

Science, Disease, and Climate Change

by Gary Beverly (April 21, 2020)

I am overfull of Covid-19 news reporting.

The growing disaster stalking our nation is causing unimaginable pain to our people, especially seniors, the poor and the homeless, and science says it will get much worse. We might take some comfort from history: pandemics have come and gone before, and we are a resilient, strong people. Covid-19 will eventually be controlled if we respond as a community, trusting in science, not political dogma.

Substitute “climate change” for the disease in the above paragraph and it remains true (except that climate change has no human history — this is our first encounter), because the virus and climate change are interrelated. How has Covid-19 affected climate change? How has climate change affected Covid-19? How did we create both?

Cars, trucks, ships and airplanes are among the largest sources of greenhouse-gas (GHG) emissions, and one consequence of the pandemic is reduced emissions related to transportation. As of this writing over 20 million workers in the US are unemployed, staying home (worrying about food and rent) and avoiding auto travel. Airlines have grounded thousands of planes. With reduced economic and industrial activity, shipping is down. The reduction in GHG emissions has temporarily improved air quality, reducing the impact of all respiratory diseases, Covid-19 included. These few beneficial effects are temporary at best and will likely be overwhelmed by effort to restart the economy. Climate change is a long-term problem; Covid-19 a short one.

The economic effects of the virus will probably worsen climate change. Economic stimulus packages intended to prevent recession will not be green. The Trump administration has already suspended or weakened over 95 environmental rules, including mileage standards and restrictions on natural-gas leakage, and now has suspended enforcement of the remaining regulations. The administration proposes stimulus subsidies for airlines, fossil-fuel companies and cruise ships! Really? Market analysts foresee reduced investment in renewables. Oil prices are down due to reduced demand and the Saudi-Russia oil fuss, encouraging fossil-fuel use. Canada is accelerating the Keystone XL pipeline project. Sarah Myhre, a climate scientist and environmental justice activist, said that the way the world recovers from the pandemic is vital in the fight against climate change:

“If the actions here continue to bail out fossil-fuel companies and multinational corporations and banks, and invest in fossil-fuel infrastructure, then we are digging a hole deeper into a more violent and dangerous place.”

We can hope there will be some positive social effects. I hope that Covid-19 reinforces an appreciation for and trust in science that will help us adapt to climate change. Perhaps we have learned to reduce travel using technology (Zoom, anyone?). By revealing the gross inadequacy of employment-based health insurance, the pandemic may increase public support for a single-payer health system that covers everyone. The rapid, albeit delayed, response to Covid-19 demonstrates that society can change quickly in response to crisis.

The virus is a crisis; it has an immediate and tangible effect: you get sick. Climate change grows and changes slowly, and you feel fine, for now. Peter Gleick, a climate scientist and founder of the Pacific Institute in Berkeley California, comments, “The pandemic is fast, shining a spotlight on our ability or inability to respond to urgent threats. But like pandemics, climate change can be planned for in advance, if politicians pay attention to the warnings of scientists who are sounding the alarm.”

The human role in climate change is well known. Since the Industrial Revolution we have been dumping industrial waste into the atmosphere and changing the world. Fewer understand that our economic system creates infectious disease, including pandemics like Covid-19.

We began creating disease 10,000 years ago by domesticating animals: cattle gave us measles, camels contributed smallpox, pigs coughed up whooping cough, chickens bestowed typhoid fever, ducks threw in flu, water buffalo donated leprosy, and horses transmitted the common cold. When Europeans colonized the Americas, these diseases wiped out 90% of the indigenous people, who had no immunity. Now, modern medicine has largely conquered these diseases of domestication.

Modern medicine struggles to contain the next great wave: zoonotic diseases such as influenza and other viral maladies caused by our changing relationships with animals. Beginning in the tropics in about 1975, logging, mining and fossil-fuel production increased demand for meat, which was satisfied by harvesting primates for bush meat. That exposed the world to AIDS and Ebola. At home, farms and cities expanded into cleared forest and eliminated the predators that control mice and deer populations, which exploded, bearing ticks and exposing us to Lyme disease.

High-intensity animal agriculture is a huge contributor to disease and greenhouse-gas emissions. Profit-driven animal agriculture crams cattle and pigs into feedlots or cages and stuffs them with unnatural feed (spreading mad cow disease) and non-therapeutic antibiotics (spreading antibiotic-resistant bacteria). Big Ag jams millions of chickens into small barns, then sells the carcasses “spiced” with fecal material that sickens consumers with salmonella and listeria bacteria. Small farms and backyard chickens don’t do this.

The worldwide exotic-pet trade and, in Asia, a taste for exotic meats have spread the most dangerous communicable diseases yet known. Commercial bushmeat farms provide live animals to “wet markets” with stacks of caged animals, where a consumer selects an animal that is slaughtered on the spot in totally unsanitary conditions, ideal for transferring animal disease to humans. That got us SARS. And MERS. And Covid-19. And the next one.

Pandemics and climate change are not natural disasters. They are created by us. The root causes are the corporate obsession with short-term profit at the expense of human health and planetary stability, and the rejection of science-proven facts.

We have created two serious threats by over-exploiting our environment. The way out of the current viral threat is to listen to epidemiological scientists: flatten the curve of infection by social-distancing. The solution to the climate-change threat is to listen to climate-change scientists: flatten the curve of temperature by reducing your personal contribution of greenhouse gases and by voting for political leaders who will implement reforms like those proposed in the Green New Deal.

2020 is our last best chance. You know what we must do.