Blaming the Victims: The 1991 Cholera Outbreak

When the cholera epidemic broke out in Peru, a newspaper in Chimbote registered a woman’s lament: “God is tired of looking after us, and now He has removed his hands from us.”1 Like her, many were convinced that with cholera, Peru was falling into an abyss. The filth, backwardness, misery and overall misfortune associated with the disease magnified the hyperinflation, the terrorism and the collapse of authority which Peru experienced since the 1980s.

In two months, some 15,000 to 20,000 cases of cholera were recorded in Peru; 322,562 Peruvians fell sick in 1991 and 2,909 of them died.2 For a population of 20 million, this meant that slightly over 1 per cent somehow felt the ravages caused by the disease. By late 1991, cholera had extended to 14 countries in Latin America and the Caribbean, which gave a total of 366,017 cases.

Despite the extent of the epidemic, cholera in Peru had a surprisingly low case-fatality rate of less than 1 per cent, even though it was as high as 10 per cent in rural areas and 6 per cent in the Amazon region. These figures were in sharp contrast with those predicted on the basis of experiences elsewhere, and which at the beginning of the outbreak predicted a dramatic mortality of 30–50 per cent. How was this result attained? What did cholera mean for the relationship between the Peruvian State and public health? What responses did the people make, and what were their perceptions? Why did the lack of personal hygiene seem to be the most important cause of the epidemic, and not the precarious conditions of health infrastructure? These are the main questions posed in this chapter.

A country for Vibrio

Neglect and decay. These terms, with their connotation of being unable either to improve or to retain the standards previously attained, describe what happened to public health, environmental sanitation, and health services in Peru in the years before the epidemic. Neglect expressed itself in 1991 in an infant mortality rate of 78 per 1,000, the third highest in Latin America after Haiti and Bolivia.3 Diarrheal diseases like gastroenteritis, dysentery and typhoid fever, all of which have similar environmental means of transmission to those of cholera, were likewise none of the major causes of retarded growth, malnutrition, and death in children less than a year old; together with respiratory diseases, these were the major causes of infant mortality in children under five.4 It is vexing to find that from 1965 to 1990 Peru had a high mortality rate through diarrohea in children under five. Only in Nicaragua, Guatemala and Honduras was the rate higher in the region.5

The persistence of diarrheal diseases indicates the importance of factors connected to the ecology of cholera, like the lack of an adequate supply of safe drinking water, the absence of an adequate system of disposal of excreta and the contamination of food and drink. According to a study made in 1998, only 55 per cent of the population had access to safe drinking water, and 41 per cent to drainage systems. (In rural areas the mean was even lower: 22 per cent and 16 per cent.)6 Water is a particularly relevant topic for, unlike Africa where food became the major means of transmission, in Peru and Latin America cholera spread through the water used to drink, prepare food, wash clothes and bathe.7

Because of the poor division of labour between the municipalities and two ministries, the supply of safe drinking water was at the mercy of arguments and lack of co-ordination between the authorities.8 The Ministry of Health was in charge (through the DISABAR, the Division of Basic Rural Environmental Sanitation) of supplying safe drinking water and sewage-disposal systems to areas with less than 2000 inhabitants, while the Ministry of Housing was responsible (through the SENAPA, National Water Supply and Sewage Service) for localities with a population of 2000 or more. The SENAPA advised the municipalities and had connections with the water supply and sewage-disposal systems in Lima and Trujillo, the two old firms in the SENAPA that were not exclusively dependent on the municipalities. It is worth pointing out that as far as the water supply was concerned, the priority for many officials was to inaugurate new facilities instead of maintaining and improving those already in existence.

According to studies made in the midst of the epidemic in the cities of Trujillo and Piura (with populations of 534,000 and 306,000, respectively), the water supplied by the municipalities was extracted from wells, some of which were contaminated by the sewers, and were not chlorinated (or were insufficiently so).10 Thus, being part of the water supply system was not the same as getting clean water. A case in point was Chimbote, where 40 per cent of the population had drinking water but almost 85 per cent drank contaminated water.11

Other reasons why water could be contaminated were its low pressure, the frequent breakdowns in the service and its storage in cylinders, buckets, tins, pots and other containers with wide openings which let people put their hands in. These containers were often placed near the bathroom or garbage. The result was that fecal contamination in municipal reservoirs doubled its percentage when water was stored in home. According to one of the studies made, patients
in Trujillo showed a relationship between the dispersal of cholera and the use of non-boiled water from these containers. A study made in the Guzmán Barrón Hospital in Chiclayo likewise found that only 16 per cent of the patients with cholera drank boiled water and washed their hands before eating and after using the toilet. These conditions produced diarrhoeal diseases and kept the rates of other diseases transmitted through water high, like amebiasis, hepatitis, shigellosis and typhoid fever.

In Callao, 40 per cent of the population drank water contaminated with faecal residues. According to one study, the section of the Rimac River that supplied Callao simply was "a great sewer." This designation was because the river was contaminated by domestic and industrial refuse. Conditions were not much better in Metropolitan Lima, which had an estimated total population of 6,459,000 in 1991, and particularly for families in shanty towns, about 1,617,786, who obtained water rather precariously through the urban network of public taps, from water vendors who sold water without any supervision, from wells close to the surface and from brooks. Although La Atresia, the main water reservoir of the city, used 5 tons of chlorine a day to make the water tolerable, it could not prevent the contamination caused mostly by poor maintenance, intermittent flow, clandestine connections and other illegal water-supply systems. Water sellers supplied water to 25 per cent of Lima's population, at a much higher price than was paid for it in upper- and middle-class neighbourhoods.

Conditions were alarming as regards the disposal of excreta. The lack of water prevented the refuse being washed away and contributed to the clogging and flooding of the sewers. Lima's sewage emptied into the sea through three channels located on beaches adjacent to the city. This same sea held banks of fish and shellfish used for human consumption. In other parts of Peru, the untreated sewage emptied into rivers, lakes and the sea.

Sewage was also used to water fruits and short-stemmed vegetables (like tomatoes, onions and potatoes) which need a great amount of water and fertilizers. In fact, many agriculturalists were convinced that raw waste water and sewage yielded better agricultural produce and saved spending on fertilizers. It was estimated that almost 4,000 hectares of agricultural land in coastal Peru were irrigated with sewage. The consumption of these products became one of the ways in which cholera was transmitted. On the other hand, neither the sewage nor the refuse could be reused because there were almost no waste-stabilization ponds or sanitary dumps. In many cities, open-air dumping places were the method used to eliminate refuse, and conditions worsened before the epidemic. While 60 per cent of refuse was placed in sanitary damps in Lima in 1985, only 10 per cent was received in them in 1991.

Waste-disposal systems in rural areas were haphazard, like latrines or the spread of the so-called 'kitty-do' method (dig a hole and bury the feces). Refuse was cast into the rivers and the contaminated waters were used to wash, drink and cook in those areas, and particularly in the Amazons. At the time of the epidemic, only 56 per cent of homes had a connection to the drinking-water system in Iquitos, the capital city of the Amazonian department of Loreto, and only 51 per cent had sewers connected to the public network.

