The COVID-19 Vaccine

and the Jurassic Park Syndrome

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Everyone understands that the *Jurassic Park* movie was science fiction, but most may not realize that while the story itself is fictional, the knowledge and technologies portrayed in the movie are not as scientifically fictional as one might think. The truth is, the only thing we may be lacking to make the movie a reality is the complete Dinosaur DNA sequence and scientist are actively searching and researching that now. Whether or not we would recreate Dinosaurs if we could, is another story but it seems very likely that we would regardless of what the consequences might be. Some paleontologists believe it's not a matter of if, but of when. Another indication of that is the fact that scientists have been working for years to recreate the *Woolly Mammoth (Mammoths Primigenius)* and have actually recovered cells from an almost intact female Mammoth who lived thousands of years ago and the cells appeared to be alive when planted into a mouse.



While the ability to actually recreate Dinosaurs and Mammoths is still not a reality, scientists are talking about cloning/creating a *"hybrid"* Mammoth using cells from modern day Elephants, who are descendants of the Woolly Mammoth. Their rationale for doing so are many including being a solution for climate change and as a means of saving today's species who are in danger of becoming extinct. Whatever the rationale, this falls into the

category of genetic engineering or directly altering DNA to achieve a specific purpose which is different than recreating something that previously existed. It is interesting to note that these scientists often jokingly refer to the Jurassic Park syndrome.

We have been fascinated with DNA ever since we discovered its existence and are now using it in genealogy, medical research, criminal cases and in some cases cloning someone's pet. The use of DNA to clone, recreate species and otherwise change or alter our DNA for medical reasons is still a controversial moral and intellectual question, and fictional or not, the consequences seen in Jurassic Park, and possibly worse, are potentially real. And yet, for the first time, with the Pfizer and Moderna vaccines we are using DNA to eradicate a virus and the general public is not completely aware of or understand, that we are doing it by telling our DNA what to do. The implications and consequences, if any, of using this technology on a major portion of our population may not be known for generations and that should be clearly understood by the general public in order to make an informed decision regarding the vaccine.

The Pfizer and Moderna COVID-19 vaccines that are soon to be injected into thousands of people without knowing the long term affects, if any, represents a new technology and one that most likely will lead to new developments in medicine and cures for other diseases and who knows what else.

With conventional vaccines, the immune system identifies a virus, through the injection of a living or dead microbe, then makes antibodies to fight it. The new vaccine will instruct the immune system, via mRNA, to make an antibody protein based on the COVID genetic DNA, as identified, and perhaps created, by the Chinese. Our immune system will then make an antibody to fight it. In this case, the immune



system is being instructed to make a protein for the "*spikes*". The spikes, as seen in the picture, are the protruding knobs or spikes that the virus uses to attach itself to human cells. The immune system will make an antibody designed to keep the spikes from attaching to our cells. If they cannot attach to our cells, the idea is that they will then die. The basic design of the vaccine then is to send the DNA of the virus spikes, via mRNA (*the protein used by our bodies to instruct our DNA or cells*), so our immune system can make an antibody based on the DNA of the spikes. What else our immune system decides to do with this "spike" DNA antibody information is not known and therein, lies a huge potential problem.

DNA is much too complicated and complex to discuss here but it might be helpful to understand, at least briefly, the potential problems inherent in trying to manipulate our DNA for any reason. We are not necessarily trying to manipulate our DNA with these vaccines, at least in a strict sense, but we are trying to instruct it to treat the COVID-19 virus as a bad actor. Assuming this will be successful, it raises many questions such as how long will our body retain this information? What about other viruses? Is it possible for the cells to sometimes misinterpret this information and do something else? Something perhaps not so good? What about mutations and errors? Errors? What errors? Our cells are actually quite smart in that they always make a copy of themselves before creating a new cell. Sometimes when making a copy, however, the cell makes a minor sequencing error in copying. Although errors are rare, there are thousands of them that have been made since year one. These errors are called SNPs, (*Single Nucleotide Polymorphisms*) pronounced SNIPs.

For the most part SNPs don't cause any problems but SNPs are one of the reasons why we are all different and is also why some people are more susceptible to certain things like cancer. SNPs become a part of our DNA sequence and are passed down from generation to generation. Your DNA then contains SNPs that your ancestors had hundreds if not thousands of years ago and that your descendants will also have. This fact is useful in genealogy and in showing the long-term nature of dealing with DNA and its potential consequences. So, in addition to normal mutations and errors found in our DNA that occur over a period of time, it would seem to be logically important to know what affect this new technology might have over the course of time? Will it change our DNA in any way, even though it is not designed to do so?

If this technology is successful in wiping out COVID-19 and perhaps other viruses, and it certainly appears likely that it will be, the next logical step would be to instruct our DNA to do this and then that, and then pretty much whatever we want it to do. While the idea and research of manipulating our DNA, cloning, and even recreating long extinct species by reconstructing their DNA is not new and will most likely be our future, there are moral, logical cautious concerns and intellectual arguments on whether this is a good idea or not. The point of my argument or concern here, is that the path towards this technology becoming common place begins with this vaccine and most people don't realize it. They consider it just another vaccine in a long line of vaccines and that in any event, it will take care of our COVID-19 problem and that's a good thing. If we can get rid of cancer and other such maladies that's even better. The problem, however, is that we don't yet know the cost of this technology and by the time we do, it may be too late.