



ELEMENTS

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## HAITI'S SHADOW SANITATION SYSTEM

BY JONATHAN M. KATZ

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Russell Leon works under the cover of darkness as part of a small crew sworn to secrecy. He is a *bayakou*, a manual laborer who empties the cesspools that collect deep bogs of human waste under Haiti's backyard latrines. In a country with no working sewers and roads that are often too ramshackle for tanker trucks, he is the sanitation infrastructure, charged with climbing down into concrete or earthen holes and scooping out the ordure with a plastic bucket.



On the streets of Port-au-Prince, “bayakou” is often used as a hateful slur. Public scorn for *bayakou* is so acute that some never tell their wives what they do for a living; contacting a man like Leon, therefore, often requires navigating the webs of middlemen that obscure his identity. But *bayakou* fill one of Haiti's most important roles, separating citizens from their own waste. They have only become more crucial to public health in recent years, as Haiti grapples with the world's most serious ongoing cholera epidemic, which began, some scientists believe, when a battalion of United Nations peacekeepers from Nepal ([http://www.foreignpolicy.com/articles/2013/01/10/in\\_the\\_time\\_of\\_spilled\\_its\\_infected\\_feces\\_into\\_the\\_country's\\_most\\_important\\_river\\_system](http://www.foreignpolicy.com/articles/2013/01/10/in_the_time_of_spilled_its_infected_feces_into_the_country's_most_important_river_system)). U.N. officials initially denied responsibility for the epidemic. Even as evidence has mounted for its culpability, the

organization has refused to comment on the outbreak's cause, because "consideration of these claims would necessarily include a review of political and policy matters."

Cholera likely originated in India, and first swept across Europe and the United States in the late eighteenth-twenties and early eighteen-thirties. It is caused by a waterborne microbe that can dehydrate and kill a healthy adult in hours by inducing vomiting and diarrhea. The discovery, in 1854, that a cholera outbreak in London was caused by a cesspool leaking into a water pump contributed to the development of modern epidemiology and the modern municipal sewer. Until then, jobs like Leon's had been common in Europe and North America: the night-soil men of Victorian London had commanded double the average skilled laborer's wage for their services while, in tenement-era New York City, cesspools were manually emptied by "necessary tubmen." Though investment in sewer systems has eliminated both manual sanitation and cholera in areas that have benefited from global trade, the job and the disease are both common among the third of the world's population that still lacks adequate sanitation.

The only way to end Haiti's cholera epidemic is to keep infected waste out of food and water. A subterranean network of pipes, pumping stations, and waste-treatment plants would be the ideal solution, but Haiti's successive governments have had too little money, power, or will to build massive public works on their own. The \$1.4 billion that New York City set aside to maintain and operate its sanitation system this year is equal to more than half the entire national budget of Haiti. International donors have been little help: in one case, the U.S. government, to protest the way an election was conducted, withheld funds to build water and sanitation infrastructure in northern Haiti for more than ten years (<http://www.ncbi.nlm.nih.gov/pubmed/20845860>). From 1990 to 2008, the proportion of Haitians with access to basic sanitation decreased from twenty-six per cent to seventeen per cent. Cholera broke out in 2010. Four years into the epidemic, a trip to the

bathroom, for most Haitians, still means looking for an open field or wading into a public canal at dawn. Those who can afford to do so dig cesspools under outhouses. When the cesspools get full, it's time to call a man like Leon.

The job is as simple as it is foul. "Somebody has to climb down the toilet hole with a bucket, and somebody has to be up top to pull the bucket up, you understand?" Leon said. There are three people in his crew: two subordinates—a bucket man and a man with the wheelbarrow to cart off the waste—and the boss, who goes down the hole.

Leon is the boss. He is fifty-four, with a worn, crevice-filled face, and he speaks in Creole, holding onto his vowels in the singsong manner typical of the Haitian countryside. He wore a clean polo shirt with mustard yellow stripes, black pants, and a pair of beat-up sneakers without socks. Leon grew up in a poor cattle-raising family in Haiti's rural southwest. As a young man, he joined the Tonton Macoutes, Jean-Claude (Baby Doc) Duvalier's secret police force, which tortured and disappeared thousands of Haitians. When Duvalier fled the country, in 1986, Leon burned his denim uniform and went underground, eventually following a tide of rural migrants to the capital. There, desperate for work, he met a master *bayakou*, who showed him the rudiments: how to pour a bottle of lavender-scented floor cleaner into the pit to soften excrement and cut the smell, and how to find a good spot nearby to dump, burn, or bury the excreta.

