Toxic Knowledge

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Introduction

From one project to the next – whether a book actually gets written or even reaches the stage of such a possibility being contemplated – I do not know if any given activity will be my last. I'm getting on in years, and one never knows when the last breath will come or whether the disabilities that often come with age will prevent further books from being written or whether life circumstances will derail plans for the realization of further projects.

The writing of books began fairly late in my life -- during my late 40s, early 50s. Consequently, there was a fairly substantial portion of my life during which – to whatever extent the following idea was entertained at all and which, perhaps surprisingly, was not an idea that was contemplated all that frequently – I wondered, on occasion, if any book might be forthcoming at all.

My first book (*Streams to the Ocean* or *An Introduction to the Sufi Path*) bubbled to the surface in the early 1990s. It was a meditative exercise exploring 90-plus concepts from a mystical perspective … concepts that seemed to have relevance with respect to everyday life.

The next entry (*The Chaco Canyon Tapes*, aka *The Path to Mystical Canyon*) didn't get written until 1996 or so. It was a novel that sought to explore many issues: Psychology, economics, spirituality, indigenous peoples, mythology, the abduction phenomenon, the first Gulf War, terrorism, ecology, evolution, Jungian Psychology, as well as a few ideas concerning the kitchen sink were thrown in for good measure.

Like the first work, the second book got written while my biological, financial, economic, familial, spiritual, and social life was in turmoil. My working theory was that 'if you build it, they will come,' however, although I once shared a supper with Bill Kinsella and despite the fact that a field of dreams of sorts got built, few individuals showed up.

For the next ten years, pretty much every aspect of my life continued to be entangled in one kind of difficulty or another. I went through several periods of joblessness and homelessness, and, yet, somehow, not only did my being continue to persist in space and time, but a number of books got written as well.

Soon, a five or six year period ensued during writing books took a back seat to teaching a variety of courses (psychology, life-span development, diversity, and a tangential brush with criminology) at a local college that, while I was working there, became a university … although I don't think one had anything to do with the other. Despite the change in priorities, a few books somehow still managed to get written.

As teaching gigs began to dry up and the politics of the place where I taught began to manifest themselves in unpalatable ways, I decided to "retire" and devote myself to writing full time. A slew of books followed dealing with an array of topics, from: Psychology, to: Quantum physics, cosmology, evolution, constitutional theory, philosophy, education, religion, Sam Harris, mysticism, sovereignty, spiritual abuse, and shari'ah.

Although, early on, my books were selling "quite well" (a very relative phrase) via Amazon, a point came when the algorithms that were used to organize that company's web site changed, and, as a result, the monthly sales of my books plummeted. I was not the only individual who experienced this phenomenon because at the time there was a fair amount of chatter concerning the foregoing issue of sales as other independent writers also saw their share of the market become increasingly diminished.

In essence, people like us were used to establish a 'proof of concept' concerning the issue of selling books over the Internet. As soon as the idea of selling e-books was shown to be a workable enterprise, the big publishing houses began to see the opportunity for financial gain in the realm of on-line book sales -- whether real world or electronic -- and it was during this transition period that the algorithms which organize Amazon's online activities also began to change.

Correlation, of course, does not prove causation. On the other hand, if something looks like a duck, walks like a duck, and quacks like a duck, then, perhaps what one is looking at is a duck of some kind.

Even in the best of times, the sorts of books that I was writing were never going to allow me to be able to make a comfortable living. The money was a way of supplementing – at least to a limited degree -- other sources of income, but that was about it.

Writing was not going to serve as a career for me. Instead, it became a way of bearing witness – a way of observing the first pillar of Islam.

Over the years, thousands of my books were purchased (this sounds much more impressive than it actually is when broken down into a per annum income). Nonetheless, a tipping point eventually came, and although the notion that I might get paid for what had been written was enticing, nonetheless, a deeper preference was that the books should be read irrespective of whether, or not, someone paid for them and, as a result, I began to give the books away for free, and, consequently, thousands more books have been downloaded for free by individuals in some 50, or so, countries around the world.

Approximately six years ago, my wife and I took a trip to the Boston and Cambridge area. I hadn't been back to the Harvard campus for nearly fifty years, and prior to the excursion, the idea occurred to me to bring along five or six books that I had written and leave them (along with a covering letter) with someone in Widener Library's acquisition department as a possible gift, but, I really had no idea whether the books would be accepted or end up being given away or placed in one, or another, circular file.

A couple of weeks following the aforementioned journey, I received a letter from someone working at Widener Library who thanked me for the books that I previously had left and indicated that if there were other books that I had written, then, the Harvard library system would be interested in received them.

In response, I sent off a package of some thirty, or so, books. Since I didn't get any of those books back, I guess they are residing some place in the Harvard library system.

Shortly thereafter, I sent one further communication to the Harvard library system. In this letter, an indication was given that I was intending to write a book about Tolstoy which might be my last project and that when it was completed, I would forward a copy of the book to them for their consideration.

Eventually, the foregoing book did get finished, but something else almost got finished prior to that time – namely, me. I died – several times -- in the waiting area of a local hospital's Emergency Department

… one of many possible life events that are capable of bringing to an end, among other things, the writing of books and, thereby, making the notion of a last project quite palpable and close at hand.

Winter was upon us. We were going through a particularly cold period in January 2017.

Normally speaking, we would be looking after our grandson on such a Friday evening. He hadn't arrived yet, and I was going to take a short trek up the road a mile, or so, to a local grocery store in order to get something to cook for supper.

When I went out to the car, it started up well enough, but it wouldn't budge. The tires seemed to be stuck in some ice.

I asked my wife to come out and get behind the wheel while I tried to rock the car a little to see if this motions would extricate the vehicle from the ice field in which it currently resided. It wouldn't budge.

She said that she had a 50 pound bag of sand in the trunk of her car. She opened the trunk, and as I pulled the bag out, I immediately dropped it and said: "I can't do this."

I wasn't in any pain. I just felt a little weak, and, I suppose at the age of 73, or so, I was entitled to get a little weak now and then.

I told my wife that, earlier in the day, I had a strange sensation in my chest area. It wasn't painful, just sort of strange and quite transient.

At the time, I took an aspirin, and the strange sensation quickly dissipated. The foregoing strange phenomenology hadn't returned when I tried to pick up the bag of sand, but, for some reason, my body was resisting the idea of carrying that bag even a few feet to the place where the other car was stuck in the ice.

My wife went into the house and came back with an aspirin for me to take, and I complied. She suggested that we go to the local, community health clinic to have someone take a look at me.

I didn't think anything was seriously wrong with me, but I didn't reject the suggestion – maybe more out of concern for my wife's worried look than for any concern of my own concerning my condition. So, we got into the car that was not stuck in ice, backed out of the driveway and headed for the community clinic that was a mile

or two further on than the supermarket to which I originally had planned on visiting earlier in the evening.

My wife had been driving for no more than a couple hundred yards when, without any conversation, she decided to turn the car around and head to a local hospital in the city across the river from us. We reached the hospital in less than ten minutes.

She dropped me off at the Emergency entrance and proceeded to park the car. I went inside and began to go through the procedures involving health insurance and related administrative matters while waiting for my wife to re-join me.

A few minutes later, she came into the Emergency Department. I was put on a gurney and hooked up to an EKG.

There was a monitor in the room. My wife was talking with a friend of hers that used to be a cardiac nurse and was sending her friend pictures of what was showing on the monitor.

Since we had been in the room a few minutes and no one was coming to tend to us, both my wife and I exchanged words to the effect that, seemingly, my physical condition must be okay. I was in the process of asking my wife what the monitor was indicating, when I died a very painless death. I gave a death rattle, of sorts, and was gone.

Just as my wife was hearing from her friend via cell phone that based on what the former cardiac nurse could see in the pictures of the monitor screen that my wife had been sending her, the former cardiac nurse would be leaving her house right away and would be coming to the hospital, my wife heard me gurgle and, then, saw me die. She began to run out into the hallway to tell the physicians and nurses in the other room what was happening, but as she entered the hallway, a whole bevy of people were rushing toward her with a crash cart.

I was revived and died a number of times that evening. When I was revived for the final time, I began fighting with the doctors and nurses and, as I was subsequently told by people who had witnessed what was going on (some twelve, or more months, later during a hernia exam), it took six people to hold me down.

I had just died a number of times. Yet, nonetheless, there was enough strength and energy left somewhere within me that six people had difficulty holding me down, but, oddly enough, the subsequent

considerable expenditure of energy and exertion did not lead to a further heart attack.

I was life-transported (by ground vehicle, not helicopter) to another near-by hospital that had better cardiac facilities and where, a short time later, a number of stents were placed in my chest area. In addition, I was placed in a medically-induced coma for a number of days.

Shortly after being disengaged from the respirator a few days later by a Canadian doctor who was versed in the tricky business of taking someone off a ventilator and out of a medically-induced coma (this procedure is far more complicated than one might suppose), I was tied down to a bed. Apparently, strange things sometimes happen during this post-ventilator period.

One of the strange things that happened after I was taken off the ventilator is that, inexplicably, something within me had figured out how to escape from the numerous restraints that had been binding me like I was being held captive in the land of Lilliput. As I escaped from my restraints, I began pulling all manner of tubes from my body, but, fortunately, I hadn't quite found my way to pulling out the tube that was connected to my carotid artery before hands began to try to hold me down, but similar to what transpired in the previous hospital, a number of people were having considerable difficulty containing my activities.

A day, or more, passed before I came out of the medication-induced psychosis that was an after-effect of all of the heavy medications that had been pumped into me to keep me absolutely still. While waiting for the effect of the foregoing drugs to dissipate, I, first, believed that I was on a space ship as a result of all of the blinking lights on the monitors that were around me in a darkened room, and, then, at some point, I switched from a delusion about space ships into another delusional state in which I believed that there were certain hospital personnel present who were going to: Kidnap me, sell me to some European consortium who would kill me and, then, harvest my organs.

The foregoing condition both annoyed and entertained the medical staff for the better part of a day. Apparently, during this period

of time, I directed language toward the medical staff, or anyone else who might approach me, in a manner that would embarrass sailors.

After I came out of the medication-induced psychosis some sort of bacterial infection began to assert itself within me. As a result, the medical staff had to wear personal protective gear when interacting with me until they could identify the nature of the problem – which turned out to be relatively innocuous if somewhat persistent and bothersome in various ways.

