source of infection to animals of economic importance (Vitale et al., 1996). According to Lewontin and Levins (1996: 107),

In 1961 the seventh cholera pandemic hit Indonesia; it reached Africa in 1970 and South America in the 1990s. Malaria returned with a vengeance after having retreated for a few years. Tuberculosis has intensified, becoming one of the principal causes of death in many parts of the world. Legionnaire's disease appeared in 1976 at an American Legion convention in Philadelphia. Lyme disease has spread throughout the Northeast. In Milwaukee, 400,000 people were affected by cryptosporidiosis. We have had to confront new infirmities such as toxic shock syndrome, chronic fatigue syndrome, Lassa fever, Ebola, hemorrhagic fevers in Venezuela, Bolivia, Crimea and the Congo, and Argentina, hantavirus, and, of course, AIDS.

Thus infectious diseases in both humans and animals cannot be understood separately from the state of misery that capitalist wealth has created.

MIGRATION

Migrants are more likely than anyone else to be infected with and to transmit infectious diseases. It is estimated that 150 million persons live and work far from their places of residence. In 1999, 15 million of these were refugees. The reasons for this include the increased availability and reduced cost of ground and air transportation, the increasing inequality between nations and the media images calling attention to these differences and encouraging displacement, the opening of previously closed political borders (in Eastern Europe, Southeast Asia, China, and elsewhere), ethnic tensions and wars and environmental pressures (UNAIDS, 2001), and the expansion of tourism, both in numbers of travelers and in the breadth of destinations, on a global scale. Migrants or tourists carry customs and diseases from one region or nation to another and may also transmit diseases harmful to other species, as is the case with foot-and-mouth disease.

PRIVATIZATION OF RESEARCH AND EDUCATION

Until the 1970s, most research was done by public institutions, which conducted relatively broad and impartial studies of producers and the market. Since the 1990s, however, the global economic crisis has directly affected

scientific research and development. Budgets have been cut, research centers have been closed, and the privatization of scientific study has become the norm. As public institutions are dismantled, it is the large corporations that are developing science and technology, but even their research budgets have been reduced in favor of mechanisms that focus directly on the market. In India, for example, the laboratories of large corporations such as Hoechst, Ciba-Geigy, and others have been reduced in size or sold (*Business India*, July 11, 1999). The generalized privatization of education and of research facilities subjects them to restrictions imposed by the market; anything that does not bring immediate profit is unlikely to be pursued. Obviously, the 25 million Africans with AIDS who lack the ability to pay for treatment are not part of the pharmaceutical companies' accounting.

Related to this is the rapid commercialization of technologies that seek to recover investments without careful analysis of their implications, as is the case with mad cow disease and may also be the case with transgenics. One example that has attracted attention recently has been the ionization (radiation) of foodstuffs to eliminate pathogenic agents. This procedure chemically dissolves the bonds between molecules in nutrients, resulting in the formation of hundreds of new components such as benzene, ethanol, hexane, methyl ethyl, ketone, and toluene, many of which have been shown to cause cancer or birth defects in animals (Organic Consumers' Association, 2001). Given the current direction of science, it is no accident that there have been no toxicological studies of ionized foods in the United States in the past 20 years, despite the fact that ionization of beef, pork, fowl, fruits, vegetables, eggs, juices, and seed sprouts is permitted, the majority of these since the early 1990s (Organic Consumers' Association, 2001).