Pollution was worsened because the cities on the coast underwent a rapid population growth before the 1991 epidemic, due to the arrival of rural migrants fleeing unemployment, the agrarian crisis and terrorist violence. Population growth far outstripped the construction of sanitary infrastructure in these areas. These migrants and other inhabitants of the shanty towns often had to travel a great distance to get to their work, and at noon they bought low-priced and easily eaten food like arepas, which is made with raw fish or shellfish marinated in lemon juice, and drinks. During a working day in a city like Lima, 2 million people eat food prepared by street peddlers in the open air with no access to any hygiene, garbage disposal, safe drinking water or sanitation systems. The beverages most sold in summer had ice in them prepared in unhygienic conditions. A study made in Lima in 1992 showed that 90 per cent of the food sold by street vendors had faecal residues.

According to some authors, biological factors, too, affected the magnitude of the cholera crisis. In Peru there was no natural immunity like in India, where cholera had long been endemic. Besides, there was a high rate of gastritis connected to the Helicobacter pylori agent, which is quite common in Peru and which lowers the defences against cholera. As a result, people with the O-group blood type usually develop a more serious cholera, and Latin America proportionately has a higher number of people in this group than any other continent. Among middle-class Peruvians, the O+ group is as high as 75 per cent, and 85 per cent in poor groups.

The lack of sanitation so far presented was the result of poverty, recession, the virtual collapse of health services and the contraction in social expenditures made by the Peruvian State. In 1991, the expenditure in health represented only 23.56 per cent of what the State spent on it in 1980. In the 1980s it was estimated that 6.8 million people, almost a third of the population, had no access to the official health service. The breakdown in services was also due to the economic policy implemented in 1985 by the Alan Garcia administration, which lowered the buying power of salaries and increased unemployment after unleashing a hyperinflation that reached 7,836.5 per cent by 1990. The policies applied by Garcia lowered the per capita income to $997 in 1990 (a fall of 25 per cent from the 1988 level), lowered the international reserves to less than US$105 million and heightened Peru's isolation from foreign loans. The ensuing stabilization policies applied by the Fujimori administration in late 1990 were harsh. These measures worsened the condition of the poor and swelled their ranks in a country characterized by an uneven concentration of income, unemployment and the absence of a safety net.

The water and health programmes based on these loans did not have access
to funds from the World Bank, nor the Inter-American Development Bank or any other international credit institution. Even worse, the disbursement of loans already approved for the improvement of water and sewers in Lima was suspended by those international organizations. As regards the breakdown in services and the pollution in Peru before the epidemic, the US International Development Agency (in Spanish, AID), declared that cholera was ‘a disaster waiting to happen’.

The march of the epidemic

In late 1991, cholera struck the coastal population of Peru hard and swiftly. As in all epidemics, it is not known exactly where the first case appeared, but everything seems to indicate that the outbreak began in the neighbourhood of La Candelaria, in Chanchay. Between 23 and 29 January, 11 cases of sick people stricken with severe diarrhoea, vomiting and cramps were recorded in the city of Chanchay, with a population of about 75,000 some 60 kilometres north of Lima, and were at first ascribed to intoxication. It is worth pointing out that members of the General Office of Epidemiology and the Field Training Programme of the Ministry of Health were in the area by the 30 January.

In the following days, the analysis made in the laboratories of the National Health Institute and the University Cayetano Heredia of Lima identified a bacteria in patients’ stools: Vibrio cholerae O1, serotype Inaba, biotype El Tor. The Naval Medical Centre of Lima also identified the Vibrio. Shortly afterwards, the Centre for Transmissible Disease Control in Atlanta confirmed the identification. The disease was characterized by a watery diarrhoea that began without pain or fever, but was rapidly followed by severe abdominal pains, numbness in the legs and constant vomiting. The skin also became turgid (i.e. its texture resembles that of butachinas), the eyes sank and had no tears, the mucous membranes dried up, the patients became thirsty, had severe cramps and had no idea of what was happening to them. Some could lose a significant percentage of their body weight in just a few hours, which led to dehydration, a circulatory collapse and most likely to death if not treated on time.

The analyses made established that the epidemic which arrived at Peru in 1991 was part of the seventh pandemic which broke out in the Celebes Islands in Indonesia in 1901, and appeared later on in Asia, the Middle East, Europe, Oceania and Africa, but not on the American continent. The source of the outbreak was ascribed to an Asian ship that visited several Peruvian ports with crew members who were sick with cholera, and whose depositions were thrown into the sea. It is far more likely that the source lay in a massive contamination of the phytoplankton, fish and shellfish that were near the coast. Although cholera began because of the raw fish and the contaminated shellfish, the most important vehicles for its transmission would have been the drinking water, other contaminated foods and the wrong disposal of sewage. United States’ technicians blamed the Peruvian authorities shortly after the epidemic broke out for not chlorinating the water, which would have protected the people from the bacteria. Non-chlorination was due to negligence and economic limitations. Some officials tried to justify it by blaming a controversial report of the US Environmental Protection Agency (EPA), which stated that chlorination entailed a slight risk of cancer. Most epidemiologists considered the risk was insignificant, and was in any case preferable to exposure to an epidemic. According to the director of the US agency, the Peruvian authorities were aware of the danger which not chlorinating the water entailed, and were simply using the EPA position so they could turn around and point the finger at us and say, “well, they told us not to”.

A marked increase in the number of adults treated for diarrhoea took place in Chimbote, in the Department of Ancash, almost at the same time that cholera appeared in Chanchay. There was a population of 310,269 in this important fishing, industrial and steel-producing centre, 96 per cent of whom lived in shanty towns. Chimbote also had a big floating population, that is, many who worked in the city during the week and left at the weekends for nearby towns, where they had their families. These workers lived in appalling environmental conditions. The municipal sanitation services could not cope with the garbage that had to be burned, buried or abandoned. The sewage from this industrial centre and the liquid refuse ejected by the fishing industry were dumped into the sea without any treatment.

The three major hospitals in Chimbote – La Caleta, Social Security, and the Guadalupe Regional Hospital – received 900 patients in the first week of the epidemic, and on average treated 300 cholera patients a day throughout February. According to the Ministry of Health, 19,808 cases were recorded in the department of Ancash (population 983,515), 7,490 of whom were hospitalized, and 71 died. This meant an attack rate for the department of two cases for every 100 individuals, while it was no more than one per 100 in the rest of Peru. However, if we only consider the district of Chimbote we get a higher attack rate: five per 100 individuals. Most of the sick in Chimbote lived in marginal areas, were over 15 years old and were workers. In an area where the disease was unknown, it was spread by adults with a high mobility who bought food and beverages from street vendors. After attacking Chanchay and Chimbote, cholera then became explosive in the north and central Peruvian coast. Hospitals in Lima, Trujillo, Chiclayo and Piura (the latter almost 1000 kilometres north of Lima) received hundreds of patients every day. The most affected places were army barracks, jails and the poorest and most overcrowded neighbourhoods, as these had the most deplorable systems of water supply and sewage. These factors, compounded by the intense communications between the people of the coast, explain the speed...
at which the epidemic dispersed. Interestingly, there was a marked gender difference in some cities. For instance, in Lima the incidence of cholera by gender was of 64 per cent for males and 36 per cent for women. This suggests that contagion was higher among those who worked and lived outside their home, that is, male workers.