A few days later, the hospital was getting ready to send me home but the medical staff was worried about a reading from an earlier echocardiogram and felt it might be necessary to send me packing in a medical vest. A second echocardiogram was performed and, unexpectedly, my score had improved to such a degree within a few days that I could be sent home sans the aforementioned medical vest.

When I left the hospital, my body was retaining a lot of fluids. I couldn't get either my sock or my shoes on.

Someone cut in the socks in a way that allowed them to cover my feet like loosely-fitting slippers. I was discharged and walked out into a Maine winter in stocking feet.

A day and half later, I began to exhibit signs of some kind of problem that was spreading up my legs and into my stomach area. My wife became concerned – wondering if what was taking place was some sort of sepsis – and, consequently, took me to the Emergency department of the hospital from which I had just been discharged.

Following a waiting period, a number of doctors came and looked at me. Some tests were run, but I left the hospital in the same condition that I had come to it because nothing was done.

Whatever was going on with me was getting worse because it was continuing to spread up my body. My wife drove me to the community health clinic – the one that she had begun to take me to the night that I died before she had changed her mind and took me to a hospital across the river instead.

At the time all of this was going on, I was kind of out of it and not able to advocate for myself. In fact, I was barely able to stand.

By the time we arrived at the clinic, it was early evening. The medical individual who was supposed to be looking after things said

that there was nothing he could do for me and wanted to turn me away.

My wife asked him to call the cardiac specialists who had been assigned to my case. He said that they wouldn't be available at that time of night and refused to call.

Having worked in the court system in Maine for more than three decades and, as a result, having had some knowledge concerning the medical facility which she was asking the clinic personnel to call, she told the clinic people that there would be someone available at the medical facility 24 hours a day and that a call needed to be made.

After some other administrative staff became involved in the altercation, a call was made. As it turned out, my wife did know what she was talking about because there was someone at the cardiac facility which my wife had been urging the clinic people to call.

Over the phone, a cardiac specialist reviewed my prescribed medications and suggested that I stop taking one of them and prescribed a replacement. After the switch was made, my allergic reaction began to disappear in relatively short order.

Three, or so, months later, I began cardiac rehab. My wife had read somewhere that individuals who participated in such programs tended to do much better than those cardiac patients who skipped those kinds of programs.

I worked hard doing cardio-rehab for several months. Through exercise and making some changes in my diet, I lost about 80 pounds during the next few months.

Several years later, I gradually discontinued all of the medication that was being prescribed for me. I did this in conjunction with a medical doctor that I knew from another state, and I have been drug free and incident free – as far as my heart is concerned – for the last five years.

Based on discussions that my wife and I had with various medical authorities at different junctures during the first few years following my heart attack, there are some interesting considerations to reflect on. For instance, if, on the night of the heart attack, I had managed to free the car from its iced-in condition, there is a good chance that I would have died in one of the aisles of the supermarket I was

intending to go that evening because EMTs would not have been able to reach me in time.

Similarly, if my wife had continued on with our original plan to go to the community health center, then, in all likelihood, I would have passed away at that community health center because – and medical personnel at that clinic subsequently confirmed this – they did not have the equipment or expertise to be able to attend to me properly under such circumstances. Moreover, if I had died anywhere but in the Emergency Department at a local hospital, then, in all likelihood I would have succumbed to my ailment.

In addition, we later found out that only a relatively small proportion of the people who suffer my kind of heart attack actually survive. Furthermore, an even much smaller proportion of individuals with my condition who are put into a medically induced coma come out of it without some sort of neurological deficit.

My wife later told me that one of the attending doctors who had done the stent surgery would come by on occasion to see how I was doing and said to her several times during these visits -- as he pointed to his own head and brain -- that we would have to wait and see whether I had suffered any cognitive damage. Some individuals might wish to challenge the following statement, but, apparently, I managed, by the Grace of God, to beat the odds concerning my condition and not only lived but suffered no neurological damage.

While recovering from my heart attack I used to ride an exercise bike. Some years back I had developed a hernia near my belly button, and while it hadn't given me any problems, riding the exercise bike seemed to have twisted the hernia somewhat, and it began to cause some pain.

My wife and I decided to have my hernia looked at by going to the same emergency department in the hospital where I, first, had gone the night of my heart attack. A temporary fix was accomplished and while waiting to make an appointment for a further consultation at some later time, apparently word had spread to some of the medical personnel in the emergency ward that I was the guy who had managed to survive that winter night in January 2017 and several of the nurses who were part of the emergency crew that helped to bring me back to life two or three times came by to talk with me.

They were very happy and excited to see that I was still alive and kicking. We talked for a while and, finally, they asked if it would be okay to give me a hug because the prospects of my being able to survive that ordeal apparently had not been very good.

After the hugs, I asked the nurses if there was anything which happened that night that might have been a little out of the ordinary. They were the ones who told me that after I finally had been brought back from the dead for the final time, I became somewhat conscious and began to struggle to get up and that was when six people had to hold a guy down who had just died a number of times and whose medical condition was so precarious that he had to be placed in a medically-induced coma after several stents had been placed in his heart in an operation that took most of the night to perform.

During my period of recovery I decided to write the book on Tolstoy that, previously, I had informed an individual at Widener Library would likely be my last project. However, subsequently, another five books were written, and this begins to move us in the direction of the "toxic knowledge" to which the title of the present book alludes.

In early 2020 I began to follow news stories on the Internet, as well as read articles about and watch videos concerning the alleged epidemic that was supposedly spreading from Wuhan, China to Northern Italy and, then, to parts of Iran. Eventually, there were reports of a similar set of symptoms showing up in a few places on the west coast of the United States.

Universities and schools began to shut down. Masks were being mandated. Social distancing was being enforced. Many small businesses started to shut down. People were being quarantined. PCR tests were omnipresent.

Apparently, many hospitals and nursing homes had become disaster sites. Emergency pandemic provisions at both the federal and state levels were being implemented, and, in the process, many basic civil rights were being trampled upon.

In the early part of 2020, I: Wrote some articles on what was transpiring; put together a number of podcasts about the phenomenon; participated in an Internet radio show concerning the

issue; devoted a section of one my web sites to the topic; completed several video documentaries in conjunction with an array of scientific, medical, political, and constitutional problems that seemed to be entailed by what was transpiring in America with respect to the so-called epidemic, and got around to authoring another book covering various aspects of the alleged epidemic as well as an array of issues involving the theme of sovereignty.

Gene-therapy that was masquerading as vaccines started to be rolled out in late 2020. People began to be propagandized, bullied, shamed, and forced to take the shots – jabs that were advertised as being safe, effective, and capable of preventing transmission of SARS-CoV-2 but which, in reality, turned out to be unable to live up to any of the claims that were being made on behalf of those treatments.

PCR protocols were being used as diagnostic tests – something that the Nobel Prize winning scientist Kary Mullis who had invented the PCR protocol had clearly said on numerous occasions should never be used as a test for pathogens. The packages in which these commercialized PCR "tests" came often indicated that the kits were not reliable, and, yet, they were being used to drive an epidemic of testing.

Medical facilities were being financially incentivized to diagnose almost any and every sort of pathological condition as cases of COVID. The treatment of choice for COVID was remdesivir – a failed anti-Ebola drug that actually killed many of the people to whom it had been given when being field-tested in Africa a number of years earlier.

Among other things, remdesivir undermines kidney and liver functioning. When the patients who were being given remdesivir in hospitals began to decline as a result of the drug and not as a result of any disease they had, they were put on ventilators which were improperly administered, left alone, and, then, they died.

Hospitals got to collect nearly $40,000 for each ventilator case linked with COVID. This was on top of all of the other ways hospitals got to collect federal, tax-payer dollars for diagnoses and treatments allegedly related to COVID.

Soon, reports began to emerge from medical doctors and pathologists that people were being forced to indicate on death certificates that the cause of death in many cases was COVID,

irrespective of whether this could be proven or not. And, since few autopsies were being performed in most of those deaths, there was no way to empirically determine what the cause of death might actually have been.

In 2021 and 2022, VAERS, the Vaccine Adverse Event Reporting System, began to provide evidence that there had been a huge upswing in the reporting of adverse events related to the use of the jabs that were being given for, allegedly, COVID. While many individuals with vested interests like to note that just because someone reports an adverse event in conjunction with the use of a given shot, this does not prove that the adverse event being reported was caused by that jab, nonetheless, at the same time, one might also note that until such adverse events are properly investigated one is not in any position to know whether, or not, those who receive a COVID shot and, subsequently, suffer an adverse reaction actually encounter such difficulties as a causal result of such jabs, and, yet, the CDC, the FDA, and the National Institute of Health did nothing to actually rigorously investigate the huge amount of data that was showing up in the VAERS system indicating that something that was correlated with vaccine policy needed to be investigated, but such data was ignored.

Individuals like Ed Dowd (see: *Cause Unknown: The Epidemic of Sudden Deaths in 2021 & 2022*), as well as several large insurance companies, began to analyze data concerning the issue of excess deaths that were being collected in conjunction with calculations concerning expected deaths during 2021, 2022 and later. The left and right tails of a normal curve indicate values that are described as being three-sigma, and this means that events falling within such a set of values are relatively rare. However, the foregoing sorts of research were indicating that the number of excess deaths relative to expected deaths during the years being studied were exhibiting twelve-sigma values, and, therefore, such excess deaths were extremely rare and far removed from being due to a random phenomenon of some kind.

Empirical data, not speculation, kept implicating the COVID jabs as being the likely cause of the excess deaths that were being reported over what had been expected. In addition, the VAERS data – together with several other data bases, including one kept by the military -- also pointed toward the COVID jabs as the likely cause of many, if not most,

of the adverse reports that were being filed following COVID injections.

The foregoing data was complemented by the considerable evidence that was accumulating indicating that: Given the faulty character of the diagnostic procedures being used to identify alleged cases of COVID, the primary source of lethality in many hospitals was the actual standard of care being used in hospitals to treat such alleged cases. More specifically, many deaths in nursing homes and hospitals were not due to an alleged pathogen, but, instead was the result of: infusions of remdesivir, plus lack of proper ventilator protocols or expertise, plus isolating patients from their families, plus the almost complete absence in all too many instances of delivering appropriate medical duties of care (see: Ken McCarthy's book: *What the Nurses Saw*), plus the liberal manner (especially in England according to John O'Looney, a funeral director) in which some medical facilities employed euthanasia-levels of morphine-midazolam cocktails.

In the light of the foregoing considerations that were present in September of 2022, I was faced with a decision. The decision had to do with a series of events that came into my life in late September, 2021.

