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An Assessment of the Many Facets of Cholera in Haiti A Review of Ralph R. Frerichs' *Deadly River*

Part II

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In January 2011, the prestigious medical journal *The Lancet* summarily rejected the article of Renaud Piarroux and his Haitian-French team in which they reported the information collected in the field and also established links with the MINUSTAH camp. Shortly before, the journal had published an article acknowledging "speculations' about UN peacekeepers," if only to quickly reject them. "It fit hand in glove with the *Lancet Infectious Diseases* editorial about 'unhelpful' blame," in which, in addition, it was stated cynically and with unspeakable dismissiveness that the search for the source was "a matter of scientific curiosity for the future" (p. 159).

Controversies: fueling science or, here, stubbornness and willful blindness

Science develops from hypotheses and theories, sometimes irreconcilable, to be confirmed or rejected through experiments and the analysis of objective data. Three hypotheses were proposed to explain the origin of cholera in Haiti: the bacteria had been transported by the Gulf Stream from the Gulf of Mexico as a result of the earthquake; a mild strain already present in Haitian coastal waters had mutated into an aggressive strain; the bacteria had been introduced by infected human beings (p. 162).

The environmental hypothesis, defended by Rita Colwell, a renowned scientist who made it the cornerstone of her career, stipulated that local bacteria present in a mild form in estuaries around the world may change and cause outbreaks of cholera. In the case of Haiti, this hypothesis was *a priori* as legitimate as any other. However, it remained to be validated, as would be the case for any other theory.

The danger that looms for those who have built an important scientific career on one theory is that they risk becoming blind to other points of view. Instead of seeking an explanation for a new reality without preconceived ideas, they may try to force it into a predetermined mold. Too bad for the facts. They then become mere details that can be rearranged as one wishes. In retrospect, it became clear that Colwell had succumbed to this form of willful blindness that led her to deny the evidence and state the harebrained theory of the "perfect storm" in which, among other inaccuracies and unsubstantiated claims, Hurricane Tomas was supposed to have acted as a trigger when in fact it occurred after the outbreak of the epidemic.

But in 2010, Colwell, who one commentator called a titan, claimed *a priori* that the source of the epidemic could come only from the delta of the Artibonite and was vigorously opposed to any questioning of MINUSTAH and the Nepalese peacekeepers. She may have been convinced she

was right, but her interests were also at stake since a human introduction of the bacteria would make the environmental theory less universal.

The geographical reality, literally bringing water into the picture, would bring water to the mill of the proponents of the environmental theory and anyone seeking to obscure the role of MINUSTAH. Contamination of the tributary of the Artibonite river that passes near the MINUSTAH camp in the Centre département spread downstream. When the water arrived at the delta (where population density is high), it divided into a multitude of canals irrigating the rice fields. In the space of two or three days, this resulted in an exponential explosion of the number of cholera cases. If you were to omit, knowingly or inadvertently, the cases that appeared in the Centre between October 14 and 18, you would seem to have, in effect, an epidemic that broke out on October 20 in the delta of the Artibonite, as Colwell's thesis predicted. Hence the manipulations of the maps of the epidemic reported above.

Scientists and journalists who would follow the track indicated by the complete (not truncated) history of the epidemic and investigative scientists who would prove, by comparing their genome, that the cholera strains in Haiti and Nepal were "virtually identical" faced a formidable coalition of scientists regrouped around Colwell, of organizations linked with the United Nations or the United States Government, and militants allied against global warming and its devastating consequences for the planet. Some people of good faith were to be deceived by the aura of Colwell and the authority she projected. Albeit this authority became somewhat compromised by the freedom she and some of her colleagues took with academic integrity. Notably, their manipulation of the OCHA map of 22 October 2010 – that "was put to a different use ... and without source attribution", in an article co-authored with Alejandro Cravioto and others – left open the question of a possible "link between earthquake-ravaged areas and the epidemic." The existence of such a link "would fit the first factor in Colwell's perfect storm theory" (p. 210-213).

Contribution to the cover-up of the so-called independent panel of experts of the United Nations

Feeling the heat, Ban Ki-moon decided to establish an "independent panel of experts," under the direction of Alejandro Cravioto, whose members were chosen in collaboration with the WHO, itself a "specialized agency" of the United Nations. Three of them, the most experienced, had close ties with the stalwarts of the environmental theory, Colwell and David Sack. They had all three published with Colwell, and two of them with Sack. Still, "the UN didn't seem to feel the panel members constituted enough of a united front, and it hired Sack as a consultant to them.... The same David Sack who in late November, without having spent a single moment on site investigating cholera in Haiti, had stated, 'Vibrio cholerae, the bacterium responsible for cholera, may have been dormant in water until weather-related conditions caused it to multiply enough to constitute an infective dose if ingested by humans'"(p. 161).

The panel rejected Piarroux's conclusion regarding the importation of cholera by a MINUSTAH soldier, but could not endorse the environmental conclusion of Sack: their bias would have been too blatant. The panel attributed the introduction of the bacteria to "contamination of the Meye Tributary of the Artibonite River with a pathogenic strain of current South Asian type *Vibrio*

cholerae as a result of human activity." The United Nations guilty of criminal negligence causing death? No. The "independent" panel exempts them explicitly and completely in spite of everything. Then who is to blame? A "confluence of circumstances." Frerichs surmises from their argument that, in their view, "the blame belonged with the Haitian people themselves, their sanitary environment, and their medical care providers" (p. 190).

Panel members would review their position gradually over time while maintaining some ambiguity, saying one thing to the media and another in their scientific publications (p. 213-214). Too late, anyway. The harm done to Haitians was irremediable. The United Nations will cling for a long time to their exoneration.

Participation of the Haitian authorities in the cover-up

While he was visiting Washington DC, Archbishop Louis Kebreau, President of the Conference of Haitian Bishops, said: "'The problem is that the government knows [the cholera outbreak] comes from Nepal,' the archbishop said. 'But the government doesn't have the guts to say it openly.... People are reacting ... because the government hasn't acted.' 'Truth and openness would resolve a lot of trouble,' Kebreau concluded" (p. 160).

Frerichs indeed relates that "visiting Mirebalais two days after cholera was officially reported, accompanied by Minister of Health Alex Larsen and several other officials, [President Préval] told a radio interviewer that the epidemic was imported but that he did not want its origin investigated. It would be 'irresponsible and dangerous' to identify a country as the source of the epidemic, he said – choosing words that surprised DELR epidemiologists and likely others" (p. 35).

Frerichs' book is centered on the action of Piarroux, who has worked closely with the author. According to Piarroux, "surely President Préval and other high officials knew the truth about cholera's origin.... Yet he and his government were silent.... He could not fathom why, as a wave of death spread over Haiti, the main political leaders would say nothing publicly about its origin"(p. 78).

Continued in Part 3 on July 17, 2016