Our Finest Hour: A Response to COVID-19 By Rev. Dr. Todd F. Eklof March 22, 2020

As a minister and a preacher who follows that shamanic tradition, I consider it my job to enter into altered states of consciousness in search of wisdom that I can then bring back and share with my community, to help others expand their own consciousnesses. My consciousness expanding experiences aren't achieved by ingesting peyote, ayahuasca, or magic mushrooms, but by studying science, philosophy, and other disciplines that help me open my mind and see things from a new point of view.

Shamans are also responsible for helping to heal the sick and to explain the cause of their ailments. Traditionally, they have spoken of diseases in terms of invisible poisoned darts sent by an unknown enemy. Given our shamanic ancestors didn't have the perspective of modern science and medicine, this isn't a bad way to describe viruses.

The invisible dart threatening us today is the coronavirus, and we are fortunate to have the vantage of science and medicine and technology to help us better understand and deal with it. Unfortunately, there's also a lot of information overload, mixed messages, conspiracy theories, and a 24-hourse news cycle that has trouble getting away from speculation, propaganda, political spin, and fear.

Fortunately, I've had the opportunity to attend much of a three day online summit on the coronavirus this past week, and have been able to gain a lot of reliable information from some of the top medical experts in the field, some of whom are on the frontline of the global effort to end this pandemic. Some of what I have to share is going to be technical and detailed. So I invite you to grab a pen and paper to take notes if you'd like. We're going to take about a minute of silent meditation while you do that.

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I want to begin by extending my deep and sincerest gratitude to Singularity University for having responded to the coronavirus crisis by assembling the COVID-19 Virtual Summit this past week, from which the information I'll be sharing comes. Unlike any other sermon I've ever given, I am almost unabashedly plagiarizing what I'm going to say from the Summit. Thankfully, it's information SU wants shared with as many people as possible. That's the shamanic journey I took this week, the consciousness expanding netherworld I entered to learn as much as I could about the virus, which from this point on I'll refer to as COVID-19, which stands for "Corona Virus Disease of 2019." Having attended Singularity University, and as a member of its community, there is no group on Earth I would trust more for acquiring the accurate and practical kind of information all of us want and need right now. I am as proud as I am humbled to be part of SU; and have much gratitude for the gift they have given the world this week. When the summit started on Monday morning, more than 20,000 people from around the world logged in: a crowd so unexpected that it initially crashed the site. I'm even more appreciative that SU is openly sharing the recorded COVID-19 Summit with the entire world on YouTube. After our service is over this morning our staff will send out a churchwide email with a link to its various sessions so you can watch them for yourselves.

Obviously three days of information is too much to distill down to just few minutes, so I'm going to concentrate mostly on what we know about the virus, at least according to those experts who spoke at the Summit , and what we can do to help keep it from spreading and from catching COVID-19 ourselves. I'll then conclude by talking a bit about the positive things happening and the important role each of us plays in getting all of us through this.

So let's start with what we know about the virus itself. The COVID-19 Summit began with a presentation by Dr. Divya Chander, Chair of Singularity University's Neuroscience Department. She tells us the virus is zoonotic, meaning it was passed to us from another species. One explanation for this is that global warming and the consequential destruction of habitats is causing us to come into closer contact with animals we normally wouldn't, meaning our immune systems haven't built up a resistance to some of the bugs they carry. From this, some have further inferred the COVID-19 is only a harbinger of things to come. I wouldn't be so sure, and I'll explain why a little later.

The virus itself is described as having tiny spikes on its surface, or *coronas*—the Latin for "crown"—for which all coronaviruses are named. These spikes easily attach to membranes of our cells. In fact, there's both a enzyme atop our cells that break the virus's protein up so it can be more easily absorbed, and a receptor that's shaped a bit like a Lacrosse stick that's just perfect for catching these broken bits of protein. In this sense, our own cells are working against us. Since most the cells with this particular enzyme are in our lungs, it explains why the disease manifests as respiratory symptoms.