Although retired now, my wife was an official court reporter for the state of Maine in 2021. She is one of the stenographers who have the amazing ability to take down, verbatim, everything that is said in a court room.

While she was required by the state to wear a mask during observance of her duties as an OCR during 2021 and 2022, she had declined to take the jab. On one occasion in late September 2021, she came home from work and indicated there had been one state employee working in the court room who insisted on coming to work while sick with something or other, and, unfortunately, that woman spent a lot of time around my wife coughing on her.

A few days later, my wife was taking a three-day art class in another city given by a well-known Maine artist. While at the initial art class, she received a call from someone in the court system indicating that someone with whom she had been interacting had tested positive for COVID.

She made arrangements to cancel the remaining art classes and came home. She tried to contact people in human resources to ask whether she should quarantine at home, but she never received back any direction concerning her questions from the state judicial system.

Being a cautious person, she decided that she would stay home. However, in an attempt to try to protect me, she set up shop on the second floor of our house which contains a separate bathroom and several bedrooms.

A day, or so, later, I heard her collapsing body hit the upstairs floor. She later told me that she was about to come down stairs to go to the kitchen but, for some reason, had delayed doing so.

She had collapsed in the upstairs hallway, and, fortunately, had not been injured during her fall. The outcome might have been quite different if her collapse had been while trying to navigate the stairs.

Prior to collapsing, she had developed a cough and had lost her sense of smell. She had a slight fever and the oximeter she used indicated that her oxygen levels were in the low 90s.

My wife's condition never got worse than the foregoing symptoms. She did not collapse again and her fever dissipated, while her cough and loss of smell remained.

She did not suffer from any sort of malaise or tiredness. A day or two later, the foregoing sort of functionality became very important.

48, or so, hours later, I collapsed. My collapse was more profound than that of my wife.

For several nights leading up to the collapse, I had a strange phenomenological sense that my consciousness was being attacked. I can't add much detail to those experiences other than to say that I have never encountered anything like it prior to the collapse or since that day.

I was trying to type an e-mail and was making mistakes with every other stroke. In addition, I couldn't remember how to say prayers that I had been observing five times a day for fifty years.

When the final collapse came, my wife later told me that there was no one home when she looked in my eyes. After I regained sufficient awareness to realize that my condition was not good, I slowly had my

wife move me from the bedroom to the living room, and this took quite awhile because I didn't have much strength and was quite unsteady on my feet.

I told my wife that I was going to ride out – or not – whatever was happening in the living room. I indicated to her that given the many problematic activities that were taking place in many hospitals – including the use of remdesivir and inappropriate use and programming of ventilators as a standard of care -- I stood a much better chance of surviving things if I stayed away from the hospital.

My wife was not happy about the decision because she still believed in the myth that hospitals and medical personnel are dedicated to the well-being of their clients. While there are some very good doctors and nurses who were opposed to what was taking place in conjunction with COVID, in all too many respects, the notion that hospitals, doctors, nurses and the medical system is devoted to the welfare of their patients was completely undermined and decimated by a deluge of empirical data during 2020 and continuing on through 2021, 2022, to the present time.

Despite my wife's reservations, we set up our well-being center in the living room of our home. For the next seven, or so, weeks, a recliner became my home base, and during that time my wife performed yeowoman feats of support and care which had they not been performed, I would not be in a position to be engaging in the current project.

Without her help, there is a very good chance that I might have died. Even with her help, there was a six or seven week period during which I was teetering back and forth between life and death, so weak that I had difficulty taking two steps to a commode that my wife had purchased because I didn't have the strength or stability to walk the 30 or 40 feet to our bathroom.

The foregoing story is told in more complete detail in the book: *Observations Concerning My Encounter with COVID-19*? The question mark at the end of the title is a very important consideration.

SARS stands for Severe Acute Respiratory Syndrome. Whatever was wrong with me was not a respiratory disease.

I did have a slight, persistent cough. However, I never had trouble breathing despite the fact that when I was finally able to do my own oximeter readings the oximeter indications were in the low 70s, high 60s, and, yet, I was neither cyanotic nor having any difficulty breathing or getting enough oxygen. Earlier, I had resisted my wife's desire to take my oximeter reading and wanted to wait until I had regained sufficient control of my mental faculties to use the oximeter because I knew if the readings were low, my wife would only worry and want to take me to the very place that likely would put me on a course of remdesivir followed by a ventilator as my kidney and liver functioning began to fail due to the infusion of remdesivir.

Early in 2020, I had learned that the so-called scientific papers (from China, Australia, Canada, and elsewhere) which were proclaiming that they had discovered and been able to sequence SARS-CoV-2 were junk science. In addition, I also learned that the PCR test was incapable of detecting the presence of such an alleged virus because no one had been able to identify a sequence of nucleic acids that were unique to SARS-CoV-2 and which, therefore, could be used to differentiate it from all other putative viruses by adjusting the PCR primer accordingly.

In other words, the problem with the PCR test was not a function of how many cycles were being run. Instead, the problem was that no one knew what they were looking for and, consequently, whether one ran a relatively few cycles of PCR or many cycles of PCR, whatever one found was an arbitrary artifact of fraudulent testing procedures.

The illness which -- beginning in September of 2021 -- afflicted both my wife and me was not due to a virus. Rather, our condition gave expression to a form of poisoning. Another way of referring to such dynamics involves the notion of load balancing and provides a hint about what some parts of the subsequent discussion – towards the latter part of this book -- will touch upon.

However, in order to provide even a brief overview concerning the dynamics of such poisoning or the notion of load balancing, a conceptual journey will be necessary. Many medically-oriented individuals were claiming that, beginning with the first cases in Wuhan in late 2019, the illness from which people were suffering could be,

and had been, successfully treated with such drugs as hydroxychloroquine and Ivermectin.

My concern with the foregoing kinds of claims is that the people who were making them didn't necessarily have any idea what was causing the illnesses they were allegedly "curing". Of course, many clinicians believe that all that matters is whether, or not, one can induce a given set of symptoms to recede or disappear.

Unfortunately, if the perspective being put forth in this book is correct, the nature of the danger that is actually confronting humankind – and which manifested itself in various ways during the so-called COVID-19 crisis -- is not something that can be necessarily treated through the aforementioned clinical approach. The problem goes much deeper because even if one finds a way of dealing with one set of symptoms, the nature of technological advancements over the last 75 years, or longer, have the capacity to generate alternative sets of symptoms because such technology has the capacity to cause any given set of symptoms one likes through the sending of frequencies … and such frequencies can be changed more quickly than clinical treatments can be administered.

Perhaps, before proceeding further, I would like to provide a certain amount of food for thought with respect to some of the allusions which have been made at certain points in the previous pages concerning the possibility that many aspects of the medical industry are little more than narratives that are held together by assumptions which cannot necessarily be justified. For example, the evolutionary narrative, like the medical narrative, tends to be ubiquitous in modern-society and shapes many facets of the understanding, discourse, and practice that frame hermeneutical orientations governing the institutions which populate the social and political milieu, including medicine.

However, in many, if not most ways, evolutionary theory is little more than a narrative (replete with technical terms) that is tied together by assumptions that cannot necessarily be justified. More specifically, one might claim, with some justification, that DNA/RNA play fundamental, essential roles in evolutionary theory with respect to the processes through which life arises – that is, by means of a series of allegedly random mutations involving nucleic acids that help

make up the aforementioned DNA and RNA molecules in a manner that over millions and billions of years, the cumulative effect of those mutations leads to the emergence of biological systems which are capable of generating the sorts of proteins that, when organized into certain sequences or pathways of dynamics, give expression to anabolic (building up) and catabolic (breaking down) actions that appear to have proven themselves to be able to offer effective ways of adapting to prevailing environmental circumstances, and, thereby, provide some advantage to the possibility of a given species that has developed such pathways to be in a position to leave behind progeny that are capable of continuing on with the evolutionary journey with something of a competitive advantage.

Two of the assumptions that are present in the foregoing description of the evolutionary process are, on the one hand, that there are such things as random mutations, and, on the other hand, that when considered collectively or cumulatively then, eventually, if given enough time, those mutations will be capable of generating functional metabolic pathways. To begin with, one can never actually prove that any sequence of events is random, but, rather all one can demonstrate is that one has not, yet, discovered any algorithm, or set of algorithms, (that is, any set of sequentially ordered instructions that is capable of producing various evolutionary events to which one might be alluding) capable of accounting for what is being observed.

In other words, there could be an unknown sort of underlying determinate order which is producing what is being assumed to be a random set of events. However, if, at some arbitrarily designated point, one has not been able to identify such a ordered, determinate dynamic, then the tendency in evolutionary narrations – as well as many other scientific contexts – is to refer to events which one does not understand as giving expression to random phenomenon … and this is an assumption or hermeneutical rendering of a situation and not an empirical description of whatever events one is reflecting upon.

Using concepts of random probabilities as a methodological system is one thing. Claiming that such a methodological system reflects the nature of reality is quite another issue.

In addition, one faces an explanatory challenge when trying to account for how so-called random mutations are capable -- when

considered cumulatively over large spans of time -- of producing functional metabolic pathways that can account for how life might have made the transition from one kind of entity to another. For instance, how did, say: Chemotrophs (which obtain energy by the oxidation of organic or inorganic electron donors in the environment) mutate their way to being phototrophs (obtain energy through the harvesting of photons via, for example, photosynthesis); or, how, and when, did the advent of Archaea organisms (whether considered as arising from, prior to, or independently of bacteria) take place given that these organisms are different from bacteria in significant ways (e.g., their ability to thrive in environments involving extreme conditions of: Radiation, cold, heat, acid, salt, or alkalinity that are fatal to most other forms of life).

One might also point to the differences between, on the one hand, prokaryotic forms of life marked by, among other things, the absence of a nucleus, and, on the other hand, eukaryotic forms of life that do have a nucleus and go about the business of life in a way that is markedly different from prokaryotes and wonder what the step-by-step dynamics were that could account for how eukaryotic life forms might have developed from prokaryotic organisms. The endosymbiotic theory of Lynn Margulis which proposes that more complex forms of life (for example, eukaryotes) might have arisen through the symbiotic interaction of different, lesser forms of life (for example prokaryotes) is often mentioned as a way of bridging the differences between prokaryotic and eukaryotic forms of life, but, all of the details are missing in such theories with respect to not only how different prokaryotic forms of life originated in the first place but how those different forms of life came together in a symbiotic manner to establish functional metabolic systems of a eukaryotic nature.