Leon explained how he does his job: after the floor-cleaning solvent has soaked its way into the cesspool, he kicks off his shoes and removes his pants and shirt. To avoid ruining his clothes, he prefers to work naked—"the way I came out my mother." He climbs into the hole carefully. This is the dangerous part, because careless clients often throw trash into their latrines. A single cut from a broken bottle can mean infection, even death. If he does get cut, Leon uses a candle to cauterize the skin. Then he gets back to work. There is no time to lose: to remain unseen, the crew will leave when

dawn comes and return the next night to finish. Haitian sanitation experts

([http://wedc.lboro.ac.uk/resources/pubs/emergency\\_eds\\_and\\_optior](http://wedc.lboro.ac.uk/resources/pubs/emergency_eds_and_optior)) say that a *bayakou* team can empty a fifty-cubic-metre cesspool, roughly the size of a thirteen-by-thirteen-foot room, in two to three nights.

Because the *bayakou* work unseen, Haitian folklore sometimes invests them with a kind of mystical power. For Leon, though, the work is all about the money. *Bayakou* make at least thirty dollars per latrine, according to some estimates—the equivalent of a month's salary sewing Hanes T-shirts in a Port-au-Prince garment factory. Leon said that he can get six hundred dollars for a three-day job.

Building a nationwide water and sanitation infrastructure would cost \$1.6 billion, Pedro Medrano Rojas, the new U.N. senior coordinator for cholera response in Haiti, told me. There is a strong economic argument for meeting that cost: studies (<http://www.wsp.org/content/why-invest-sanitation>) have shown that spending on sanitation infrastructure can yield a fivefold return on investment, while inadequate sanitation can sap as much as seven per cent of G.D.P. per year. But Haiti certainly can't afford to undertake such projects, and the international community seems unwilling to help. A year ago, the U.N. issued a \$2.27 billion request for cholera eradication in Haiti. So far, member states and multilateral organizations have disbursed just a hundred and eighty million dollars, Rojas told me.

Philanthropists prefer small-scale, privatizable projects: in 2012, the Bill & Melinda Gates Foundation held a contest to redesign toilets for developing countries. First prize went to a solar-powered, electricity-generating design from Caltech ([http://seattletimes.com/html/localnews/2018918018\\_toilets15m.ht](http://seattletimes.com/html/localnews/2018918018_toilets15m.ht)) with a price tag of about a thousand dollars per toilet. Boston's MASS Design firm has won acclaim (<http://www.theatlantic.com/magazine/archive/2013/11/the-inventors/309534/>) for planning a Haitian cholera clinic that

doubles as a waste-treatment site. (Cost: four hundred and fifty thousand dollars per facility.) The firm's founders told me that their design is only a medium-term solution, a stop-gap until a subterranean waste infrastructure can be built "in the next fifteen to twenty years."

The Haitians who will die in the continuing epidemic won't be able to wait that long. Since the outbreak began, in October, 2010, eighty-five hundred people have died and seven hundred thousand have been infected. At least a dozen new cases come to light each week, and the disease has spread beyond Haiti's borders, killing hundreds as far away as Mexico.

Many advocates argue that the billions in needed investments must be made now, and that they should be made through the United Nations. Last year, lawyers representing five relatives of Haitian cholera victims filed a class-action lawsuit against the organization in U.S. district court, in Manhattan (<http://www.businessweek.com/news/2013-10-09/haiti-post-quake-cholera-cases-prompt-lawsuit-against-un-1>). On March 7th, the Justice Department recommended that the judge dismiss the suit, citing the U.N.'s absolute "immunity from every form of legal process." The judge's final decision is pending; other lawyers say that they are filing two additional, separate U.S. federal lawsuits for cholera relief against the U.N. The U.N. has not officially commented on the allegations in any of the lawsuits, other than to maintain its legal immunity.

Without outside help, there is little chance that sanitation in Haiti will improve. The country's newly formed National Directorate for Potable Water and Sanitation, or DINEPA, which opened its doors in 2009, has just nine staffers to oversee sanitation for a nation of ten million. International aid did help to open two new waste-treatment plants north of Port-au-Prince, but one of them closed last year, owing to a lack of funds; the other is operating below capacity.

Most *bayakou* continue dumping their waste wherever it's convenient: on the ground, in ravines, or even in rivers. DINEPA and some aid groups have resolved to work with *bayakou* (<http://www.oursoil.org/supporting-haitis-underground-sanitation-workers/>) by hiring them directly, or by creating a regulatory system to oversee their work, reasoning that any useful program will have to build on the imperfect systems that Haiti already has. If Haiti ever does get the kind of sanitation infrastructure that it needs, Leon could be out of a job. He isn't concerned. There will always be waste, he said. "There will always be a *bayakou*."

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*Photograph by Ramon Espinosa/AP.*

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