INTERNATIONAL COMMERCE AND COMPETITION

One of the characteristics of globalization is the extraordinary increase in worldwide commerce. According to the World Bank, global production rose at an annual rate of 3.3 percent between 1965 and 1999, while exports worldwide grew at 5.9 percent. In other words, commerce has expanded more than production (World Bank, 2001). The growth of global commerce has had various implications. First, persons and merchandise move faster and farther, and this increases the potential for the transfer of dangerous diseases to animals and/or humans. The increase in free trade makes inspection more difficult, with the result that foot-and-mouth-infected animals, for example, can be distributed across the world by air, water, rail, or truck and the infection spread much more rapidly than by natural means alone. It is suspected, for

example, that the recent cases of foot-and-mouth disease near Northumberland in Britain could have been caused by the consumption by pigs of infected meat that had escaped inspection (Blackhurst, 2001; Brown, 2001; Murphy, 2001). This is what happened in 1967, when England was forced to sacrifice 400,000 animals.²

Second, the neoliberal policies of deregulation have also had a negative effect. A clear example of this is the decision of Margaret Thatcher's government in the 1980s, in the name of deregulation, to abandon precautions and cut back on the national interministerial veterinary network. Soon, in 1991, "with an eye focused on increasing exports and saving millions of euros, another disastrous decision was taken: The European Union accepted the British proposal to stop the routine vaccination of livestock" (Ramonet, 2001).

Third, as competition has intensified, so has the pressure for an increase in productivity. This has had mixed results. The production of milk in Britain, for example, has increased in the past 20 years from 4,000 to 5,800 liters per year. However, in order to accomplish this the protein fed to cows has been increased and animal proteins, mainly from cows and sheep, have been introduced, and this has resulted in the outbreak of mad cow disease (Brooks, 2001). Another current example of the effects of competition is that of the aforementioned radiated foods.

Fourth, sharpened competition has resulted in political pressure and commercial warfare through sabotage and other mechanisms typical of conventional war. In the case of foot-and-mouth disease, the control of markets has been a central issue. Distinctions made between countries that are free of the disease without vaccination, countries free of disease but using vaccines, and countries afflicted by the disease now divide the market for meat and offer advantages to countries that can situate themselves in the first category. One of these is the United States, which since the 1930s has been free of foot-and-mouth disease without using vaccines but is now running the risk of falling into its own trap. One recent example of the politics of sanitary-commercial sabotage took place in early February 2001 when Canada charged that Brazil was exporting meat infected with mad cow disease (*Istoé*, February 14, 2001):

The war between Brazil and Canada launched last week showed the savage face of the disputes in the international commercial arena. Though Canada denies it, in Brasília no one doubts that the blockade is simply a reprisal. . . . The boycott on meat came 24 hours after the Brazilian government was able to delay for 15 days the Canadian response to the federal program of exports

incentives. Canada wants an end to the program, which finances manufacturing at lower interest rates and is hurting the Canadian manufacturer Bombardier, the principal competitor in this market.

Fifth, the struggle for the market—always conceived of in the short term—is more important than any social and material consequences that may result. Guided by this individualist principle, producers and countries conceal information about their health statistics with the clear intention of maintaining commercial competitiveness—and hoping that their competitors will suffer from the disease whenever it reaches them. In the early 1990s, for example, when the effects of mad cow disease on humans were still unknown and it was considered that the media were creating a panic, the veterinary committee of the European Union designed a campaign of deliberate misinformation about mad cow disease in order to protect its market for meat. One of the committee's recommendations stated, "Speaking in general terms, the mad cow *affaire* should be erased through disinformation. In its place we should say that the press has tended to exaggerate" (Falk, 2001).

Even more recently, alerts sent to the British government have been ignored for economic reasons. In 1998 the Spongiform Encephalopathy Advisory Committee, a group of agricultural experts the government had created to deal with mad cow disease, advised the agriculture minister that the feeding of pigs with the leftovers of restaurants, schools, airlines, and other institutions should be prohibited in order to prevent possible infection, given that these remains could contain infected meat or meat of the same species. The recommendation was rejected because it would increase the costs of feeding existing herds. Today it is suspected that the introduction of foot-and-mouth disease resulted from feeding pigs with restaurant leftovers.