Moreover, there are a whole bevy of unstated, but implicit assumptions in the evolutionary narrative entailed by the challenge of having to account for how five ribonucleic acids (thymine, adenine, guanine and cytosine in DNA and uracil in RNA which replaces the thymine in DNA) have come to stand for, mean, or signify some 20-plus varieties of amino acids which are totally different modalities of molecules (made from peptides and not ribonucleic acids) when the aforementioned ribonucleic acids are put together in sets of three

(either in the form of DNA or RNA) and read by an appropriate cellular mechanism … such as a ribosome. Why should a set of three DNA molecules or a set of three RNA molecules – both of which are different from one another in relation to thymine in DNA and uracil in RNA – be able to stand for one, or another, of some 20-plus amino acids which are quite different from DNA and RNA molecules?

How did this language or code which enables DNA and RNA molecules to be translated into amino acid molecules come about? What was the step-by-step dynamic that established such a translation process?

One might put forth an analogy of sorts that helps indicate how extraordinary the relationship is between, on the one hand, sets of three DNA or RNA molecules and, on the other hand, a particular exemplar from among 20-plus possible amino acids. More specifically, in a sense the aforementioned relationship between nucleic acids and amino acids is like saying that if one placed three different kinds of dogs together in a given sequence, they would be capable of being translated into one, or another, species of cat.

Moreover, there are at least 500 different modalities of amino acid. How did just 20 of those modalities come to play such an essential set of roles in all life forms with which we are familiar?

I've been reading books and articles on evolutionary theory for more than 40 years. In addition, I have written several books on evolutionary theory (e.g., *Evolution Unredacted*).

Nonetheless, I have, yet, to come across anything in the so-called scientific literature that is capable of being able to account, in a plausible manner, for the emergence of the foregoing sort of coding or translation dynamic that exists between nucleic acids and amino acids. One could claim, of course, that the foregoing process is a function of a series of random mutations, but by proceeding in that fashion, not only would one be unable, as indicated previously, to show that such a series is, in fact, random in nature, but making claims that are dependent on a plethora of assumptions, concerning allegedly random events doesn't actually provide any sort of detailed explanation that is not dependent on thousands, millions, if not billions and trillions – if not a googleplex – of assumptions in order to make such an account seem to work,

All one ends up with is a narrative. Moreover, despite the presence of a great deal of technical detail, there really is no science involved … it is just a narrative tied together by assumptions which cannot be proven to be true.

Based on the technology available between 1990 and 2003, the Human Genome Project established sequences for 90% of the genes that could be identified from the samples provided by a number of volunteers. Moreover, between 2003 and the present, additional genetic sequences have been established … for example, sequencing of the Y chromosome was completed relatively recently.

Based on the foregoing research, there seemed to be approximately 20-25,000 standard genes in human beings. When transcribed, translated, and assembled, these 20-25,000 genes gave expression to 20-25,000 proteins.

The problem with the foregoing figure is that more than 90,000 different proteins have been identified in human beings. So, where were the other 65-70,000 genes hiding?

For some time, a considerable amount of genetic material was being discovered in human beings that seemed to be nonsensical in nature but which dwarfed the amount of genetic material that had been sequenced via the Human Genome Project. Some people referred to it as "junk DNA" and various individuals maintained that this genetic material was just non-functional residues which had been left over from millions of years of evolutionary experimentation, or some speculated that this genetic material was the cumulative contributions of the contents of vial genomes that had found their way into human beings over millions of years.

Over a number of decades, researchers began to realize that the so-called junk DNA was filled with genetic sequences which provided instructions and coding that were capable of being combined in different ways and, in the process, were capable of generating proteins – both structural and enzymatic proteins – that were capable of augmenting the standard genes that had been sequenced during the Human Genome Project.

Epigenetics involves the study of how dynamics involving processes of, for example, methylation, phosphorylation, and

acetylation (which consists, respectively, of methyl groups, phosphates, and acetyl molecules being used to modulate gene expression) are capable of parsing or reading genetic materials in different ways and, thereby, produce many more kinds of proteins than originally seemed to be the case on the basis of what had been established through the Human Genome Project. In addition, epigenetics has to do with studying the way the genetic system of a given organism interacts with a changing environment to give rise to adaptive biochemical responses to such changing conditions.

Although many of the details of epigenetic dynamics are being uncovered, there are some important considerations that still are not understood. This has to do with identifying what is regulating or what has oversight over such epigenetic dynamics.

For example, what is responsible for ordering methyl groups to become attached to certain portions of the genome at one time rather than another or to one degree rather than another? What is responsible for organizing when and where and for how long or to what extent various acetyl groups should be used to modulate gene expression?

The same sorts of questions can be raised in conjunction with the dynamics of phosphorylation, as well as in relation to the post-translational use of proteins such as ubiquitin and the ubiquitin-like protein SUMO (small modifying proteins that are about 100 amino acids in size) that are capable of modulating the manner in which various metabolic processes unfold (referred to, respectively, as ubiquitylation and SUMOlyation). What is responsible for arranging for the way in which chromosomes are parsed and metabolic processes are modulated in order to meet the challenge of whatever environmental conditions are undergoing transitions of one kind or another at any given time?

Just as evolutionary theory has not come up, yet, with any plausible account for how life first arose, or how Chemotrophs gave rise to phototrophs or how anaerobic (oxygen is toxic) organisms gave rise to aerobic (oxygen is a resource) organisms, or how prokaryotes (single cell organisms) gave rise to multi-cellular eukaryotes, so too, evolutionary theory does not seem to have any plausible way of accounting for how epigenetic systems arose or what regulates those

metabolic pathways. Similarly, evolutionary theory cannot provide plausible accounts for how: Consciousness, intelligence, language, creativity, talent, logic, or imagination arose.

Unfortunately, the presumptive and speculative sort of reasoning that is used in evolutionary theory tends to show up again and again in the kinds of reasoning – if one can call them that – being used in medical narratives. These sorts of short-comings, problems, and lacunae have been on full display during the last four years -- and counting – of the COVID-19 crisis.

This book explores the toxicity of different kinds of alleged knowledge over a period of approximately two hundred and thirty-seven years. In addition, the book seeks to epistemologically point in some hermeneutical directions that might serve as remedies, of sorts, for such toxicity.

Chapter 1: A Tale of Two Theories

The following discussion explores some of the differences of perspective between two individuals. One of these individuals (namely, Louis Pasteur) is an icon within the hagiography of modern, medical orthodoxy, while the other individual (Antoine Béchamp) is hardly mentioned, if at all, in conjunction with the origins of modern medicine, and examining some of the possibilities as to why there is a lack of awareness concerning the latter individual within the halls of medicine might be fairly instructive.

According to various biographies of Pasteur, a number of foundational discoveries concerning biology and medicine are attributed to him. For example, he is credited with being among the first to provide a scientific account for the process of fermentation, and, as well, he is described as having developed successful treatments for silk worm disease, chicken cholera, anthrax, and rabies.

Furthermore, Pasteur's investigations into the foregoing topics were believed to be instrumental in helping him to develop a germ theory of disease. This theory entailed the notion that many diseases are caused by the capacity of certain microorganisms in the environment to be able to invade and infect human beings, as well as to infect other forms of animal and plant life. In addition, his germ theory of disease indicated that for each modality of infectious malady there was a single kind of microorganism that was responsible for any given manifestation of such an infectious disorder.

Apparently, Pasteur's way of understanding both germ theory and the development of countermeasures in relation to the presence of germs was aided by a chance observation in 1879. More specifically, Pasteur, reportedly, was trying to establish methods of inoculation for chicken cholera that might be safer – and more effective -- than the form of inoculation that he initially had used in conjunction with that disease.

During his search for a safer/more effective process of inoculation, he had instructed an assistant to inject a certain group of chickens with a fresh culture of the bacteria that was thought to be responsible for chicken cholera. For whatever reason, the assistant forgot to do as instructed and, instead, left for a holiday.

When the assistant returned from his vacation a month later, he did get around to injecting the chickens with the culture that previously had been prepared. Surprisingly, the chickens did not become seriously ill following the injection of the culture. Seemingly, the bacterial culture had lost some, if not much, of its virulence during the period during which the vacation had taken place, and, as a result, the chickens only displayed mild symptoms in conjunction with what was considered to be a fairly lethal disease for chickens.

Over the course of a month, the original bacterial culture somehow seemed to have become weakened. Pasteur theorized that exposure to oxygen had rendered the bacterial culture less virulent.

When the foregoing chickens were subsequently injected with a fresh batch of chicken cholera bacterial culture, the birds did not get sick. The unexpected consequences of the assistant's mistake served to give new life to the fledgling study of immunological issues which had begun – at least to a degree – with the experimental work of Edward Jenner in conjunction with cowpox some one hundred and twenty years earlier and, consequently, Pasteur's work was considered by many to constitute something of a turning point in medicine.

Pasteur continued to explore the foregoing process in which an attenuated live bacterial culture would be used to help an animal to adapt to the presence of such a culture in order to be able to resist more virulent exposures of the same kind of bacteria later on. For example, in 1881 he played a role in developing an anthrax culture that was used to help cows, goats and sheep to – allegedly -- resist the presence of virulent strains of anthrax bacteria.

Furthermore, while doing research on rabies in 1885, Pasteur developed a treatment that could be applied to humans (his first such treatment) using the principles that had emerged through his work with chicken cholera. However, unlike both chicken cholera and anthrax which were believed caused by the presence of a certain kind of bacteria that could be identified with the use of a microscope, Pasteur was never able to identify the presence of any particular microorganism to which a cause of disease might be attributed in the case of rabies.

Nevertheless, Pasteur proceeded with a similar set of protocols that he had followed in the case of chicken cholera and anthrax. He

removed fluids from the spinal column of rabbits that were believed to have been infected by whatever sort of microorganism might have caused the condition from which the rabbits were believed to be suffering (in other words, the animals were diagnosed as being rabid on the basis of unknown considerations.)

The fluids removed from the rabbits were put through an attenuation process. Those fluids were, then, injected into another animal.

As circumstances would have it, close to the time of the aforementioned research, a nine-year old youth had been attacked by feral dogs which, apparently, were suffering from rabies – or, so, the diagnosis went. Many people believed that if the boy were not helped in some way, he would surely die an agonizing death from hydrophobia, as the illness of rabies was sometimes called in the case of humans because of a symptom associated with such cases in which affected individuals were said to display an inordinate fear concerning the presence of water.