By late February, cholera had struck almost all coastal departments and moved on to the highlands. The epidemic was intense in the capital city of the department of Cajamarca, which had a population of 122,100 and was located on the western slopes of the northern Andes, at 2,750 metres above sea level. Cholera was brought to Cajamarca by travellers from Chimbote, Trujillo and other coastal areas going for the carnival festival (the most important of its kind in all Peru). Unhygienic habits are commonplace at this festival, like drinking from one glass only, or using the same spoon and fork while eating from a single dish. According to a physician in the hospital of Cajamarca, the emergency room had to increase its capacity from 20 to 180 beds in just a few days. Julio Bardales, the Regional Director of Health made a dramatic call to the authorities to declare all of the department in emergency.4 The vicious circle connecting the disease, poverty and the lack of resources is illustrated by the fact that the sewers running from Cajamarca Hospital emptied into a river that ran through rural areas where the most serious cases appeared.

The highest mortality in all Peru was reached in Cajamarca because of the strong rural nature and marked poverty of the department, which entailed that most of the population lived far from medical centres. Besides the distance to health centres, roads in Cajamarca were wretched and few were paved. Local governments were likewise weaker in this area, and official medicine was mistrusted for cultural and religious reasons. The latter was not just because of traditional medicine, but also due to the growing importance of some religious groups who resisted the health measures taken. On the other hand, the rites connected with wakes, which lasted from two to five days, had an important role in the spread of cholera throughout the department and in other Andean areas, so they must be briefly described. The corpse is washed the first day. It is not unusual for it to free its sphincter, and it is not uncommon either to have food prepared for relatives and guests in the very vessel used to wash the deceased.

The epidemic reached the Amazon towards the end of the first week of March. This delay enabled a better preparation of the health personnel and the population.5 The disease spread through the intake of non-boiled river water, unwashed fruit and vegetables, and the cold rice of the popular "huancas" (a typical dish in this area). Economic factors like the problems of refrigerating food contributed to this consumption. Cholera spread in many cities of the Amazon forest thanks to the high degree of pollution in the rivers that supplied the people with water. Ignace, on the left bank of the Amazon River, had its population spread into three big belts: the downtown area, the neighbourhood of Belén and the shanty town area.6 The downtown area had water and sewer facilities, and its population had a higher educational and income level than the rest of the city. Belén is an aggregate of ramshackle homes built over ports and rafts, with water closets that empty straight into the river. In its main square there is a busy market of agricultural and animal products somewhat surprisingly called "Venecia", that eliminates its refuse by emptying into the river.

All departments in Peru save for Cuzco had recorded the disease eight weeks after the outbreak began. The official count then was 116,883 sick and 833 dead. From the first outbreak to 22 June 1991, the accumulated incidence (the number of cases with regard to total population) for all Peru was 1,037.4 per 100,000 people. The magnitude of the rate of infection was higher on the coast but the mortality was more intense in the highlands where fewer sanitary resources existed.3 On the coast and in the highlands, the decline in new cases respectively began around 9 and 23 March. The drop-off did not begin in the Amazon area until June 1991.

When the epidemic first broke out, the General Office of Epidemiology of the Ministry of Health deemed it was impossible to make a bacteriological examination of each case of diarrhoea. It therefore considered as cholera all cases of acute diarrhoea registered in any of the areas where the disease had been confirmed.3 Although this broad definition excluded an overcount, it actually was not that high. For instance, 86 per cent of the children and 79 per cent of the adults hospitalized in the Cayetano Heredia Hospital of Piura with diarrhoea were cases of cholera confirmed in the laboratory.3 The real cases of cholera were certainly less than those recorded as acute diarrhoea, but the over-registration compensated for the cases unknown to the health services. According to a specialist, the number of people infected with Vibrio cholerae in Latin America was actually ten times higher than the amount officially recorded.3 The method used to record the cases of cholera leads to a study of the official and popular responses to the epidemic.

Official and popular campaigns

On 8 February, the administration declared a state of emergency for 120 days in all coastal cities with cholera. At the same time, a US$4 million fund was set up to control the epidemic. The official response was initially marked by the recommendations made by the Ministry of Health. This position was held since August 1990 by the physician Carlos Vidal, a distinguished officer of the Pan American Health Organization. Vidal was a member of the first cabinet of President Alberto Fujimori, headed by Prime Minister Juan Carlos Hurtado, a Peruvian entrepreneur. Vidal was acquainted with Hurtado because the Prime Minister was the son of the researcher Alberto Hurtado, the founder of Cayetano Heredia, the most
renowned medical school in Peru. On taking office, Vidal found a bankrupt health system. Public hospitals were obsolescent and virtually paralyzed, without any food, refrigerators or medical supplies. To make things worse, corruption permeated the system from top to bottom. Going over the heads of his own generation, Vidal summoned young physicians to reform the State's participation in health, promote popular participation in health services, establish a new medicine policy stressing the advantages generic medicines had over commercial ones, and to foster equity and the regionalization of health services. The reformist ideas of Vidal won him enemies, like the officials in the Ministry who mistrusted the young officials appointed by the Minister, or the pharmaceutical industry which feared it would lose benefits because of the preference for generic medicines.

The main worry of health officials during the epidemic was to prevent high mortality, as had been caused by cholera in other parts of the world. It was feared that the disease would spread rapidly through the sewers, water and food since most of the barrens were asymptomatic. The strategy followed by the Ministry was therefore to prevent mortality through the expansion of personal hygiene, cleanliness in food and the rapid treatment of patients.

As for the treatment, it was decided not to use a vaccine since its use was not recommended by the World Health Organization, as it only provided incomplete protection and did not prevent slight infections. The best treatment were the rehydration therapies first applied on a large scale in 1971, during the war between India and Pakistan. These therapies were simple, inexpensive and effective for restoring water, salts and electrolytes (like sodium, chloride, bicarbonate and potassium) lost in diarrhoea, which are essential elements for the body. For many Third World physicians, these therapies were an inexpensive solution that substituted for lack of an adequate sanitary infrastructure. Patients who were not too seriously ill were rehydrated in a day-long treatment with eight litres of serum, and took antibiotics like tetracycline to prevent the dispersal of the vibrio. Fortunately, Peru's paediatricians and officials in the Ministry of Health were well acquainted with these therapies, as they used them to cure children's diarrhoea.

Since 1980, the General Office of Mother and Child Health in the Ministry of Health recommended this technique for light and moderate dehydrations in a Handbook of Regulations for Oral Rehydration Therapies. Urtel García, the Minister of Health at the time, later carried out an active campaign for oral rehydration therapies. This system was consolidated in the 1980s with the Oral Rehydration Units – known as UROS – established in the homes of volunteers. Since then, paediatricians had used oral rehydration salts to control child diarrhoea, especially in the summertime. The medicine was prepared at home and was taken orally using pre-packaged ratios of sugar and salts dissolved in water. These solutions were the best way to control dehydration, but they did not cure nor prevent diseases related to the lack of environmental health.
shellfish such as mussels. However, few patients reported having eaten fish one month after the epidemic had begun. This is why it was never possible to ascertain whether the consumption of raw fish was the origin of the epidemic in Peru, or an important route for its diffusion.