The recent Uruguayan case of foot-and-mouth disease is another example. The Uruguayan president announced on television that he had known of the existence of the disease in Argentina since August 2000, when, given its extreme infectiousness, there was a clear indication of the possibility of its spread to Uruguay. In the previous year there had been an outbreak in Uruguay itself, which had been controlled by destroying the animals, and, significantly, everyone had been alerted to the possibility of globalization of the disease. Only a month before the irruption of the disease in Uruguay, the Food and Agriculture Organization had announced the possibility of a worldwide epidemic, having determined that the disease was advancing in western Europe, China, Korea, and Argentina and had just been found in South Africa. The BBC of London, for example, in its world news report on March 14, 2001, announced,

The United Nations Food and Agriculture Organization (FAO) has warned that the rapid spread of foot-and-mouth disease can be prevented only by "urgent international action." According to a press release from the organization made public in Rome, no nation is free from the threat of the disease because of the ease of contagion. "The spread of the disease demonstrates that the virus has a great capacity to travel and to infect geographic areas and countries that have been free of it for decades," asserts the FAO. "No country can consider itself safe from the risk of the disease, given increased trade, tourism, and the movement of animals, animal products, and foodstuffs," the international organization warned. The FAO urged the international community to establish strict border controls, particularly in affected countries, and to facilitate access to information about the disease for cattle breeders and agriculturists.

Despite public knowledge of these risks, the governments that bet on neoliberalism may be said to have relied on "casino politics"—blaming any problems on bad luck. In this case, despite the imminent risk of the introduction of the disease and the concrete possibility of losing its markets, the government wagered heavily on establishing Uruguayan meat as part of the circuit of unaffected meat (*El Observador*, April 5, 2001):

President Batlle trusted in accentuating the tendency and doubling exports again. His wager symbolized by the often-repeated phrase "La vaca les gana" (The dealer wins). The president's attitude was visible through various actions: he stimulated the articulation of a cattle-raising project while cutting funds destined for farming and abandoned a program promoting nontraditional agricultural exports.

Uruguay's casino politics was reflected in a lack of concrete plans for dealing with the possibility of the spread of the epidemic in the regions of intensive livestock production and the chronic disarray of the disease control services provided by the Livestock Ministry. In the first case, despite the statements of spokesmen for the ministry that it had plans for dealing with an outbreak of the virus, the reports of some of the veterinarians active during the emergency reveal not only a lack of planning but heavy reliance on improvisation and chance.

With regard to planning, Undersecretary Aguirrezabala stated that "plans existed and do exist, but detection of the disease lacked the necessary precautions" (*El Espectador*, April 30, 2001). Doubts raised by these statements had to do with their objectives and their conditions. It seems logical that a plan for the control and containment of an epidemic would begin with the early detection of its causes and with everything connected with obtaining this information. In the case of the dairy sector it was plausible to think of concealment or at least doubts about announcing the presence of the disease pre-

maturely, especially when producers were not invited to participate in control of the disease and in light of the Dante-esque images arriving from England and the economic impacts on farms diagnosed with the disease. Without a doubt these details should have been considered in even a moderately well-designed plan.

In reference to planning we may also consider, for example, the statements of Pablo Gallinares when the disease was first detected (*El Espectador* [Montevideo], April 30, 2001):

The ministry told the veterinarian—one who diagnosed the outbreak—that he was responsible for everything. . . . In this region the colleague who had performed the three diagnoses that existed as of noon yesterday was the one responsible for organizing everything for vaccination. On Saturday night he had to leave, because one person cannot organize everything alone. We gathered at the Development Society to coordinate the vaccination effort. Saturday night I went to pick up the vaccine at Colonia (in my own car, by the way), and we had to sit for a while and consider how we were going to organize it. Since this is an area of small farms, we had to advise the police to alert all the residents who lived within a radius of five kilometers. . . . And this was all, more or less, because we did not even have a map from the Dirección de Contralor de Semoviente (Livestock Controller's Office). With policemen from Cufre we marked out a circle estimated at five kilometers with a compass [he laughs] and then said "Are you or are you not on this side?" . . . The impression was that there weren't any previous plans. I believe that the Ministerio de Ganadería, Agricultura y Pesquería (Ministry of Livestock, Agriculture, and Fishing—MGAP) had been assuming nothing would happen. . . . If every suspected case had been treated as a real one, the response would have been much more effective. For example, when our colleague made his diagnosis on Tuesday of last week in Santa Catalina, in Soriano, the Veterinary Center met immediately in Valdense. He told us that he had made his diagnosis at noon and by 12:10 p.m. the ministry had arrived, which was really a very quick response. But a famous fair was about to take place in the adjacent farm and it was not postponed. . . . If we had taken the attitude I have just described . . . that fair would have been postponed and those cattle would not have been scattered throughout the country.