Since Pasteur claimed to have successfully treated a number of dogs using his rabies protocol – a series of injections that had increasing degrees of virulence and were administered over a number of days – Pasteur agreed to use the protocol with the young boy since, seemingly, the only alternative would, supposedly, involve risking the child's death due to the pathological ramifications which emerged followed when an individual was infected with rabies. Fortunately, he young boy did not develop any symptoms of hydrophobia following treatment, and, as a result, Pasteur became a medical hero.

Initially, the rabies protocol was referred to as "Pasteur's Treatment." However, as a gesture of homage to Edward Jenner's 1796 work that used the milder, less virulent cowpox material as a way of allegedly helping human beings to develop resistance to the more virulent and deadly small pox microorganism (a process which Jenner referred to as Variolae vaccinae), Pasteur decided that the generic term for the set of protocols that were intended to help human beings resist the onslaught of virulent pathogens in the environment should be known as "vaccines."

Of course, there are a number of questions that might be asked in conjunction with the foregoing account of Pasteur's discovery of a

treatment for rabies. To begin with and as already indicated, during his experiments with rabbits, Pasteur never was able to identify the microorganism that supposedly was responsible for the diseased condition that, allegedly, was induced by the presence of rabies, and, consequently, he – and, therefore, we -- don't really know the causal identity of whatever symptoms might have been present in his rabbit experiments.

One possible reason why Pasteur had not been able to identify the microorganism that might cause rabies is because at the time of his investigation into that disease the purported causal entity was too small to be detected. For example, in 1898, M.W. Beijerinck coined the term "virus" to refer to the extract from an ill tobacco plant that could not be filtered out and was able to survive the filtration process and go on, apparently, to induce illness in healthy tobacco plants.

Life forms that could be filtered out from a fluid were referred to as filterable organisms. Entities that could not be filtered out from such cultures and, as a result, seemed to be able to continue to exhibit varying degrees of toxicity (as, for example, in the case of Beijerinck's toxin that affected tobacco plants) were referred to as toxins or viruses

Later, in the mid-1930's the electron microscope began to be used to probe entities that existed on the nano-scale (i.e., beginning at one billionth of a meter), and various images of "objects" that were produced during the photographic process which were used in conjunction with those kinds of microscopes suggested to some individuals that viral particles were being depicted. However, such images might have been artifacts of the imaging process.

More specifically, among other things, heavy metal dyes and some enzymes were used in the image-fixing process. As a result, there was a certain amount of evidence which indicated that some of the objects being observed in the electron microscope images actually captured features that were due to the dynamics of, and conditions created by, the heavy metal dyes, enzymes, vacuum, and temperatures that were involved in the photographic fixing process rather than giving expression to the actual structural properties of whatever aspect of biological nature that researchers supposedly were trying to capture through such photographs.

Moreover, even if the objects being depicted via the electron microscope photographs actually constituted some facet of biological life, the objects being depicted in those photographs were never properly assayed—that is, a rigorous analysis of the inner properties of the objects being depicted in those images was never pursued. Consequently, no one knew, for sure, what the objects being depicted actually were, nor did researchers know anything about the internal nature or properties of those objects that were being displayed in the electron micrographs.

Of course, starting with the work of John Enders in the mid 1950s, viral entities supposedly were being isolated in culture studies. Nonetheless, as a subsequent discussion in this book will, hopefully, demonstrate, Ender's claims – along with the claims of all other virologists -- concerning the isolation and purification of viruses is highly suspect.

Notwithstanding the foregoing considerations concerning the possibility that the rabies-causing microorganism which Pasteur sought – unsuccessfully -- to find might, or might not, have been a virus of some kind, we still don't know what was, or was not, in the fluids and materials that were taken from the spinal columns of the sick rabbits. Furthermore, given that Pasteur had not been able to identify the microorganism which was believed to be responsible for rabies, we don't know whether the dogs treated with such attenuated materials were actually suffering from rabies. In addition, if we cannot assume that the feral dogs that attacked the nine-year old boy actually had rabies, then, we cannot assume that rabies was necessarily transmitted to the boy through the bites and cuts received from the feral dogs.

Finally, we cannot be sure that whatever was being injected into the boy from the materials that were extracted from the rabbits contained the unidentified microorganism that was believed to be responsible for rabies or hydrophobia. As a result, we really don't know whether the boy was being protected against the presence of rabies-causing microorganisms that allegedly had been transmitted to him via the supposedly rabid dogs.

Irrespective of whether, or not, the claim is true that Pasteur successfully treated a human being who otherwise would have died

from rabies – or, so, the legend goes – that historical incident sparked the interest of researchers all over the world. As a result, scientists began to search for not only microorganisms that might be the cause of this or that disease, but, as well, they tried to discover treatments for those diseases in the form of this or that mode of vaccine.

Aside from the questions that have been raised above concerning the "Pasteur Treatment" for rabies, there are many other questions that might be raised in connection with the hagiography of Pasteur, for the overview of Pasteur's life that has been presented so far turns out to not be even remotely like his actual research activities … activities that have been largely hidden by those who have assigned to themselves the role of serving as gate-keepers for historical data. For example, as a way of beginning a discussion concerning an alternative approach to the perspective of Pasteur, let's consider the issue of fermentation and, then, journey on from there.

Briefly stated, contrary to various "historical" accounts, Pasteur did not discover the cause of fermentation. Instead, what he did do is try to take credit for – if not plagiarize -- some earlier research of a contemporary French scientist, namely: Antoine Béchamp.

In addition, Pasteur did not even properly understand the research that he had pilfered from another researcher. As a result, he modified that research in problematic ways.

Béchamp first began exploring the issue of fermentation in 1854. The prevalent theory of the day was that when, for example, cane sugar is dissolved into water, then – after a suitable period of time had elapsed – the solution would spontaneously (as in "magically" or inexplicably) transmute into an evenly divided mixture of fructose and glucose sugars. However, on the basis of observations that had been made in conjunction with starches, Béchamp became skeptical about the idea that the dynamic through which cane sugar was transformed into two other sugars (known as "invert sugar") was spontaneous or inexplicable in nature.

Accordingly, he set up something which is referred to as the "Beacon Experiment" that began in May of 1854 and carried over into February of 1855. During this investigation, he established both experimental and counter controls for his studies.

In the experimental aspect of that research, he dissolved cane sugar in a bottle of water which was closed (i.e., stoppered) with respect to the environment outside the container but which, nonetheless, had a small pocket of air above the water within the bottle. In the control setting, he had the same arrangement as the experimental focus of his study, but the control bottles also contained a chemical (e.g., salts such as potassium carbonate).

After approximately a month's time had passed, the experimental bottle contained elements of mold. However, the control bottles with the added chemical did not show any signs of mold formation.

Béchamp wanted to know why mold formed in one set of bottles – the experimental group – but did not form in the bottles with the added chemical. Consequently, he carried out an additional series of experiments beginning in 1856, as well as a further set of experiments that began in 1857 and, along with the experiments started in 1856, carried over into 1858.

In the foregoing trials, the experimental bottles, as was the case in the earlier trials, contained nothing more than water, cane sugar, and a little air in a stoppered bottle. In the stoppered control bottles there was no air pocket above the water that contained dissolved cane sugar.

Once again, after a period of time, mold began to form in the experimental bottles, but no mold emerged in the containers without any air pocket above the water in the stoppered bottles. Apparently, the presence of air seemed to have something to do with whether, or not, mold would form in a bottle containing dissolved cane sugar, and, furthermore, his experimental results seemed to indicate that whatever was happening was not spontaneous because if this were the case, then, mold would have emerged in both experimental and control containers, and this did not occur.

Up until the time of Béchamp's foregoing experiments, Pasteur and other researchers had included albuminoids (globular albumin proteins that are soluble in water and salt solutions) in their fermentation experiments. On the bases of those experiments, many researchers had come to the conclusion that fermentation could not occur unless such albuminoids were present.

However, given the possibility that the presence of such albuminoids might have entailed some sort of fermenting potential, Béchamp did not add those kinds of protein to his experimental and control bottles. Yet, notwithstanding the absence of such albuminoids, the containers that held dissolved cane sugar (and nothing more except a pocket of air above the water) went on to give rise to mold, whereas the bottles with dissolved cane sugar that contained no air pocket above the water did not generate mold.

At one point, Pasteur referred to fermentation as being a process involving life without oxygen. Béchamp, on the other hand, had shown through his various experiments that fermentation actually seemed to have something to do with the presence of oxygen – that is, fermentation was, in some way, connected to the air that was present in the experimental bottles.

Despite the research of Béchamp, Pasteur proclaimed in a memoir which he penned in 1857 – the same year as Béchamp's foregoing experimental findings were released -- that the formation of mold, as well as the process of fermentation, took place spontaneously. Clearly, given the nature of Béchamp's research indicating that the presence of air was necessary both to the emergence of mold in the sugar solutions as well as to the inducement of the process of fermentation, Pasteur did not understand what was transpiring during either kind of process – that is, the formation of mold or the dynamics of fermentation.

Béchamp documented the findings of his various experiments in a paper that was submitted to the French Academy of Science in December, 1857. During the course of describing his foregoing set of experiments, Béchamp provided an account of how the presence of microorganisms in the stoppered bottles which contained nothing more than a small amount of air above some water with dissolved cane sugar was responsible for the formation of mold and the inducement of fermentation. In fact, Béchamp described those processes as being due to the way such microorganisms went about their life cycle within the bottle and, among other things, such entities absorbed certain contents of the bottled water and, then, subsequently, released certain kinds of waste products into the stoppered bottle.

Twenty years earlier in 1837, a German physician by the name of Theodor Schwann had hypothesized that microorganisms in the air

might be inducing fermentation. However, unlike Béchamp's experience twenty years later, Schwann had not been able to experimentally prove his conjecture.

In 1860, Pasteur ran some experiments that were variations on a theme of what already had been accomplished, starting five years earlier, by Béchamp. It was at this point that Pasteur began to retreat from his 1857 claims that fermentation was a spontaneous process and, instead, moved toward the position that fermentation was a function of the presence of microorganisms in the air, but Pasteur did not completely relinquish his belief that spontaneous generation was, somehow, still involved with the process of fermentation until 1864.

Notwithstanding the foregoing considerations, Pasteur perjured himself and, in process, committed scientific fraud when he announced during a November 22, 1861 meeting at the Sorbonne that it was he – and not Béchamp – who had discovered that the process of fermentation could occur in a stoppered bottle that was devoid of albuminoids and contained nothing more than a pocket of air above water containing dissolved sugar cane. When -- during the aforementioned meeting -- Béchamp tried to remind Pasteur concerning the experiments that Béchamp had conducted in 1857 (and earlier) which established precisely what Pasteur was claiming credit for in 1861, Pasteur merely offered a dissembling sort of response that sought to throw shade on Béchamp's way of conducting research.