International agencies supported the recommendations made by the Ministry and had an active role in the campaign. Both the representative of the Pan American Health Organization (PAHO) in Washington, DC, and the main office of the PAHO in Lima, where a task force of experts was formed, provided aid which included over US$2 million, half of which was for medical supplies and oral rehydration salts. The rest was used in sanitation, education, and laboratory backup. The campaign began by the Ministry was likewise supported by the World Health Organization, European countries and the Health Ministers of the Andean Pact, who were joined by other American countries like Chile, Brazil, Cuba and the USA.

At first, the recommendations made by the Ministry of Health were accepted by the people, the media and the authorities, especially the one warning about fish. There was some exaggeration, for the consumption of ice cream, drinks and fish went down almost to zero, and people practically stopped going to the beaches. According to one survey, 75 per cent of Lima’s admitted not having eaten fish or ceviche during the first month of the epidemic. This increased malnutrition, as fish was an important source of protein for popular sectors, and poultry, the other meat used to replace fish, was not always affordable.

In the provinces, the medical associations, local health authorities, the institutions responsible for the water supply and the municipalities echoed the recommendations made by the Ministry. Local newspapers underlined the need for and the ways of boiling water, washing hands, using latrines, preparing domestic serum, using lye as an antiseptic, and avoiding fish, shellfish and vegetables. The preparation of domestic serum comprised combining one spoonful of salt and eight of sugar in a litre of boiled water. Several municipalities likewise formed emergency committees that initiated projects which were not directly related to cholera but with old beliefs, like the drainage of lakes and fumigation.

Provincial authorities carried out the official recommendations zealously and with some exaggeration. For instance, the mayor of Trujillo warned the people in his city not to eat ceviche nor shellfish; the mayors of Cajamarca, Chiclayo and Ferreñafe banned the street sale of food; the Prefect of Lambayeque closed the beaches to holiday makers and a Provincial mayor in Lambayeque strictly prohibited eating fish because it transmitted cholera. Vaccinations were also prohibited from using beaches and swimming pools in Trujillo, and the dock used by the fishermen was closed because it did not meet the essential hygienic conditions. At this time, 2500 kilograms of fish were seized and burned because it was not suitable for human consumption, and because it came from Chimbo. In several cities, these and other radical measures of control, collection of garbage and disinfection intensified and were acclaimed by the media. In Chiclayo, for example, the Departmental Health Unit fumigated the cars coming from the south, and a prosecutor filed a lawsuit against farmers using sewage to water vegetables, as this was ‘a crime against health’.

On the other hand, hospitals received a growing number of patients that was sometimes four times greater than the number of beds and staff available. In several cities, staff had to be taken from other hospital services to look after cholera, some hospitals focused only on patients stricken with the disease, and the physicians requested the help of one relative per patient. According to one physician from Cajamarca hospital, during the epidemic ‘all doctors had to forget their original specialty’. The work could be frustrating because the number of cases increased, medicines were used up, electric power and the water supply lasted only for a few hours, and the sewers of hospitals emptied into the seas or rivers.

The hospital connected with the University Cayetano Heredia (located in San Martín de Porres, one of the poorest districts in Lima) illustrates the magnitude of the task at hand. This hospital treated 200 patients a day during the worst period of the outbreak, and prepared and administered 1200 litres of intravenous serum and 1000 litres of oral serum each day. In 1988 only 32 per cent of all cases attended in the emergency of the hospital were acute diarrhoeal diseases whereas in 1991 89 per cent of the cases of emergency were because of acute diarrhoeal diseases.

The epidemic was also a learning experience for physicians themselves, since at first it was the clinics who treated the adults with diarrhoea, and unlike paediatricians, they had no experience of rehydration therapies. The epidemic likewise transformed the traditional criteria of clinical assessment used for those who arrived at the emergency room. At the first thing many physicians did on finding a patient in a state of shock was to ‘take their pressure or pulse’, it often happened that by the time they ‘took it, the patient was already a corpse’. The symptoms were gradually easier to identify, and medical responses became faster. Specialized units stationed at the hospital entrance decided if the case was indeed cholera and began the treatment. The long shifts, collective tension and the struggle in the face of adversity united the physicians, patients, nurses, obstetricians, secretaries and other workers in the hospital. This unity turned into open co-operation between hospitals, and during the outbreak these shared equipment that was scarce. For example, it was sometimes necessary to carry out the dialysis of rehydrated patients who could not urinate. This equipment was almost non-existent in the poorest hospitals, and in normal conditions it was difficult to get in the ones that did have it. However, during the outbreak all that was needed to get the equipment loaned was a phone call. The epidemic likewise helped reanimate the role that hospitals had in health care. Hospitals had been criticized as gargantuan, expensive and
inefficient institutions ever since the influence of the movement for primary health care was felt in Peru in the 1970s. Health centres with only the essential services were promoted instead. However, hospitals became control and information centres during the outbreak, both for physicians and for the people.

La Caleta, in Chimbote, was one of the hospitals that faced the most exacting conditions. This hospital received 54 per cent of the cholera patients in the city; it only had 100 beds but managed to take 700 patients in just one day.28 The hospital was poor. Its toilets were poorly kept, there were not enough mattresses and sheets, plastic bottles cut in half were used as chamber pots, and water was only available for two hours a day. There was no ambulance so the sick came in on tricycles and were laid out on stretchers, benches, stairways and the aisles. The physicians had misgivings for "[n]one really knew what we were up against."29 Jorge Ramal, the Director of the hospital, used the scarce resources available to the full, and instilled a mystique in his workers.30 La Caleta stopped receiving other pathologies and focused on cholera, thus becoming a "war hospital". The administrative staff left their offices to help the 30 physicians, 25 nurses and 40 technicians who worked in daily, 12-hour shifts. Ramal himself worked as physician, nurse, stretcher-carrier and janitor. Faced with the threat of a country-wide strike of the health sector, Ramal assembled his staff on the patio and addressed them much like a general before battle. With an inaccurate metaphor that achieved its goal of avoiding a strike, he told them that "just like Napoleon's soldiers in Egypt had been contemplated by four thousand years of antiquity, so the staff of La Caleta was being observed by twenty million Peruvians."31

This type of campaign that used charisma, voluntarism and few resources was extended to other non-governmental institutions like the Catholic Church, the firemen and a host of survival organizations headed by mothers and wives, like the communal kitchens, mothers' clubs and other non-governmental organizations that applied survival strategies based on self-help. The latter had multiplied in the 1980s to feed the people with the least resources. It was estimated in 1991 that 7200 of these organizations looked after 250,000 people in Lima.32 The campaign connected organizations which had had little previous contact. For instance, in Cajamarca the vigilantes established by the communities to prevent rustling identified the sick, the firemen fumigated their homes and moved them from distant areas to the city, and the members of the protestant Baptist Church worked in the hospital convincing relatives that the dead had to be buried promptly.