A virus, of course, is comprised of RNA, meaning it's essentially a form of nucleic acid, and has no DNA. So to reproduce it needs to invade cells with DNA. In this way, COVID-19 can be likened to those burred "hitchhiker" seeds that attach to an animal's fur, or to a human's socks, then get carried to other locations where they multiply and exponentially latch onto many other animals and socks. So a single carrier can be responsible for spreading the plant to thousands of others. A COVID-19 carrier infects an average of 2.3 people, which, after five cycles, adds up to 350 people, so you can understand why some didn't take it very seriously until the number of cases suddenly exploded. Given that it can take 12 to 16 days before a host even knows one is sick, compared to SARS, another coronavirus, which only takes 3

days, one infected person can cause a lot of damage. Between when it when the first alarms went off on January 22nd, 2020 and February 25th, it's spread was still slow enough that few were very worried about it. Between February 25th and March 14th, there were close to 89,000 confirmed cases.

I'm not going to go much into its questionable death rate since we simply don't know how many have actually been infected with it. Most the time, COVID-19 is more severe than the common cold, a seasonal flu, and chickenpox, but less severe by far than SARS, MERS, Ebola, Bird Flu, and Smallpox. It's as contagious as the SARS, Spanish Flu, Bird Flu, and the common cold, but less contagious than polio, chickenpox, and Measles.

I'll turn now to what I've learned about the virus's most common symptoms. This might be a good place to take notes. COVID-19's most common symptoms are a fever and cough. These symptoms are *sometimes*, but not commonly, accompanied by shortness of breath, a sore throat, fatigue, headaches, other aches and pains, and rarely—that's rarely—by a stuffy nose or diarrhea. Sneezing is not a symptom of COVID-19. Bottom-line: watch out for fever and coughs. If you are feeling some of these other symptoms, but not a fever and cough, one self-test is to try holding your breath for 10 seconds. It you don't have a problem doing so, it's a good sign your lungs aren't stressed. We don't want to overload testing centers at this point because there are still a limited number of tests. But if you do have a fever, cough, and, shortness of breath, definitely call you doctor.

The data on its level of severity remains questionable, since testing has come late and we don't have any idea how many are or have been infected with the disease. According to a very recent report coming from mainland China's Disease Control and Prevention center, based on 44,672 confirmed cases, 80.9 percent had mild to flu like symptoms. 13.8 percent had severe symptoms, and 4.7 percent were in critical condition. We've also heard older people or those with already compromised health or immune issues are most at risk of severe symptoms. But this is not exclusively true. Young people and children have had severe reactions, which, in some cases, have resulted in death. In the Netherlands, more than half of those COVID-19 patients placed in ICU have been under age 50.

Now I want to turn to prevention and begin by stressing the most important thing any of us can do, as I'm sure you've heard, is social distancing and isolation. Again, like a burred-seed sticking to our clothes, getting dropped of elsewhere, and multiplying into hundreds of seeds, COVID-19 will spread exponentially and be unstoppable if we don't prioritize this most important first step. As Dr. Chander noted, during the Spanish Flu epidemic of 1918, the disease spread far worse in those communities that held parades to support the War effort at the time, than it did in those that canceled their parades to help prevent its spread. Contagious diseases, like the rest of the world, are not flat. By not recognizing the exponential nature of their spread, which looks like a sudden explosion to us, the U.S. government put us

all behind the curveball by not enacting the Emergency Use Authorizations act sooner than it did. Thinking exponentially would have prevented this.

Our job now, as responsible human beings and neighbors, is to help flatten this exponential spread of COVID-19 by isolating and distancing ourselves, which we also know works exponentially to stop it. Those communities that began doing so on day 21 of the pandemic had 40 percent more cases than those who began doing so just one day before, on day 20. In China, the first to begin social isolation and distancing, the number of new cases being reported has already slowed to a trickle.

During the Summit, Dr. Nell Watson, on the Coronavirus Task Force, gave a lot of other practical advice. First of all, she told us how it's spread. By droplets and aerosols, by coming into contact with the mucus membrane (eyes, nose, and mouth), and, perhaps, through fecal matter. So, when using the bathroom, remember to put the lid down before flushing, to help prevent water particulates from getting up into the air. Wash your hands thoroughly with soap and water. And avoid using public restrooms.

Difficult as it is, it's also important to avoid touching your face, particularly your eyes, nose, and mouth, especially if you've not washed your hands for a while after being in public. Wearing masks in public is more important for those who are infected because they are the ones who can unintentionally leave droplets or expel aerosol particulates by coughing or sneezing. Given the long incubation of the illness before symptoms show up, however, wearing a mask when we have to go out in public is probably a good idea for any of us, just in case we are carriers and don't yet realize it.

