

## **An Indigenous Perspective on the Spread of Infectious Disease**

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The spread of the coronavirus has infected over 80,000 people across the world in the last two months, as well as international news headlines. While some blame China's government for its malpractices in Wuhan's seafood markets or its ignorance of the warnings from local medical providers in contact with infected patients as the cause of the spread of the virus, a major point of contention is that the problem stems from a lack of preparation on an international level. We are not prepared to handle a pandemic of such magnitude as coronavirus COVID-19. Looking forward to a society post-treatment of the coronavirus, it is reasonable to conclude that a similar deadly virus will arise and make its way into our cities. So the question we must ask now is: how do we prevent the next pandemic? In order for us to do this, we need to shift our Western perspective to an Indigenous one, starting with the Anishinaabe communities of the Great Lakes region and how they regard invasive species. The Anishinaabe approach is not so much a story of prevention, rather, a narrative of welcome.

One key aspect of the Anishinaabe culture is their belief in aki. While "aki" can be translated as "Earth" in English, it holds a much broader sense of the sacredness of space. With this in mind, non-living things like land and water are just as living as the animals and plants we non-Anishinaabe typically recognize as life. This way of thinking implies reciprocity and mutual responsibility between lifeforms. Rather than cause-and-effect, fluidity exists between two lifeforms. Thus, we cannot view unfamiliar lifeforms as non-native, which begs the question of how we can regard invasive species if they are not inherently invasive to begin with.

The conception of invasive species by the Anishinaabe can be visualized in three aspects. First, the Anishinaabe look at invasive species as a natural form of migration. Instead of "species", plants, animals, and beings are nations that can freely move between lands. Mobility is not inherently good or bad, even though their precipitating causes may be. Secondly, it is important to be continuously discovering new species and their purpose, sometimes with the assistance of animals as teachers. One way the Anishinaabe explain the ecological destruction of some invasive species is our neglect of tending to our responsibilities of understanding interspecies relations. For example, the invasive zebra mussels were introduced to the Great Lakes via ballast water. As a result of our failure to understand the interactions between the mussels and the Great Lake wildlife, zebra mussel migration has grown out of proportion and is negatively infecting lakes with toxic algae. Finally, the Anishinaabe perceive invasive species as providing alternatives to our current ecological systems. Anishinaabe elders believe that nature finds its own balance and that new species will find their own niche within an ecological network. Western approaches to land and invasive species management, such as chemical techniques, intervene with the natural process and disrupt nature's equilibrium.

We are not prepared for the next pandemic because we do not truly understand the life forms around us and our relationships with them. For us to accommodate the next pandemic-causing virus, we must learn from the lessons of aki and the Anishinaabe and put their three lessons into practice. This begins with us looking at infectious diseases as natural. As many infectious diseases arise from infectious agents from animals being passed on to humans, it is unlikely for us to stop our interactions with animals in an interlinked global food and agricultural economy. Thus, it is natural that infectious diseases will arise. Strategies that strictly focus on the

prevention of such diseases cannot be implemented because we cannot prevent viruses from coming into contact with humans. Instead, we have to learn how to adapt with them.

Next, we must be continuously learning from previous widespread infectious diseases and understand their effects on humans and our governing ecosystems. Recently, scientists in the United States' Center for Disease Control (CDC) were able to manage their expectations for the arrival of the coronavirus based on previous experiences with other viruses, such as the arrival of the ebola virus in Texas in 2014. With their appraisals of the ebola virus, the CDC created containment policies that were implemented during the spread of the coronavirus. While they are not perfect, the ebola virus became a launch point from where we frame our actions. Moving forward, we can also learn from our animal teachers as the Anishinaabe do. While we cannot know the exact human reactions from every zoonotic virus, we can research their patterns on animals and how they react naturally without human intervention. Understanding how we interact with animals, such as the ways we obtain our food, can highlight potential catalysts for spread of disease. This allows us to prepare for a future pandemic and how we can restore equilibrium past infection.

Lastly, we let nature find its balance once disease has spread. Research has shown that human contributions to climate change are early indications of widespread infectious disease. A number of viruses, such as Zika, are climate-sensitive and are expected to worsen as we experience more extreme weather. We have to limit the disposal of human-made products, such as air and land waste, into our environment because it disrupts nature's ability to reach equilibrium when an infectious disease has entered a community.

A catastrophe of the scale we are seeing with the coronavirus should make the global community pause. The Anishinaabe serve as an example of how we can reconnect with nature, and we owe it to our lands and communities to take care of them. This begins with understanding our interactions with other lifeforms and welcoming uncertainty, ultimately viewing infectious disease as a natural process that will adapt with us as much as to our environment.