Another noteworthy case of popular participation in the drive against cholera took place in the district of Villa El Salvador, the largest shantytown on the outskirts of Lima, with a population of 240,000. Here, grass-roots organizations directed by a self-managed urban community organization known as CUAVES (which had a record of communal participation in health), health officials, the prefecture, municipality, non-governmental organizations

and the Church were all on the same wavelength. These institutions formed a command post which established fluid communications with the Ministry of Health, prepared conferences for mothers, organized hygiene campaigns and prepared the people to treat least severe cases of cholera. A similar network was established that began in one of the 109 oral rehydration units (in charge of about 600 health promoters), then came the seven health centres (backed by 200 members of non-governmental organizations). The network ended in the María Auxiliadora Hospital, the one most prepared for intravenous therapies. Fifty-one physicians, 13 nurses and about 50 health professionals took part in this network. Although the prevalence rate in the Departmental Health Unit of Southern Lima, which comprised Villa Salvador, was higher than in the city of Lima itself, the mortality rate was lower.33

In this area, the campaign left a lasting impression of the importance that volunteer work has, as well as the right to free treatment for the people when in an emergency, the pride felt in self-help, and individual responsibilities in communal tasks. The epidemic made the people change their expectations vis-à-vis health services. In most hospitals these had not been free for some years, but this right reappeared once more with cholera, and the people demanded to be treated free of charge.

Even so, the campaign carried out by the Ministry and grass-roots organizations did not have the support of all of the Fujimori administration. The lack of liaison and interest in some branches of the administration meant that it was not until two and a half months after the outbreak began that the government decided to establish a National Multi-Sectoral Commission for the Campaign against Cholera, with representatives of several ministries. Unfortunately, this commission did not actually function. The campaign against cholera did not have the political leadership that could have transformed it into a national crusade for environmental hygiene.

For the administration, the campaign was far too expensive and it looked as if it could not be financed either with its own resources or with international aid. Besides, high expenditures in public health and other social policies seemed to go against the priorities of the economic policy applied by the government shortly after taking office in July 1990. Fujimori had then abandoned the gradolant approach he had preached during his campaign and espoused many of the economic proposals originally made by Mario Vargas Llosa, his opponent. In August 1990, when introducing the new economic programme Prime Minister Hurtado Miller announced that it aimed to fight hyperinflation through fiscal austerity, the consolidation of exchange rates and the stabilization of prices for the public sector. The programme was applied as a shock to change inflationary expectations and restore credibility in the government's economic policy.

Another reason behind the lack of support in some branches of the administration was that Fujimori himself was never interested in supporting the
proposals made by the experts in the campaign against cholera. An official in the Ministry of Health believed Fujimori acted cautiously and parsimoniously because he was worried that his political popularity could be damaged by the epidemic. In the end, Fujimori did not take command of the campaigns against the epidemic because his administration was torn by internal contradictions that were intensified by his command style. The son of Japanese migrants, Fujimori was a university professor with next to no political experience who won the 1990 polls as an outsider to Peru's traditional system of political parties. Fujimori's mandate has been marked by authoritarianism and secrecy, and he has often played one minister against the other, perhaps because of his political inexperience, or simply due to his experience in university politics. (Fujimori served as Rector of the Agrarius University.) This affected his management of the cholera crisis and hindered an effective political response to cholera. The result was that Fujimori never launched a campaign against the disease. He did not meet with his cabinet but let each minister work in isolation. This caused clashes between the ministers and it eventually led to the resignation of Prime Minister Hurtado Miller. This resignation left Vidal without an invaluable ally.

The Ministry of Economy was taken over on 15 February 1991 by Carlos Bolloso, an Oromian economist who firmly believed more radical fiscal measures and a programme of neoliberals structural reforms were needed. His proposal comprised a cut in public spending, the liberalization of the exchange rate, the establishment of incentives to lure foreign capital and the privatization of state-owned companies. In this programme, public investment fell sharply and the preventive measures needed to control cholera seemed less important. This was compounded by a political polarization that discouraged the pursuit of agreements due to the economic crisis and to the presence of Shining Path, the Maoist terrorist group.

On the other hand, Fujimori was under pressure from different economic groups of varying importance, who opposed the campaigns led by the Ministry of Health and which included the export sector, small farmers, restaurant owners, fishermen, pharmaceutical companies and groups associated with tourism. Fujimori gradually became convinced that the campaign headed by Vidal was creating a negative international image for Peru. For these critics, the recommendation not to eat raw fish was wrong because it increased panic in the people, sensationalism in the press, and alarm in foreign markets. These critiques pointed out that most governments were behaving as if all food from Peru was infected. The members of the Andean Group established severe restrictions on Peruvian exports, and this lasted until mid-1991. Bolloso also banned the purchase of Peruvian foodstuffs, canned fish from Peru was burned in Bolivia, the import of fish and shellfish from Peru was forbidden in Argentina and passengers arriving from Peru were inspected in Paraguay. Another measure taken by these countries was to distinguish the official cases of acute diarrhoeas from the bacteriologically verified cases of cholera. In this way the figures for cholera seemed to be smaller than what they must actually have been. Even so, cholera had extended to all other countries in Latin America between late February and November 1991, save for Uruguay and Paraguay.

This meant that many marine or vegetable products from Peru, including canned fish and fish meal, were thrown out because they could not be sold, were sold wholesale at rockbottom price, demanded a bigger investment to guarantee a longer storage, went through a greater number of checks, and were sometimes almost banned in international markets. For the Ministry of Fishing, Peru would lose US$3 million from not exporting 50,000 tons of fish-derived products. According to a more detailed estimate made by Petruza, the overall losses incurred because of choleras could be split into the impact the outbreak had in terms of foreign markets (particularly in regard to tourism, and the export of fish and agricultural products), which came to slightly over US$175 million, and its impact on the home market (fishing for human consumption, the sale of food on the streets, and indirect costs in health and treatment of the sick), which came to US$37 112.

The Minister was criticized and pressures were exerted against Fujimori in the provinces, too. Associations of fishermen in Malabrigo, Huanchaco and Chicama, all ports close to Trujillo, fiercely declared they are raw fish and "nothing happened to them." They also blamed the campaign for the unemployment that fishermen faced. The fish and shellfish retailers of Chimbote made a noisy march protesting against the "demeritization of fish" to the cry of "fish yes, poverty not." Officials in Chiclayo declared that the recommendations made by the Ministry had been too hasty, and had doomed "fishermen, retailers, and humble homes that have fish as their only source of animal proteins" to 'more poverty'.

To ease local and international pressure, Fujimori and some members of his cabinet took an irresponsive attitude of denying or hiding the truth. Confident of changing public opinion, Fujimori and the Ministers of Fishing and Agriculture, Felix Casal Torres and Enrique Rossa Link, defiantly ate ceviche in front of journalists. Casal Torres sympathized with the fishermen, announced a campaign to foster the consumption of fish, and stated that marine species were not infected. Some rumours have it that the minister fell sick with cholera after one of his visas, and had to be treated in emergency. Reyna and Zapata correctly label the behaviour of the administration during the so-called 'Ceviche Wars' as schizoid.

