

Understanding our interconnected world and COVID-19

16 March 2020, by Steve Cohen



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In his pathbreaking 1971 book, Barry Commoner outlined his enduring and succinct four laws of ecology: (1) Everything is connected to everything else; (2) Everything must go somewhere; (3) Nature knows best, and (4) There is no such thing as a free lunch. I suppose I always suspected that nature might know best and we should not trust technology. Nevertheless, half a century later I'm afraid it's too late to turn back and we need to double down on technology and hope we can invent our way out of the current mess. But as I have thought about this latest Coronavirus, I find myself returning to Commoner to understand the current crisis.

Our [world economy](#) and society are now interconnected by supply chains, communications technology and travel. Commoner taught us that everything in the biosphere was connected to everything else, but now everything in human society is connected to everything else. And so, the oceans and vast landmasses of this planet no longer protect us from the negative impact of human behaviors and technologies. Perhaps at one time, the oceans protected the "new world,"

but the nuclear bomb ended that idea for all time. Now, a disease that may have jumped from animals to humans in a food market in China has led to illness, death and mass change in every corner of the planet. That is what I mean when I say we are an interconnected world. Just as we see the same images and buy the same products, we share the same diseases.

That leads to Commoner's second law of ecology: Everything must go somewhere. What he meant was there is no such thing as waste. Everything we think of as an output of one system of production is an input somewhere else. The novel virus that we have never seen before is easily transmitted through the same interconnected ecosystem that Commoner wrote about and has impacts we do not fully understand. I strongly believe we can learn those impacts and manage them, but Commoner was more skeptical. He believed as the third law states, that "nature knows best." These ecosystems have evolved over eons and have intricate relationships and interactions we are only starting to understand. Maybe someday we'll figure it out, but when he wrote his book in 1970, he believed that our natural systems were more complex than humans understood. He was certainly correct then, and while we've learned a lot over the past fifty years, there is much more to learn about ecology and biology if we are to truly and sustainably manage our planet.

And that, of course, leads to Commoner's 4th law of ecology, "there's no such thing as a free lunch." We love the benefits of globalization, the big screen TVs, the iPhones, the businesses built on global tourism, but none of this is cost-free. It's like the original free lunch, the ones that saloons offered for "free" but customers paid for by buying alcohol. All benefits come with costs. The costs can be reduced by developing and paying for a [health system](#) and system of government experts to monitor, mitigate and contain the diseases that move from place to place. After 9-11, New York

City invested in an anti-terror police force of about a thousand people. After the outbreaks of disease over the past several decades, the federal government developed some of the capacities needed to combat these problems, but too many of them have been eliminated on the altar of the deity we call lower taxes. New York City has a high tax rate, but we New Yorkers benefit from high-quality first responders: The NYPD and the FDNY with its world-class Emergency Medical Service (EMS). As we eventually pay the huge financial costs of a national emergency that might have been averted, we should remember Barry Commoner's Fourth Law of Ecology... the one about the free lunch.

In an article published in the [New York Times](#) this past Saturday, Julie Bosman and Richard Fausset reported on the impact of a decade of budget cuts on state and local health departments throughout the United States. According to Bosman and Fausset:

"A widespread failure in the United States to invest in [public health](#) has left local and state health departments struggling to respond to the coronavirus outbreak and ill-prepared to face the swelling crisis ahead. Many health departments are suffering from budget and staffing cuts that date to the Great Recession and have never been fully restored... Now, these bare-bones staffs of medical and administrative workers are trying to answer a sudden rush of demands—taking phone calls from frightened residents, quarantining people who may be infected, and tracing the known contacts and whereabouts of the ill—that accompany a public health crisis few have seen before. Nationwide, local and state health departments have lost nearly a quarter of their work force since 2008."

It looks like the bill for the free lunch is finally coming due. It is not that the United States is addressing this crisis with no resources, and while the politicians flounder, we are at least fortunate to have Dr. Anthony Fauci, serving as the nation's chief infectious disease expert. Dr. Fauci is a master communicator and a true expert with decades of experience who has managed to cut through the partisanship of the present to push our federal government into action. Even more important, in the absence of clear direction from the

President, Fauci has become the credible voice that governors, mayors, the NBA and NCAA and corporations are listening to.

Nevertheless, understanding the American health care system and the complex interconnected world we live in is not the same thing as figuring out how to cope with it in the current crisis. As we all respond to the unprecedented Coronavirus, few of us can avoid a feeling of deep and relentless unease. This is a feeling that will persist, but I believe that in the face of this danger and in response to it, we need to focus on our responsibilities to each other and to the community we are part of. An example of that is the sports teams and stars that are paying their venue workers some of their lost wages. Our compassion and sense of community have never been more important.

While many people are in jobs where they provide direct, in-person service to people, and cannot "work from home," some of us are fortunate enough to be in professions that can allow us to do some work online. Last week, I taught my Sustainability Management course to about 50 students on Zoom. It was the first time I ever taught remotely, and it was a challenge. I guess it really is hard to teach an old dog new tricks. The session went well enough, but I hope that when I teach again after spring break it will improve. Some classes are designed to be delivered online. This one wasn't and we had two days to prepare for the new world. But I am determined to teach my students and ensure that the class we started in January meets the objectives I promised to deliver. As schools closed all over America and here in New York City most educators are facing the same challenge. Our world has changed and will never really be the same.

Education is not simply a set of classes, but it also involves co-curricular programming outside the classroom. I often say that when I was in [graduate school](#), I learned more in cafes and bars than in classrooms. It is the informal out-of-class learning that creates memorable, life-long lessons. And I feel the need to adjust and somehow find ways to augment the classroom experience with other virtual experiences. This past weekend I saw

dozens of kids whose school musicals were cancelled singing online. And of course, who will ever forget last week's videos of Italians singing from their balconies and apartment windows.

This week, from my office on Columbia's magnificent Morningside Heights campus I was able to see students who plan to graduate in May, preparing to move back home but first posing for photos by the Alma Mater statue at the center of campus dressed in their commencement regalia. It was both depressing and profoundly moving to see. They will probably not be back for graduation, even if we somehow manage to be back to normal by mid-May. While the traditional rite of passage, of pomp and circumstance might be denied to them, they still improvised their own brief ritual.

As we understand the new world we live in, it is important that we learn the correct lesson from this particular crisis. It's not that we should hunker down and somehow retreat to the familiar and local. Globalization is not going away. Even after this. We need to develop the technologies, organizational capacities and institutional framework that enable people to be safe in this [new world](#). Security and safety remain the irreducible central function of government. That includes sustainable economic development, a clean environment, and a sophisticated and capable system of global public health.

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