Pasteur also maintained – without proof – that each kind of fermentation was a function of a different species of microorganism. Béchamp, on the other hand and on the basis of actual evidence, argued that whatever differences emerged during the process of fermentation were due to the nature of the medium in which fermentation took place rather than being due to the idea that one needed to posit a singular sort of microorganism for each kind of fermentation. Moreover, on the basis of his own observations via microscopy, Béchamp indicated that a microorganism could change its shape and form in response to the character of the medium or biological terrain in which it existed.

In effect, Pasteur – based on nothing more than speculation, and conjecture – was putting forth a monomorphic theory of

microorganisms in which every different manner of fermentation and alleged infection was due to the presence of a singular kind of microorganism that did not, and could not, alter its morphological structure and was, alone, responsible for each specific kind of fermentation and infection process. In contrast, Béchamp was putting forth a pleomorphic perspective – based on considerable empirical work -- in which any given microorganism was capable of changing its shape and structure in response to different environmental circumstances involving the biological terrain in which such an organism might exist at a given time.

Pasteur continued his plagiaristic, if not fraudulent ways when he published a paper in 1872 which had the title: "*Experiments to Demonstrate that the Yeast Germ that Makes Wine comes from the Exterior of Grapes*." However, Béchamp already had conducted a series of experiments involving grape diseases more than eight years earlier (and which were published in 1864) that firmly established how the process of fermentation could be affected by the presence of microorganisms on the skins of grapes.

Of course, one might hypothesize that Pasteur knew nothing of the research of his fellow countryman in this regard but merely had arrived at the same conclusion in a manner that was completely independent of Béchamp's previous research. On the other hand, given that Pasteur's countryman was the very individual with whom Pasteur had publically clashed in the 1861 Sorbonne meeting concerning the issue of priority with respect to the discovery of fermentation's causal underpinnings, a certain amount of incredulity tends to seep into the foregoing hypothetical possibility.

During Béchamp's earliest experiments (dating back to 1854) that eventually led to his discovery concerning the process of fermentation, he had placed various salts – such as potassium carbonate – in some of his control bottles. He noted that neither the emergence of molds nor process of fermentation took place in those containers.

In 1866, he repeated his 1854-55 experiments by replacing potassium carbonate with calcium carbonate (chalk), and he observed the phenomenon of fermentation taking place in bottles filled with a solution of cane sugar plus calcium carbonate but which had no air pocket above the water in the container. This dynamic occurred even

when Béchamp added creosote (a growth inhibitor) to the contents of those bottles.

If, in his experiments, Béchamp replaced calcium carbonate that came from the Earth with pure calcium carbonate, he noted that fermentation did not take place. Yet, when he used calcium carbonate which was taken from the Earth, and even if such a specimen had not been exposed to air while in the Earth, fermentation took place, indicating that something appeared to be present in the natural chalk that was not present in the purified chalk.

In another set of experiments, Béchamp heated the natural chalk. He, then, observed that when natural chalk is heated sufficiently, it lost its capacity to induce the process of fermentation in a solution of cane sugar.

When Béchamp examined unheated samples of natural chalk (calcium carbonate) with a microscope, he discovered tiny bodies that had the power of movement but which were considerably smaller than the microorganisms that were present during the process of fermentation. He published his findings in a paper called "*On the Role of Chalk in Butyric and lactic Fermentations*" and during the course of that paper, he referred to the little bodies that he had discovered as "microzymas" – that is, 'small ferment'.

Béchamp began to examine a wide variety of living and dead samples of biological materials. He found the aforementioned microzymas to be ubiquitous in those samples, and often they were found in conjunction with different forms of bacteria.

On the basis of the foregoing research, Béchamp developed a theory of microzymas. More specifically, he believed that the microzymas were the basic unit of life rather than the cell, and, in fact, he not only believed that cell tissue was generated through the activities of the microzymas, but, as well, he maintained that bacteria – indeed all of life – arose as a function of the activities of the microzymas.

Furthermore, through a variety of experiments, Béchamp was able to show that bacteria came into being after microzymas passed through several stages of development. Other researchers considered such stages of development to be giving expression to different species

of microorganism, but Béchamp and his research associate (Professor Estor) maintained that all of the different entities being observed (from microzymas, to several intermediate states, to bacteria) were transformations of one, and the same, microorganism, and, therefore, those entities (collectively considered) were indications that microorganisms were governed by principles of pleomorphism rather than monomorphism, and the latter perspective – i.e., monomorphism -- governed the conceptual framework of those researchers (such as Pasteur) who considered all of the different entities as being separate, independent species of microorganism.

Béchamp believed that the microorganisms that were present in the air pocket above the dissolved sugar cane in the stoppered bottles that were used in the fermentation experiments and the microorganisms which also were present in natural (unpurified) samples of calcium carbonate or chalk were possible because of the microzymas that seemed to exist everywhere in both living and dead tissue. Furthermore, he hypothesized that such entities were released into the air (and elsewhere) when tissues decomposed.

On the basis of further experiments that were conducted over a period of seven years – from June 1875 to August 1882 – Béchamp noted that while cells disintegrated when tissues die, the microzymas that were present do not die or disappear and, for this reason, he considered the microzymas to be more fundamental than cells. Furthermore, on the basis of experiments that were run during the aforementioned seven year period, he felt that he had successfully demonstrated how bacteria actually arose as a function of the activities of microzymas because he had gone to considerable lengths in various experiments to ensure that there were no bacteria present in the materials being studied and noted that bacteria only were observed to arise in his experiments subsequent to the active presence of microzymas.

Finally, Béchamp maintained that the bacteria which emerged as a result of the activity of microzymas were not vanguards of an invading army of infectious microorganisms but were actually present for the same reason that those entities arose within nature generally. In other words, bacteria emerged – whether within human beings or within nature -- in order to play various roles with respect to either the

anabolic or catabolic processing of dying tissue, or in conjunction with the dissolution and removal of, dead tissue.

Béchamp believed that bacteria never attack healthy tissue (that is, a healthy form of biological terrain). Instead, he maintained that changes in the condition or viability of the medium or terrain in which bacteria existed were responsible for inducing microorganisms to operate constructively or problematically.

To fill in a few more details concerning the competence and character – or lack thereof – of Pasteur, let's take a look at several, additional historical incidents. For example, beginning in 1855 and continuing on for a decade, the silkworm industry in France had been adversely affected by some sort of disease that was interfering with the production of silk.

In 1865 Béchamp began his own self-financed investigation into the foregoing matter. Based on his previous, extensive research into microorganisms as well as his understanding that creosote was capable of inhibiting the growth of certain microorganisms, he suspected that he might know both the nature of the cause and solution to the silkworm disease problem, and, as a result, during a 1865 session of the Agriculture Society of Herault he announced that silkworm disease was due to the presence of a parasite and that if one were to expose the silkworms to a thin vapor of creosote, the disease would disappear.

Pasteur, who had leveraged his fraudulently-gained reputation as the discoverer of the cause of fermentation into helping him to become a darling of the French government, and, especially, its emperor, was appointed and financed by the government in June of 1865 to look into the silk worm problem. Despite having had no experience with, and knowing absolutely nothing about, silk worms, Pasteur claimed that the cause of the disease was akin to some sort of cancerous-like phenomenon which had nothing to do with ferment-like dynamics.

At this point, Pasteur had to withdraw from the issue for a period of six, or so, months because two of his daughters, as well as his father, had passed away. However, in February of 1866, he, along with some fellow researchers, once again began to study the silkworm problem.

Initially, they made very little progress with their research. Eventually, however, Pasteur published a paper entitled: "*New Studies on the Disease of Silkworms*" and sent it off to the French Academy of Science, and in the paper he indicated that there was no microorganism-based cause of silkworm disease.

Béchamp countered with a paper of his own. This latter work – "*Researches of the Nature of the Actual Disease of Silkworms*" – provided additional evidence to indicate that a parasite was the cause of silkworm disease.

Following the release of, yet, another paper by Béchamp which lent further support to his assertion that the microorganism involved in silkworm disease was capable of fermenting sugar, Pasteur seemed to see the light. Pasteur demonstrated his new-found understanding of the silkworm disease through the contents of a early 1867 letter that he wrote to the French Minister of Public Instruction which provided an overview of the general nature of the perspective which Béchamp had been championing for the better part of a year and, then, Pasteur proceeded to take credit for that very same idea.

In April 1867, the French Academy of Science published, yet, another paper penned by Béchamp that provided an even more detailed account concerning the cause of the silkworm problem. Notwithstanding Pasteur's previous claim of having discovered the cause of silkworm disease in his aforementioned early-1867 letter to the French Minister of Public Instruction, nevertheless, the very same publication of the French Academy of Science that contained Béchamp's newest research on the silkworm issue also contained a note from Pasteur which apologized for some of his own earlier errors concerning the silkworm problem and that, in the near future, he would be providing a complete account of the silkworm affair.

Béchamp followed up his earlier papers on the silkworm issue with two further works. One of those papers – namely, "*New Facts to Help the History of the Actual Disease of Silkworms and the Nature of the Vibrant Corpuscles*" not only put forth evidence that the microorganism involved in silkworm disease came from the mulberry leaves with which silkworms are often associated, but, as well, Béchamp indicated that there was a second disease capable of affecting silkworms.

During a subsequent paper, Béchamp provided a more detailed account of the second kind of silkworm disease. This work was published on June 8, 1868.

On June 24th, 1868, Pasteur wrote a letter to a government official indicating that he – Pasteur – should be considered the discoverer of the cause of the silkworm disease. In addition, the letter insisted that a note he alleged to have sent to the Agricultural Society of Alais on June 1st, 1868 be printed – a note for which there was no actual evidence that it had ever been written – in order to lend "credence" to Pasteur's alleged priority concerning the silkworm issue.

Béchamp responded to the foregoing exercise in chutzpah by publishing another paper – "*On the Microzymian Disease of Silkworms, in Regard to a Recent Communication of M. Pasteur*." In this paper, Béchamp referred to his silkworm publications of April 11, 1867, July 13, 1867 (revised March 28, 1868), as well as his papers of May 13 and June 10, 1867, all of which preceded any of Pasteur's published work.