In early March, Fujimori invited the foreign press to a dinner prepared with marine products in the 'Costa Verde', one of the best restaurants in Lima. The President then preemptively denied the fish were infected, and claimed that if people came down with cholera it was due to a lack of hygiene and to conditions of critical poverty that his administration had received from previous governments. Fujimori admitted the fish in the sea off Lima were infected, but
pointed out that the same happened in other cities throughout the world. Later, Vidal realized during a meeting of the cabinet that some ministers were holding him responsible for the economic effects of the epidemic. According to his critics, the campaign that his Ministry had prepared was overbrought, had been overly hasty as far as fish was concerned, and had provoked fear in the home and foreign markets. Some journals likewise charged him with having counseled who had once been leftist leaders. He was also accused of being a member of the Human Resources Group of the Pan American Health Organization, which was held to be "leftist." In the meeting, Fujimori himself complained the people did not want to eat fish, neither fried nor boiled (as the Ministry recommended). In his defense, Vidal suggested lowering the price of kerosene; this would make it easier to get an essential product for boiling water in the poorest homes. Fujimori initially agreed but—according to Vidal—the Finance Minister opposed it because he believed this would be a privilege that would only benefit cocaine manufacturers. For Vidal, "we would not have had this kind of argument if Hurtado had been present." The attitude shown by Fujimori increased the weakness of Vidal's position, already harmed by the departure of Hurtado. Besides, Vidal had already clashed with Boleodra because he opposed a cut in the health budget estimated at 10 per cent. Vidal therefore resigned from the cabinet in mid-March 1991. Shortly before his resignation he appeared before a conference held in the Pacifico University on "Cholera and the Country We Live in." There he made a brilliant study of the medical, social and international dimensions of the epidemic, emphasized the low mortality rate as one of the major achievements of the campaign, and denounced that the administration and society had not been more involved in it partly because "the rich do not catch cholera." The campaign lost its drive with the departure of Vidal, and became more disorganized. Many officials who fostered communal organization in the poorest neighborhoods, now found themselves isolated and ended resigning from the Ministry. The poorly paid health workers in turn took advantage to demand a better salary. The 19,700 workers and almost 5000 nurses in the Ministry went on strike between 19 March and 22 July 1991. This meant that the major hospitals lowered their emergency service right in the middle of the epidemic.

The lack of support by the central government and the disorganization also surfaced in the provinces, where committees against cholera appeared which were never officially recognized. In Iquitos, a committee headed by representative from the Amazonia University, shanty-town leaders, health officials and municipalities lasted for no more than a week due to clashes between the prefect and the regional government of Loreto. The regional government of Amazon dismissed the directors of two of the most important hospitals in Chimbote for political reasons, and Luis Bambarret, the bishop of Chimbote, was named as head of the Special Commission Against Cholera arguing that no resources were being received to fight the epidemic. Popular perceptions of the disease thrived in this moment full of uncertainty.

Fifth and shame

Cholera exposed and produced a series of associations, prejudices and stereotypes which went far beyond the biological reality of the disease and combined notions derived from western, domestic and traditional medicine. Of special importance among these perceptions was one spontaneously born and spread by government officials, which suggested there was an individual responsibility in falling sick with cholera, or that to be sick constituted some kind of social inferiority. It was a perception that coexisted together with other, somewhat contradictory ones like resignation in the face of a disease held as inevitable because of poverty and the lack of water. But during the epidemic other, more encouraging proposals were likewise born, which pressured the solution to many problems lay in self-help and volunteer labour within the communities themselves. These varied and changing perceptions hinged on three topics: the origins of the disease, the causes behind individual infections, and the measures to be taken. The most classic explanation of the origins of the disease ascribed it to heavenly punishment. This belief appeared with more force in rural areas, among the peoples of the Amazon river region and in the apocalyptic preaching of some Protestant groups. It is also noteworthy of fact part of the urban population was incredulous, believing instead that cholera was a government invention meant to make the people forget the economic crisis.

The surprising and unknown (for the majority of the people) nature of cholera marked the first responses to the epidemic. Some of them appealed to traditional medicine to identify a new pathology. In Cajamarca and Iquitos, people 'confessed' the epidemic with a state of mind (cúdra in Spanish) which traditional medicine perceived as liable to turn into a disease that caused headaches and stomach aches, vomiting and diarrhoea. As the epidemic progressed, the people called the symptoms shown by the patients with labels taken from domestic and traditional medicine, like "they dry up", "they shiver" or "they wither". These were sometimes combined with the more technical term of 'dehydration', and with the ability to distinguish cholera from other diarrhoea.

A generalized account had it that cholera was a disease which came from abroad, and which was not to be blamed on Peruvians. According to this account, the cause of the epidemic lay in the crew of a Chinese freighter which had cast its bilge water in the harbours off the Peruvian coast; the bacteria had then quickly contaminated shellfish and fish. The connection between the outbreak and Asians reinvigorated old sanitation prejudices that went back to
the plague in the early twentieth century. A popular account ascribed the blame for the epidemic to factors that lay beyond the reach of all Peruvians: the Gulf War, which involved the USA and Iraq, had polluted the air and sea with petrolaure.14 To say the disease had an external origin freed individuals from blame, particularly when a shameful connection was established between cholera and individual uncleanliness. The search for exogenous causes was also a way for the government to avoid solving health problems that were still pending.

Something similar to the perception of the origins of the disease happened with the perception of individual infections. In other words, many did not consider it to be an individual responsibility, and the filth was ascribed to ‘others’ and to somewhere outside the home. Many felt the public sphere was filthy, while the individual and familial one was not ‘dirty’ or infectious. To explain the source, external to the home, of the disease, a squatter in a shanty town combined present-day medical notions with nineteenth-century miasmatic beliefs:

The water we take is far too filthy ... garbage is piling up here, just a step away from us, and the wind itself blows it all our way . . . [a]nd everything begins to putrefy: dead dogs, animals; there everything is thrown in the corner ... there are no sewers, so people relieve themselves in the brook, that brook is a cesspool, with their feet all who pass take the bacteria home, it is believed bacteria come because with their feet, the animals who pass through there bring them.142

Other agents usually held responsible for the infection were the street peddlers, the vendors, the fruit eaten away from home, the piles of refuse and the flies. For instance, it was believed the disease came to Villa El Salvador through the workers who ate outside the district during the day and returned at night to sleep. Some believed cholera was a result of a combination of external agents, including the heat and dirt, but particularly the filth.143 The following testimonies, from patients in Chimbote, illustrate the perception of the disease as an exogenous agent to the home: ‘after bathing in the beach ... with other members of my family we ate a watermelon and had chicha morada (a drink made from maize). Shortly afterwards I felt like throwing up and had diarrhoea;’ ‘on Thursday I ate a mango and on Friday I had a glass of juice in the street ... and a few hours later I was vomiting.’143

During the epidemic the administration, the media, the more affluent social classes and even those with fewer resources than the rich, insisted that the major cause of contagion was the lack of personal hygiene. This was held to be the result of carelessness, ignorance, laziness, indifference, and — up to a point — poverty. In this way, expressions like cholera is the disease of ‘dirt’, of the ‘filthy’ and ‘vile’ spread.144 Some of the symptoms of the disease, like diarrhoea, vomiting and sweating, were stressed to confirm the truth of these assertions. The pujovarre connection between filth and the disease was deeply felt in marginal areas, where many denied having cholera when they came down with it.

In late 1991, just over half the people polled in a group of asymptomatic patients (non-serious cases) in Lima denied having had cholera.144 According to a woman from a shanty town, the denial was because many were ‘ashamed’.144 This feeling of shame partially explains why many of the sick delayed or avoided going to the health centres, for these were located in public areas. Some preferred domestic serums, or discreetly visited folk-healers.145

The connection between filth and the disease made being sick with cholera proof not just of being poor, but also of being socially undesirable. The connection between filth, immorality and social inferiority could take on a perverse sense wherein filth was considered unavoidable because it was in the nature of people who wanted to break rules that they were well aware of. These people were presented as indecent, disobedient and lazy individuals who particularly relished living in disorder.