Get your pens ready because I'm going to go through a litany of other recommendations Dr. Watson suggests:

- When washing your hands, use soap and water rather than hand sanitizer, which can dry and crack our skin, making it easier for the virus to get it. Using lotion can help prevent this
- Don't shake hands
- Use something else, like a pen, to push buttons (like those on elevators, swipe machines, and automated tellers)
- Regularly disinfect your devices (smartphones and tablets with alcohol or Clorox wipes)
- Keep fit and active at home. Exercise is good for immunity
- Avoid going to the dentist at this time
- Avoid haircut and beauticians
- Keep your nails trimmed
- Work from home if possible
- Get air flow through homes and buildings, cars and taxis
- Have meetings outdoors
- Increase humidity, which reduces germs and viruses
- Take walks, six feet away from others, have a picnic

- Make a red zone near the entry way of your home to store potentially contaminated things
 - Leave shoes and packages in red zone (for 3-4 days)
- Shopping tips
 - Go when less busy
 - Take and use disposable bags
 - Wipe down cart with wipes
 - Keep one hand in pocket, one holding bag (to keep from touching things and your face)
 - \circ Go with contactless payment
 - Don't put produce in fridge, wash it and set it aside
- Don't lick stamps
- Eat outdoors when going to restaurants
- Use your own pen
- Take 10 micrograms of vitamin D daily
- Get good sleep to maintain healthy immunity
- Don't take kids stuck at home to stay with their grandparents who are at higher risk
- Donate blood if you're young and healthy, there's a shortage
- Sprouts and spinach grow fast, so grow them at home, they have lots of iron

Now for some positive news about all of this, much of it is thanks to Peter Diamandis, a cofounder of Singularity University, who sent an email out on Wednesday containing fact-checked updates.

- This past Monday, Moderna Inc. began stage one clinical trials of a new and promising vaccine that's being tested on 45 healthy adults.
- Also, this past week, China announced it's having so few cases that it's been able to shut down the last of its temporary hospitals.
- Apple is confident enough to have reopened all 42 of its retail stores in China.
- The number of new cases in South Korea continues to drop each day.
- Medical professional in India have discovered current drugs that are successful in treating the disease.
- Research at the Erasmus Medical Center say they've discovered an antibody against COVID-19. It still has to be tested, which could take months, but it's there.
- Scientists in Israel are also working fast to develop a vaccine and antibodies against the virus.
- Canadian scientists have been able to isolate the virus for testing treatments and vaccines.
- The San Diego biotech company Arcturus Therapeutics is also developing a COVID-19 vaccine in collaboration with Duke University and National University of Singapore.
- Getting the virus at a ripe old age isn't a death sentence. Just ask the 103-year-old woman in China who made a full recovery after being hospitalized for nearly a week.
- The MetroHealth Medical Clinic in Cleveland, Ohio has developed a test that gives results in only two-hours, instead of days.

This is just some of the good news going on right now all over the world that we're likely to miss hearing in the mainstream headlines. One of the worries we do often hear is that this is

the new normal. I don't believe this is so. It's true that the arrogance and ignorance of some of our world leaders caused them to miss the obvious warning signs of this pandemic—just as the Captain of the Titanic missed multiple opportunities to avoid hitting the fatal iceberg that sunk his unsinkable ship—but the rest of us aren't going to allow such a disaster to happen again. In fact, in both the short and long term, this is going to make us stronger, especially when it comes to dealing with viruses and other potential pandemics. Those government offices responsible for preventing such and event, that have been financially starved in recent years, will now become fat with the support they need. The response to COVID-19 itself is already leading to innovative thinking. Whether for altruistic or selfish motives, there is too much at risk for anyone to allow something like this to happen again.

Imagine a vaccine that can immunize us against all forms of viruses, coronas or otherwise. Imagine a time when it's not possible to run out of the medical equipment necessary to deal with pandemics or epidemics because we can 3-D print whatever we need. We don't have to imagine. These things are happening even as we speak, in places like Italy where unavailable critical ventilator parts were 3-D printed on the fly. And there are currently more than a dozen medical companies with revolutionary COVID-19 medications in stage one trials. Some of these are based on traditional methods of looking at the antibodies in the blood serums of those who've recovered to develop vaccines they can inject into others. But there's a novel company in the Bay Area that's found a way to bio-print virus fragments to generate an immune response that could be made immediately available to millions of people. This technology will fight the virus right at the receptors on our cell membranes before it can enter and destroy them.