As is often the case today and as was also often the rule in the time of Pasteur, politics rather than actual science ruled the day. Because Pasteur was a close friend of Napoleon, government officials and various researchers (not wishing to offend government officials who often funded research) sided with Pasteur's claims concerning priority with respect to the cause of silkworm disease. When Pasteur published a monograph on the silkworm issue he not only sought to reassert his claim of priority concerning the discovery of the cause of silkworm disease, but, at well, he couldn't resist belittling Béchamp's much earlier assertion that creosote was capable of resolving the silkworm problem and, thereby, indicated, once again, that he had no understanding of how creosote served as a growth inhibitor when the microorganisms responsible for silkworm disease were exposed to the vapors of creosote.

Due to Pasteur's supposedly groundbreaking research into the silkworm problem, the government put him in charge of resolving the crisis. Since Pasteur allegedly "knew" – based on pronouncements that he had made in his monograph on silkworms that creosote would not serve as an appropriate countermeasure to silkworm disease -- Pasteur went in search of other methods that might be used to attack

the disease (and did so unsuccessfully), and, as a result, the production of silk plummeted precipitously.

In 1850 – prior to the onset of silkworm disease – French industry had produced 30,000 million kilograms of silkworm cocoons per year. However, by 1866-1867 that production had been cut in half as a result of the disease that plagued the silkworms in those cocoons.

After Pasteur was placed in charge of "saving" the French producers from silkworm disease and proceeded to experiment with various ways of dealing with the problem, the production of cocoons plummeted still further to, first, 8 million kilograms in 1873, and, then, down to 2 million kilograms in subsequent years -- 1/15th of the original production amounts of 1850 prior to the onset of silkworm disease. Yet, many alleged "narratives" concerning this period in French history describe Pasteur as not only having been the one who discovered the cause of silkworm disease but, as well, according to such "histories," he supposedly was the one who had "saved" the silkworm industry by, ironically, pushing it into near-extinction because he didn't know what he was doing and because he had elected to ignore the solution that had been put forth many years earlier by Béchamp … a solution which Béchamp already had shown to be effective and commercially viable.

One could add to Pasteur's continuing legacy of incompetence and failure by referencing his studies concerning, and recommended solution for, the disease of anthrax. In 1838, Henri-Mamert-Onésime Delafond discovered some rod-like structures in the blood of animals that were said to be suffering from charbon or splenic fever which is now referred to as anthrax.

A subsequent researcher – Devaine – conjectured that the rod-like structures might be parasites and could be responsible for splenic fever/charbon/anthrax. He referred to these entities as "bacterida," but he could not establish a causal link between the bacterida and the disease.

In 1878, Robert Koch noted that he had observed some spores amidst the bacterida which were present in the blood of animals that had been diagnosed with splenic fever/charbon. Pasteur responded to the Koch report by advancing his own idea of monomorphism that each disease was caused by a different microorganism, and,

consequently, anthrax was a function of the presence of bacterida, just as trichinosis was due to the presence of trichina and itch was caused by the presence of its own special acarus or mite.

Pasteur went on to argue that if one were to put together a conglomeration of aerobic microorganisms (i.e., the aforementioned bacterida) as well as certain anaerobic microorganisms) and inject this material into animals sick with anthrax, then, the contents of that injection would not only neutralize the virulence of the disease but would, as well, protect the animals against further pathological encounters with anthrax. Pasteur's perspective concerning anthrax was challenged by another researcher (Dr. Colin) who indicated that he (Dr. Colin) was aware of cases in which anthrax was quite virulent but this took place in the absence of the bacterida which Pasteur was claiming to be the cause of anthrax.

In May of 1878 Dr. Colin further claimed that Pasteur had falsified or induced someone to falsify the public record in relation to what had been said by Dr. Colin during a previous, public meeting of scientists. In essence, Dr. Colin indicated that Pasteur had suppressed a number of criticisms which Dr. Colin had voice in conjunction with Pasteur's perspective concerning anthrax.

Approximately a month and a half later -- April 30, 1878 – Pasteur made a presentation to the Academy of Science entitled: "*A Theory of Germs and their Application to Medicine and Surgery*." In the paper he formalized his position with respect to diseases such as anthrax – a position which had been alluded to when Pasteur responded to Koch's previously noted discovery of spores amidst the bacterida that were found in the blood of animals which had been diagnosed as suffering from anthrax and which were believed to be the cause of anthrax.

Once again, Pasteur failed to give any credit to the prior work of Béchamp. Instead, he merely referred to his own alleged discoveries concerning the cause of the fermentation dynamic and failed to offer any actual evidence that was capable of substantiating his monomorphic notions concerning the causal mechanism of disease.

In 1882 Pasteur presented a talk in Geneva with the title: "*How to guard living creatures from virulent maladies by injecting them with weakened microbes*." Not too long after the delivery of the foregoing speech, Robert Koch released a document asserting that not only were

the vast majority of Pasteur's claims concerning the latter's anthrax vaccine not demonstrable, but, even worse, Koch charged Pasteur with having suppressed data showing that the results from using the vaccine were not anywhere nearly as successful as Pasteur had been claiming was the case.

During March of 1892, a number of faculty members at the University of Turin in Italy put Pasteur's anti-anthrax vaccine to the test. They found that all of the test animals – both vaccinated and unvaccinated died – and, therefore, their results indicated that Pasteur's vaccine was a useless, if not fraudulent, "remedy".

The foregoing researchers published a report in June 1883 covering their work involving the anti-anthrax vaccine. It was entitled: "*Of the Scientific Dogmatism of the Illustrious Professor Pasteur*," and, among other things, it not only cited many of the contradictory statements which Pasteur had made at different times over the years concerning the issue of anthrax, but, as well, the aforementioned report put forth a set of arguments that completely countermanded Pasteur latest theory concerning anthrax.

The University of Turin paper was translated into French. However, Pasteur – through politics and propaganda rather than through science -- managed to survive the problems raised by the translated paper and continued to recommend and distribute his anti-anthrax vaccine to desperate farmers.

In 1888 some of Pasteur's anti-anthrax vaccine was sent to a locale in southern Russia by an institute based in Odessa. 4,564 sheep were vaccinated in southern Russia with the Pasteur treatment, and fairly quickly 3, 696 of those animals were dead.

The farmers in southern Russia were probably never properly compensated for the lost of their animal livestock. Apparently however, Pasteur was required to properly compensate many French farmers whose animals died as a result of using his anti-vaccine concoction.

Pasteur lied about his work involving fermentation and sought to take credit for something which he did not do and, which, apparently, he did not even understand. Pasteur also lied about his work involving silkworm disease and proceeded to push the silkworm industry into

near extinction with his ill-considered "solutions" and stubborn, self-serving insistence on ignoring what Béchamp had shown, already, to be a successful, affordable treatment for silkworm disease via the use of creosote.

Moreover, as noted previously, evidence emerged in Italy, at the University of Turin, as well as in southern Russia which demonstrated that not only did Pasteur not understand the pathology of anthrax, but, as well, the anti-anthrax vaccine that was concocted on the basis of his lack of understanding with respect to the dynamics of anthrax was an abject failure. Furthermore, as discussed earlier in this chapter, Pasteur never actually proved that he understood rabies or that he could cure it.

There are other historical data that could be added to all of the foregoing material which add further evidence that Pasteur was better at plagiarism, self-promotion, suppressing evidence, defrauding people, and currying government favor than he was at actual science. In addition, Pasteur never brought forth a case that was capable of establishing his monomorphic theory of germs in a persuasive manner which was able to demonstrate, irrefutably, how every form of disease was due to the infectious character of a specific microorganism.

Conversely and, scientifically speaking, Pasteur had done absolutely nothing to demonstrate that microorganisms were incapable of altering their morphology into different shapes with different properties as Béchamp had been arguing for a number of decades. Alternatively, Béchamp, unlike Pasteur, had put forth considerable evidence, research, and studies in support of the pleomorphic perspective which held that microorganisms, under the right conditions of an organism's biological terrain, were able to alter their morphology and modality of functioning.

Consequently, based on nothing of a substantive nature, Pasteur on the one hand, was leading many subsequent scientists and researchers into a scientific and medical cul-de-sac. However, on the other hand, he, simultaneously, was providing future investigators with the worst kind of role model but a role model which, unfortunately, all too many individuals from the future worlds of academia, medicine, research institutes, government officials, and the media would take to heart.

With respect to the foregoing claim, consider the perspective of Dr. Marcia Angell. She was the first woman ever to be appointed to serve as the editor-in-chief of one of the most prestigious medical journals in the world – namely, the *New England Journal of Medicine*.

In her 2004 book: *The Truth About the Drug Companies*, she documented how the corporate world has financially corrupted the processes of both medical research and education, not only in the United States but all over the world. She also once stated that: "It is simply no longer possible to believe much of the clinical research that is published, or to rely on the judgment of trusted physicians or authoritative medical guidelines. I take no pleasure in this conclusion, which I reached slowly and reluctantly over my two decades as editor of the *New England Journal of Medicine*."

<u>Chapter 2</u>: After Béchamp, Three Roads Travelled

Antoine Béchamp passed away on April 15th, 1908. However, research into the pleomorphic perspective did not stop with his death, and one might even argue that there is evidence to indicate that the notion of the germ theory of diseases was being questioned even before its formal inception by Pasteur. For instance, in 1860, nearly two decades before Pasteur proclaimed his monomorphic notion of germ theory, Florence Nightingale has been quoted as stating: "Is it not … a continual mistake to look upon diseases, as we now do, as separate entities, which must exist, like cats and dogs, instead of looking at them as conditions, like a dirty or clean condition …?" (Page 18, *The Persecution and Trial of Gaston Naessens* by Christopher Bird) – or stated in an alternative fashion, 'as conditions like an unhealthy or healthy condition of terrain'.

Notwithstanding the foregoing sort of prescient insight, there were a variety of individuals who continued on with developing Béchamp's pleomorphic approach to microorganisms by generating concrete, empirical data in support of that position, and perhaps the most notable of those sorts of individuals – at least during the ensuing century following Béchamp -- were: Günther Enderlein, Royal Rife and Gaston Naessens. Royal Rife and Gaston Naessens are especially noteworthy in this regard because they each, independently of one another, developed advanced forms of microscopy which were not only capable of engaging events on the micron- and near nano-scale but which, unlike electron microscopes that study objects on such small scales as well, the microscopes of Rife and Naessens also were capable of enabling scientists to observe microorganisms while the latter were alive, whereas the process of electron microscopy kills whatever living organisms it seeks to observe due to the use of various kinds of enzymes, heavy metal dyes, as well as conditions of vacuum, directed energy bombardment, and heat that are necessary to generate micrographs or images of whatever is being engaged via an electron microscope.