The administration used individual uncleanliness to explain the epidemic, thus diminishing the importance of the deficiencies in health infrastructure and also blaming cholera on individuals. This discourse was ultimately based on the old trick of blaming a social evil on its victims. Furthermore, the emphasis laid on filth was due in part to the government’s response to cholera. Since the administration could not — or did not want to — employ a solution that entailed improving environmental conditions, the campaign mainly focused instead on preventive hygienic recommendations and in the early control of cases.

According to the discourse of the official campaign the administration sponsored, the most important thing was to change habits of personal hygiene and to improve the treatment given to patients (rapidly rehydrating them at home, or taking the most severe cases to the hospitals). The success of these measures greatly depended on individual behaviour and not on transforming the level of environmental pollution people lived in. The connection between individual filth and the epidemic was thus a way of endorsing a campaign that was not too expensive — and had a lower cost — as one that entailed solving the structural problems that gave rise to the epidemic.

This hygienic approach to the treatment of cholera spread among doctors and patients. Many testimonies show doctors asking the latter what they had eaten. At first they got denials, but the patients admitted under duress having eaten food on the sly from a street peddler, or having been close to someone who was sick. Narrating the disease thus became a kind of confession that confirmed the assumption that a transgression of personal hygiene had caused the epidemic. This served to mark the future behaviour of the patient and was a lesson for those who listened to this experience.145

The connection between individual uncleanliness and the epidemic was also sometimes used to pinpoint poverty as the cause of the epidemic. For a newspaper in Chimbote, this was an epidemic ‘of poverty’ that only thrived ‘in
bad and therefore they preferred unboiled water, or serum if they were sick. In marginal areas boiled water was only used for children. There were also some discrepancies with the official medical recommendations, for some Indian communities preferred medicinal herbs that cured diarrhoea, like paico (Chenopodium ambrosioides). These herbs were used in small communities with liquor and lemon juice, well-known methods of domestic and traditional medicine used against diarrhoea.

The connection between filth and the diseases contributed to dissociate the State and public health in the popular mentality. Deusdatta Bautista, a woman born in the poor Andean department of Huancavelica and now living in Chosica, who looked after her daughter sick with cholera in Chosica a town located a few kilometres from Lima, pondered the contradiction between the assumption that the State was responsible for public health and reality. 'I believe there is a law that says we have the right to lead a good life, that each Peruvian has the right to have a good life but we do not, so if one wants to live well he has to find out how to improve his life all by himself.'

The government's work in health was considered more and more as a benevolent act, which was inevitably insufficient and sporadic. The attitude shown in the face of this was not to demand more services, but to accept and take advantage of what little the government could give. The State was not perceived as an institution that had the task of intervening, nor the people as an agent that had the right to demand. This was not just because the neoliberal discourse considered the government had few social responsibilities, but also because throughout Peru's history, the State has traditionally been an insecure point of reference for the people. The insufficient government aid did not give rise to claims made on the State, as it was not considered capable, or responsible for, health expenditures. The need for protection, the lack of resources and the individual solutions strengthened a fatalist perspective in some groups, who accepted the recurrence of diseases as something natural and unavoidable. According to one dweller of a shanty town: 'Cholera has gone for the time being ... but they say it will come back again ... it comes back later.'

For others, the lack of government leadership presented an opportunity to reinforce confidence in popular self-organization. Campaigns were organized by the people themselves in a few localities like Villa El Salvador, which strengthened the surveillance for diarrhoeal diseases, the lectures on hygiene and the discovery of efficient and cheap methods with which to disinfect water, eliminate human excreta and move food. These measures followed the recommendations made in the official campaign, but also included critiques of its limitations. The leaders of Villa El Salvador questioned the emphasis on the distribution of pamphlets because not all could read, and because there were no material facilities for more hygienic habits. According to these critiques the resources would have been better spent on infrastructure works. However, these critiques coexisted with the dominant hygienic discourse which
the official media trumpeted, and they did not manage to crystallize into an alternative sanitary proposal.

Conclusions

According to an US AID report, to control cholera the Peruvian State would have to increase its investment in water and drainage by at least ten times during the following ten years. This entailed an annual investment of US$100-120 million until the year 2000, just to get a supply of safe drinking water for 80 per cent and 70 per cent of the urban and rural population, as well as the establishment of sewers for 75 per cent and 90 per cent of the urban and rural population. 101 This kind of investment was never seriously intended, and cholera became endemic in Peru. In 1992 and 1993, 212 642 and 71 448 cases were respectively recorded. 102

Paradoxically enough, the campaign against cholera was deemed a success by the administration, officials in the Ministry of Health, and the international agencies. The main argument behind this agreement was the low lethality of the epidemic, which was interpreted as an accomplishment of the medical and sanitary staff. But what really was the legacy of the campaign against cholera? It is not easy to give an answer in absolute terms. The campaign had remarkable humanitarian results from the point of view of healing, saving human lives and providing a hygiene education, particularly considering the lack of resources. This was due to the efforts, the solidarity and the talent of doctors, nurses and sanitary staff who behaved heroically in the face of adversity. It is worth pointing out that for some sectors, like the communal leaders of Villa El Salvador, the campaign was a success because it raised the self-esteem of grass-roots organizations, and because of the support the latter gave to the government. 103 Other gains included a more frequent chlorination of water — it was rarely done before the epidemic — and an improvement in the collection of rubbish and cleanliness in lifestyles and hygiene. However, a study made after the epidemic found that the most important thing for most people was eating properly, and that as far as eating from the street peddlers was concerned it was "business as usual", that is, things continued just like they were before the epidemic. 104

An opportunity to improve sanitation infrastructure was lost with cholera. High international officials perceived the opportunity that Peru had let go. According to the director of the FAHO, cholera was the opportunity to "rouse the conscience of political leaders ... of the importance health has", and to begin "a long-term action which has as its goal working out a solution to ... the major causes underlying not just cholera but other transmissible diseases too." 105 However, the circumstances were not taken advantage of by the State nor the sanitary workers, nor did they ponder an alternative proposal in non-governmental organizations. The main reason why the State did not commit itself to a greater intervention was the persistence of a sanitary discourse that blames individuals for the disease and gives priority to technical and curative solutions. The official discourse attained the hegemony despite the contradiction present in the different perceptions of the disease, like that contrasting individual uncleanness with poverty as a reason for the epidemic. It was partly thanks to this and to its successes in the struggle against terrorism and inflation, that the Fujimori administration retained a high level of popularity in late 1991 and afterwards. In succeeding years, the neoliberal economic policies relegated social ones to second place. Many Peruvians gradually accepted that providing adequate health for the people did not pertain to the State but was rather a matter of individual responsibility, of families, and of non-governmental organizations. It was thus that cholera left behind two conflicting legacies. On the one hand, public health became less important for the State, notwithstanding the generous display of goodwill by doctors and people alike. On the other hand, the crisis presented opportunities for a broader and more active participation of individuals and organizations which previously had not been so committed to the preservation of health.