The tech for home testing ourselves for COVID-19 on our smartphones, as well as many other conditions, already exists and is sure to be the wave of the future—affordable, instant medical diagnostics. Ultrasounds, urine analysis, EKG, MRI, CT scans at home on our smartphones for pennies are all coming online. MIT researchers recently announced an AI algorithm that has successfully discovered a new drug for curing antibiotic resistant bacteria. Telehealth services are also going to boom as a result of this, enabling all of us to interact with medical professionals from home without being exposed to other diseases in medical waiting rooms.

There's a smartphone app from Australia that can listen to a child's cough and determine if it's caused by croup, asthma, pneumonia, or a lower respiratory infection. Simple adjustments could make it also able to detect a COVID-19 cough. New DNA vaccine technologies will enable our bodies to produce the antigens we need to fight diseases far faster than traditional injections of the antigens themselves. Moderna Therapeutics, which began testing a vaccine in clinical trials on Monday, is developing messenger RNA that similarly transforms our own immune system into a vaccine producing factory. Researchers are also working on ways to vaccinate us against the parts of coronaviruses that don't mutate, namely those spikes, or crowns, for which they are named. This will immunize us against all forms of the virus for good. So, instead of getting a flu shot and ending up with a mutated form of it anyway, we could be immunized against all flues, just as we are against ever contracting the chickenpox or measles.

It's going to be a while before these technologies are ready for widespread use, maybe as long as a year, but there are lots of good people working tirelessly to make them happen. I know we are in an unprecedently difficult time, but I hope you will not despair, and that you can take heart knowing this situation won't last forever and we aren't going to let it become our new normal. I hope you'll also take heart knowing that something remarkable has happened in these past two weeks. For the first time in human history, human civilization has come together as one people, one species, to fight a common enemy, something that hasn't even happened with the threat of global warming.

In a statement this week, Dr. Peter Diamandis said:

While this global threat is real and frightening, I find hope in the fact that we have **every mind on the planet** focused on one issue. I can't remember a time when we have been this unified as a human species against **one** entity. We have thousands of scientists, pharma companies, physicians, laboratories, and hospitals focused intently on COVID-19. That level of **unified brainpower** is incredibly powerful and unprecedented. There are tens of thousands of experiments going on in parallel, testing different treatments, drugs, and drug combinations. I have absolute confidence that this level of **focus and diligence** will translate to a speedy response and timely solution.

To everyone who has been personally affect by this disease, *I feel your pain*. The world is in a very chaotic place at this moment in history. But, I also want to ensure that you all keep your **mindset** in check. I also want you to be cautious of the **pandemic of fear** spreading in the midst of this threat. Should you be cautious? Yes. Should you follow your local guidelines? Yes. But also know that we will get through this and come out stronger than ever before.

In his closing remarks during the summit, Dr. Daniel Kraft, faculty Chair of Medicine at SU, reminded us of the words spoken by Gene Kranz, the lead director of NASA's Apollo 13 mission. When the lunar module's oxygen tank failed and the astronauts were in danger of never coming home, he overhead some saying this will be NASA's worst disaster ever. "With all due respect," Kranz responded, "I believe this is going to be our finest hour." And it was.

Let's take inspiration form these words. Don't worry about who's calling the shots in the White House, or Congress, or anywhere else. This is an opportunity for our entire species to be at its best, beginning with each one of us being at our best. Don't let the boredom of isolation keep you from being at yours. The opposite of boredom is purpose. Make this time mean something by doing what you can to make a difference now when your family, your

neighbors, and your world most needs you. In this vein, I'll close with the inspirational words of Dr. Nell Watson, who provided us that long list of do's and don'ts I mentioned earlier:

It falls upon each of to step up towards pubic leadership in our own way. Maybe we're helping to nurse people. Maybe we're looking after vulnerable people in our society. Maybe we are distilling information. There's so much of it out there. We need to make sure that we have good information and formulate it in ways that people can understand and be educated from it. Some of you can listen to other people, you can be a friend, you can help people to stay in a good mental frame. And maybe when you're not feeling so well, they can help to pick you up as well. Find a way to give something. Find a way to champion human excellence and decency. This is the work. This is war work. This is God's work, if you will. The spotlight of history shines upon all of us today. What will you bring to humanity's finest hour?