

The Microbe Is Nothing, The Terrain Is Everything

A Faithful Response to Covid-19

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In his 1956 book, *The Stress of Life*, Hans Selye included a quote from the dying father of the Germ Theory of disease, Louis Pasteur, “Le microbe n’est rien, le terrain est tout.” (“The microbe is nothing, the terrain is everything.”) The quote is contested by some, but a fitting introduction to this commentary.

In Deuteronomy 7, God promises that if we keep His instructions, He will take away sickness and disease. If everyone followed His instructions on clean and unclean animals, the coronaviruses commonly found in animals like bats would likely not come in contact with humans. That is, of course, assuming man did not intervene to alter viruses in labs.

But regardless of what happened, what should our response be? Should we hide in fear of viruses? Should we declare an all-out war on viruses? Are viruses a mistake in God’s creation?

I must confess here, and apologize to the later Mrs. Williams, that I actually slept through biology class. And besides the day we dissected frogs, I don't remember much. (I remember that because that formaldehyde was very hard to sleep through.) As such, I found this study into viruses very interesting, and I learned a lot.

A virus is a small particle without its own cell, and therefore technically not a living organism because it cannot reproduce on its own. To reproduce, a virus particle must infect a host cell, inject it with instructions, and force it to reproduce virus particles, which are later released to infect more host cells.

Viruses come in all shapes and sizes. It is estimated that the number of viruses in the world is over 10 million times more plentiful than the number of stars in the universe. They’re so small that millions could fit on the head of a pin! In contrast, bacteria are larger, single-celled living organisms capable of reproducing themselves. That's why antibiotics are helpful against bacteria but of no help against viruses.

Viruses are found literally everywhere—water, air, atmosphere, soil, animals, objects (this microphone!). They are constantly "searching" for a host cell. But the good news is that most are no threat to humans because, by design, they require a compatible cell to infect.

There are a few hundred known viruses that do pose risk to humans and can cause disease. Most new viruses enter the human population as a zoonosis, infecting people through animals. In the last three decades, we’ve seen three coronaviruses—SARS in 2003, MERS in 2012, and now COVID-19. Other examples include ebola, HIV, rabies, smallpox, and various strands of influenza, including the Spanish flu, estimated to have infected over 40% of the world's population and killed over 50 million people. Bigger cities, global travel, massive scale and compressed animal farming, global food shipment, increased domestication of animals, all combined with a rising human population, increase the risk of new virus diseases.

All this talk about viruses might make us want to become the "bubble boy" and isolate ourselves from the world and each other. But knowing viruses are part of God's creation, are they all bad? No, some very helpful, like phages which infect and destroy specific bacteria found in our mucus membranes and digestive linings.

Instead of following God's instruction, mankind seeks its own solutions: antibiotics, antibacterial soaps and cleaners that kill all germs, both good and bad. Instead of focusing efforts on individual health, we search for the quick fix, often causing more harm than good. Studies have proven that as humans reduce exposure to the outdoors and natural germs, there is an increase in susceptibility to disease. Early and constant life exposure to microbes stimulates and strengthens our God-given immune systems. It creates resistance to future infections. Children that grow up in overly sterile environments are much more likely to be compromised by asthma, autism, allergies and autoimmune diseases.

God did not leave us defenseless, brethren. Our immune system provides amazing protection against viruses and bacteria seeking to invade our bodies. Our skin has detective cells, creating an early warning to secrete substances to kill germs quickly. Our tears, saliva, and mucus contain enzymes to break down and fight germs before they fully enter. Our stomach and digestive systems have good bacteria that will kill harmful substances.

One of the most important components to fight disease is our lymph system. Our lymph system is responsible for feeding our cells with nutrients, clearing away cell waste, and acting as a filter to detect and remove germs. When we feel our lymph nodes getting larger, it's because they are full of fluid that needs cleaning of infections. But what is interesting to me—and I learned this—is that unlike our heart, which pumps blood, the lymph system has to rely solely on our movement to properly protect the body. This is one reason why a healthy immune system requires daily movement and daily exercise. Without it, our cell walls become compromised and more easily allows in foreign substances like viruses.

Our spleen filters and removes infections from our blood. Our bone marrow produces billions of white blood cells, which create custom antibodies that bind to a threat to form an antitoxin. We have on average over 7,000 white blood cells per microliter of blood, working like Navy SEALs to capture and engulf threats. Millions of different antibodies in our bloodstream bind to stop virus movement through cell walls. Our complement system has proteins manufactured in the liver that cause bad cells to literally burst, and signal when a bad cell needs to be removed. Interferons provide instant communication, alerting other cells to produce proteins that prevent viral replication. Our immune system is so complex, we're just scratching the surface of our internal army, navy, air force and marines, on guard constantly to seek out, find, and destroy viruses and threats.

Louis Pasteur's germ theory suggests germs are what we need to worry about and we need to avoid them at all cost—destroy them all and sterilize our environment. That's why we have pasteurized milk, which eliminates harmful germs while also eliminating the nutritional value. The terrain theory suggests that if the body (the terrain) is healthy and balanced, then the many germs, which are a natural part of our environment, will be dealt with by the body without causing sickness.

Why has the US had more serious infection from the coronavirus? Well, we're among the most unhealthy people and our immune systems are compromised! We've become a bit lazy and we don't put enough effort into proper nutrition. We eat food harvested at massive scale on poor soils using

toxic chemicals banned for decades in other countries. We don't drink enough water, we drink too much alcohol, and we spend too much time indoors and on our rears. But we look for the quick fix, the easy solution that often leads to longer term issues, All because we don't want to put in the effort to do our part to be proper stewards of our God-given immune system.

God has promised to protect us from disease if we obey Him and His statutes. He has gifted us with a body that is fully capable of protecting itself, as long as we do our part to keep it healthy. We know He does not bless lazy and poor stewards. We know we could do better to avoid sugar and manufactured foods, to eat more vegetables and take supplements. We know we need that daily exercise for our immune system and to prevent dementia. God is watching us and our response, to see how we are responding to take care of the body He has given us. Improper care of our bodies has both spiritual and physical ramifications, and we should all use this wake-up call of COVID-19 to reflect and double-down on both spiritual and physical health.

We will never eliminate the threat of viruses, but we should not fear. Regardless of how hard we try, there is a very high probability that this contagious COVID-19 virus, spread through people with no symptoms, will eventually spread to our homes. We must put our faith in our Creator while we work harder to become better stewards, caring for the bodies He has given us. When we do our part, the body's terrain becomes literally inhospitable to viruses. But even with our best efforts, we must remember that we may still get sick and require healing from our Creator. We have comfort, for our Creator knows best and not even a hair on our head will fall without His permission.

Many are frustrated with the blunt-instrument response to COVID-19. But it's far too easy for us to force our perspective and opinion on others. If someone decides to take efforts to reduce risk of COVID-19, that is their choice. There is nothing wrong with being careful. There is nothing wrong with wearing a mask if you desire to reduce the risk of you perhaps spreading the virus to somebody else. Those that attend services today—it's great to be together, but we are not more holy than somebody who stayed home who is at high risk. Longer term, we know we should not avoid services because of fear of sickness. But we all must remember, only God can judge our heart, and He alone knows if our actions are done in faith.