Notes

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2. Cholera was first identified in India and became infamous in the nineteenth century, when it extended to Europe and America. J. Snow established in 1854 that it was transmitted mainly through contaminated water supply. This encouraged the close-up of European cities. In 1884, the German R. Koch identified the bacteria Vibrio cholerae as its cause. Cholera vanished from America and Europe in the twentieth century, and took refuge in Africa and Asia. R. Pollitzer, Cholera, World Health Organization, Geneva, 1959. According to this author, cholera struck Peru in 1832 and 1869.
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6. ‘La situación’, p. 16. Pudín broke out due to the prediction made in a British
publication, estimating that 4000 Peruvians would die from cholera in a p. 
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9. Organización Panamericana de la Salud, Las condiciones de salud en las
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Marcela Rodriguez, ‘Epidemia del cólera en el Peru, vigilancia epidemiológica’,

12. Sheila Webh, Waterborne Diseases in Peru, The World Bank policy research
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Víctor Larco Herrera, Trujillo, La Libertad’, Revista Peruana de Epidemiología,
de cólera en el Peru: estudio caso-control de Chica’, Revista Peruana de

14. Salud y los servicios básicos, Coordinadores de ONGs para el cólera, Chimbote,
1993, p. 23.

15. Luis Urinaga, ‘Estudio clínico y epidemiológico del cólera’, Hospital Regional
Heredia, p. 12.

16. Christopher Anderson, ‘Cholera Epidemic traced to Risk Miscalculations,
1991 it was found that 60% of the water samples taken in non-residential
areas of Trujillo were contaminated.

Peruana de Epidemiología, 2, 1, 1991, p. 70.


19. Joseph Harriott and Donald Metzler, ‘Cholera in Peru: A Rapid Assessment of
the Country’s Water and Sanitation Infrastructure’, USAID Mission to Peru,
Washington DC, 1991, p. 16. The cubic centre of water in Lima’s shanty towns
cost five dollars. In other neighbourhoods it cost 100 cents. Scott Killick, ‘La
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38. Gustavo Molina, Salud ocupacional y epidemiología ambiental en la producción
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40. Urtaza, "Estudio clínico", pp. 8 and 34.


42. Webb and Forrestet, Broca, Perú, p. 129.

43. Díazcones Malics Hernández, interview, 18 January 1996. In 1996 he was the Director of the Cajamarca Regional Hospital.


45. Cajamarca is the third most populous department in Peru. Its rural nature is in contrast with the urbanization of the rest of the country. While Peru experienced a fall in its fertility from 70 per cent to 47 per cent from 1960 to 1981, in Cajamarca it was of only 56 per cent to 50 per cent. In 1987, 70 per cent of the roads in this department were no more than paths, and only 5 per cent were paved. Corporación Departamental de Desarrollo de Cajamarca, Problemáticos y perspectivas de desarrollo del departamento de Cajamarca 1983–1985, CDDC, Lima, 1983, p. 5; Taller de Estudios Fanny Abanto Calla, Geografía de Cajamarca, Labranza, Cajamarca, 1999, p. 77.


47. Eduardo Chacón, interview, 23 May 1996. In 1996 he was the Director of the Loreto Regional Hospital.


54. A reasonable financial fund existed throughout the campaign thanks to the sensible relations between Vidal and Hurtado. "Cólera: estado de emergencia", RSD, 14, 607, 12–14 January 1991, p. 3.


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64. In 1990 there were 1020 health centers and 3163 auxiliary posts in all Peru. Carlos Vidal, "El cólera en Perú", Revista Médica Heredia, 2, 1991, pp. 22–3.


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74. 'Dos toneladas de pescado descompuesto descubieron en ambulatorios', 8 February 1991, p. 5.

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76. Interview with Malisa Hernández.

77. 'Entrevista con César Bejarano, Director, Unidad de Tratamiento del Colécras del Hospital Cayetano Heredia, Piura', in El Colócras, otro mal compañero de viaje, CIFCA, Piura, 1991, pp. 8-9.


80. Interview with Eloy Gareis y Sotomayor.

81. Interview with Monte.

82. La Caela received 738 patients between 1 February and 2 March, a "estadística oficio, cuadro monumental del colécras", DC, 6 March 1991, p. 3.


84. Interview with Rosado.

85. Interview with Jorge Ramal, 17 March 1996, former Director of the La Caela Hospital.


87. Ibni, 'A Epidemia de colécras', p. 96.

88. Interview with Cuba. It was Cuba who phoned Fujimori to alert him of the epidemic.


91. 'Puerpero prohíbe el ingreso de alimentos del Perú', and '86 muertos en primeros 10 días de colécras', 18 and 14 February 1991, pp. 3, 6-7. 'Control en Paraguay a vigilancia de guate de Perú por el colécras', LERC, 13 February 1991, p. 2.


93. 'Perú perderá 300 millones de dólares si no poder exportar 250 mil toneladas de pescado', 16 February 1991, p. 3.


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According to a later study the economic impact of cholera in 1991 was of US$756.9 million, including the costs per death. Suárez and Bradford, Economic Impact, p. 34.

95. 'Milés de pescadores sin trabajo en marcha común piden crudos para probar que no les pase nada', 8.15 February 1991, p. 1.


97. The statement was signed by the Subregional Office of the North-Eastern Region of the Ministry of Health and the Fishermen's Syndicate. 'Un pronunciamiento frente a la sicosis del colécras', LERC, 23 February 1991, p. 3.


100. 'Pujimori insiste', ASD, 14, 609-10, 21 February-14 March 1991, p. 3.


104. 'La guerra del cevice', p. 5.

105. 'The new Minister of Health was Victor Yanamocoto. Punto final a la guerra del cevice', 8, 19 March 1991, p. 3; 'Retorno cívico', Cuarenta, 4 March 1991, p. 43.

106. I gratefully acknowledge Dr Vidal for giving me a copy of his speech. Some physicians later admitted the recommendations 'do not eat raw fish' should have been changed to something more positive, like 'eat well-cooked fish'. Manuel Eyre-Ezquerra, interview, Lima, 20 September 1996.

107. Riso Davila, 'Impacto de la epidemia', the government declared the strike illegal.


112. Ibni, A Epidemia de colécras, p. 115.


114. Ibid., p. 15.

115. 'También tenemos derecho, Desactiva Bautista, Chonque', en Jimmy Mensaco (com), Colócras. La version de los afectados, PREDES, Chonque, 1991, p. 57. This book includes the testimonies of Juan Saldomar, Paulina Quique and Desactiva Bautista.

116. On uncleanliness see Bruno Benavides, Roberto del Agüella, Enrique Jacoby and Joaquín Novoa, Conocimientos preventivos y de manejo de casos de colécras en
117. The testimonies of Fanny Gonzáles Flores and Santos Esteban Chistorro, 27 and 33 years old, in "Hospital Regional", DC, 6 February 1991, p. 4.


120. "También tenemos derecho", p. 27.


127. According to a newspaper, the epidemic was due to the "intoxication of a people that does not love itself... and lives amidst a permanent anvil of filth and social injustice", "Dos nos ha abandonado", p. 2.


129. Interview with Alfredo Myers, 10 January 1996. He notes communities like Mantaña in Chiota.