As for the chronic disarray of the disease control services of the Livestock Ministry, we have the remarks made on April 30, 2001, by the former minister and current governor of San José, Juan Chiruchi (*El Espectador* [Montevideo], April 30, 2001):

The Ministry of Livestock, Agriculture, and Fishing has only two veterinarians in San José; on Saturdays and Sundays the offices of the ministry are closed; there are no syringes for the extraction of blood from the herd; there is no fuel. The ministry has only one tool kit to use in different parts of the district—we have had to buy more than 30 fumigation kits—and we have not received one

liter of medicine anywhere in the district. All of it has been acquired by the producers and by the district administration. We don't know how much we have invested in this, invested and not spent, because we are investing in the principal patrimony of the nation's interior and of the nation, its agricultural and livestock sector.

CONCLUSIONS

Examination of the epidemic of foot-and-mouth disease in Uruguay leaves us with questions, lessons, and contradictions.

One of the questions has to do with Uruguay's actions with regard to the presence of foot-and-mouth disease in Argentina. The president reports that the existence of the disease in that country was known in August 2000, and reliable sources indicate that the Argentine livestock minister communicated this "unofficially" to our minister in February. Why did our authorities fail to demand transparent behavior from our neighbor and, beyond this, to require the implementation of control policies (buffer zones pending vaccination) that would prevent the transmission of the disease to our country? We do not have definite answers, but we can hypothesize that perhaps Uruguay did not want to open a can of worms. There may have been pressures from the countries that import our products, which, well aware of our lack of regulations, "accused" us of belonging to a region that "everyone knew" had cases of the disease. If this hypothesis were confirmed, the transparency of the established procedures would be called into question by the behavior of our authorities in this recent episode.

Another important issue is the possibility of the intentional introduction of the virus and of the interests that could have motivated it. After all, Uruguay's closure of its borders hurt the economic interests of Argentine cattle exporters tremendously. What is suggested by this hypothesis, raised by Samuel Blixen (2001), is the acts of sabotage and commercial warfare that are characteristic of times of unscrupulous competition.

The lesson we can learn is that, faced with a disease such as foot-and-mouth disease, it is not enough to hope that nothing will happen; it is necessary to plan adequately. Adequate planning must consider real participation by the producers who are directly affected by the epidemic. This strategy would doubtless have contributed to the early detection of the first outbreak of the disease,³ retarding its massive spread.

The contradiction in this case is that in this global era being healthy or sick has the same consequences. For Uruguay, it was exactly the same thing to have its entire herd healthy and vaccinated and to have it stricken with an epi-

demic of foot-and-mouth disease. From the point of view of the market, the possibility of losses was the same for both situations, and this was also true for the almost 6,000 packing-house workers who went on unemployment insurance, for whom the "bottom line" will not be calculated.

NOTES

1. In 1892 Engels wrote: "The repeated cases of cholera, typhus, smallpox, and other epidemics have imposed on the British burgess the need to sanitize the city, if he himself does not want to become a victim, along with his family, of these epidemics" (1974: 9).

2. "According to Duffus, 'in the epidemic of 1967, it was found that the virus had arrived in a leg of lamb originating in Argentina. The virus was in the bone, which was given as food to pigs, thus starting the epidemic'. For some, these types of diseases raise questions regarding the globalization of meat commerce" (*BBCMundo*, February 3, 2001).

3. The lesions found on the animals in the first outbreak of Soriano were already "old." This shows that diagnosis came late.

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