Not only, for previously stated reasons, are electron microscopes incapable of observing living dynamics as they take place, but, in addition, there are problems of interpretation which emerge in conjunction with that kind of technology. More specifically, as has

been pointed out previously in this book, one is not always able to determine whether, on the one hand, what is being depicted in an electron micrograph (i.e., image) is, on the one hand, a distorting or arbitrary artifact that has been created by an image-fixing process used in relation with such technology or whether, on the other hand, such images accurately reflect the structural properties of whatever is being engaged through such a microscope.

Notwithstanding the foregoing considerations concerning the issue of microscopy, Günther Enderlein did use a form of darkfield microscopy that -- while not nearly as powerful (in terms of micron and near nano-scale potential) as the technology employed by Royal Rife and Gaston Naessens -- nonetheless, enabled Enderlein to observe the dynamics – and especially the transformations – that took place with respect to the pleomorphic nature of microorganisms. Normal light microscopes are unable to pick up on the foregoing sorts of transformative dynamics because, among other things, the lenses used in normal run-of-the-mill light microscopes are not quartz in nature, and, therefore, were unable to "see" objects that only become visible in the ultraviolet light range of frequency that is present with the use of special lenses made of quartz.

For nearly 60 years, Enderlein – who had expertise in microbiology, entomology, zoology, and medicine – conducted research and pursued practical, successful forms of therapy in accordance with the principles of pleomorphism. In other words, through microscopy, he empirically observed microorganisms transforming into different shapes, with different functional properties, and, then, on the basis of such studies he developed therapies that were actually capable of resolving or healing various forms of clinical pathology that were due to such transformations in microorganisms.

While Enderlein was born in 1872, he did not begin serious research into the topics that would occupy his time for nearly 60 years until the year 1914 which was 6 years after Béchamp had passed away. Although Enderlein had volunteered to serve as a bacteriologist at the start of World War I, he, instead, was given a laboratory by the German government to pursue various medical issues, and, in addition, Enderlein put together a laboratory in his own place of residence, and,

as a result, Enderlein would often commute each day between the two labs in order to research different topics.

According to Pasteur, the blood of a healthy person is pristine or sterile. In other words, Pasteur maintained that there were no microorganisms in the blood of a healthy individual, but this was more of a conjecture based on what he could see with a normal, light microscope rather than what could be seen through the more revealing process of darkfield microscopy.

As a result, Pasteur, along with many of his colleagues and later researchers, were allowing their physical and intellectual vision to be framed by a form of technology which was very limited with respect to what it could show. Pasteur and others were looking, but they couldn't really see what was taking place in the slides beneath their microscopes because their vision and understanding were being warped – that is, framed – by the properties of the lenses and methods that they used in microscopy.

On the basis of actual evidence using darkfield microscopy, Enderlein discovered the presence of tiny living entities in healthy blood samples that were capable of interacting with larger bacterial forms. However, when the foregoing sorts of dynamics took place, the resulting complex disappeared.

Using darkfield microscopy, Enderlein discovered that the foregoing interaction resulted in the formation of much smaller entities which disappeared from sight when using regular light microscopes. He referred to the new forms as "spermits", and these small life forms possessed flagella which enabled them to move about.

Along side of the foregoing discoveries, Enderlein observed, as well, several microorganisms of plant origin that also could be seen in the blood of healthy individuals. These were: (1) Mucor racemosus Fresen and (2) Aspergillus niger van Tieghem and both were fungal in nature.

Enderlein referred to the two microorganisms, and a few others, as "endobionts" and noted that they were capable of exhibiting a variety of forms. However, apparently, he considered the Mucor entity to be somewhat more fundamental or primordial than the Aspergillus fungal microorganism.

He went on to develop a symbiotic notion of life forms – predating the work of Lynn Margolis and her theory of "endosymbiosis" concerning the origin of, among things, mitochondria -- in which organisms were not in competition with one another and were not necessarily always trying to destroy or consume one another, but, instead, were seeking to create a ecological terrain in which different organisms could have existential balance with each other. He introduced and developed these ideas concerning the symbiotic nature of life in one of his major works that was released around 1925 – namely, *Bacteria Cyclogeny.*

The term "cyclogeny" refers to the way in which microorganisms go through life cycles which start out in forms that cannot be seen with a light microscope – but can be seen through darkfield microscopy – and which, according to the health of the conditions of the terrain in which such entities exist – develop into various apathogenic or pathogenic forms of microorganisms. The pleomorphic stages of development of a microorganism are known as valences, and as a microorganism assumes forms and structures that tend to be more visible, the direction of pleomorphic development is said to be in the direction of higher valences.

According to Enderlein, the normal state of organisms is to exist in a state of balance both within and in relation to other such organisms. However, when through, for example, the introduction of various kinds of poisons or toxins into a given ecology, the foregoing sort of symbiotic balance is disturbed, then, disease or pathology of some kind will occur, and this comes about through the pleomorphic development of a microorganism into higher and higher valences. The higher the valence of a developmental state of a given microorganism is, then, after reaching a certain threshold which demarcates apathogenic and pathogenic conditions, the more pathological is that condition of development. Moreover, as each higher, pathogenic form emerges, such forms are capable of releasing their own modalities of toxins and poisons which are capable of further destabilizing a given ecology or biological terrain and, thereby, exacerbate whatever toxins or poisons initially led to the departure from symbiotic balance and harmony in a given biological terrain.

Apathogenic forms of endobionts – such as spermits, chrondits, and fibrin (and the last entry has the highest form of, or valence for, apathogenic microorganism) – are considered by Enderlein to be essential for healthy forms of metabolism as well as various processes of biological defense and detoxification. These endobionts are assigned lower valence numbers relative to pathogenic forms of such microorganisms.

When conditions in an individual's biological terrain begin to change in an unhealthy direction (due, say, to the presence of toxins of some kind), then, pathogenic forms of bacteria and fungi (of higher valences) tend to emerge. Furthermore, if these conditions are left untreated or are treated inappropriately, then, more complicated illnesses, if not death, often result.

Beginning in 1955, Enderlein published a series of written works known as AKMON I – III. In that research he put forth his understanding concerning the nature of disease and how to treat it on the basis of his research into pleomorphic dynamics, starting with spermits or, as they also are called, "protits".

Like Béchamp before him, Enderlein maintained that the smallest unit of biological life was not the cell. Nonetheless, whereas Béchamp referred to the smallest units of life as microzymas, Enderlein argued that what he referred to as a colloid, which are of the order of .2 nanometers, were the fundamental unit of life.

A colloid is a mixture of microscopically small, insoluble entities that are suspended in some other kind of substance. According to Enderlein, the small entities that are suspended in another substance are the previously mentioned spermits or protits. Whether the spermits/protits of Enderlein are the same as the microzymas of Béchamp is uncertain.

At one point during his research, Enderlein asserted that "Medicine knows a lot about disease but nothing about life." The reason that he made such a claim is because he felt that medical practitioners were largely ignorant of endobionts and there modes of pleomorphic development, and, therefore, had little, or no, understanding concerning the value of endobionts with lower valences or the dynamics concerning the rise of pleomorphic forms of

endobionts that had higher valences and, therefore, gave expression to, pathogenic properties.

According to Enderlein – and in opposition to modern microbiology – he believed that all bacteria have either a nucleus or a nucleic equivalent. On the other hand, modern microbiology maintains that bacteria have neither a well-define nucleus nor do any of the organelles that are contained with a given form of bacteria have well-defined membrane walls.

He claimed that bacteria are capable of reproducing either sexually or asexually. In 1946, Joshua Lederberg and Edward Tatum demonstrated – and subsequently won a Nobel Prize for their efforts -- that in addition to asexual forms of reproduction, bacteria also could reproduce through a process that is very similar to sexual reproduction, and, thereby, confirmed Enderlein's earlier claim in this regard.

Summing up, Enderlein empirically confirmed Béchamp's contention that, contrary to Pasteur's position – the blood of healthy people was not sterile but contained microorganisms. In addition, Enderlein brought forth considerable additional evidence to indicate that pleomorphism (i.e., the idea that microorganisms can change their morphological forms as well as exhibit different functional properties depending on the condition of the surrounding biological terrain), rather than monomorphism (Pasteur's theory that microorganisms were not capable of changing their morphological forms) governed the life cycles of microorganisms.

Together with Béchamp, Enderlein believed that the cell was not the smallest unit of life. Enderlein used the term colloids to refer to the suspension of spermits in different substances as giving expression to the most primitive form of life, whereas Béchamp talked in terms of microzymas as being the most primitive form of life, and, as noted previously, whether the two terms (spermits and microzymas) are equivalent to one another is not known. Furthermore, with Béchamp, Enderlein argued that disease of any kind was due to disturbances within the terrain that led to the formation of pathological forms of microorganisms and, therefore, was not due to the invasion of a given biological terrain by some form of externally attacking infectious microorganism.

Both Béchamp and Enderlein held – each had his own way of giving expression to such ideas -- that lower valence microorganisms do not attack healthy biological terrain or tissue. Instead, they believed that when the condition of a given instance of biological terrain deteriorates (due, say, to a poor diet, or the presence of synthetic drugs and medicines, or the impact of continued stress, or as a result of the effect of various kinds of environmental toxins), microorganisms are induced by such a deteriorating terrain to enter into higher valence forms of their cycle which are non-symbiotic and, therefore, pathogenic in nature. Consequently, both Béchamp and Enderlein agreed with the earlier pronouncement of the French physiologist, Claude Bernard, which stipulated that the milieu or terrain is everything and the microorganism is nothing – something which, although this might be an apocryphal anecdote, Pasteur, supposedly, admitted on his death bed – namely, that 'Claude (Bernard) was right. The terrain is everything and the germ is nothing.'

One might note in closing this section of the present chapter, that Günther Enderlein is credited with curing many people during the course of his medical practice. His approach to medicine is referred to as Sanum Therapy, and it is predicated on: (1) Knowing the nature of the pleomorphic life cycle of the primordial unit of life that, under the "right" circumstances, can be induced to develop in different problematic directions according to the pathological condition of a given individual's biological terrain; (b) knowing what treatments are indicated at each stage of pathogenic development in a given microorganism which takes place during the cyclogeny or cycle of the primordial form of life so that a human being can be returned to a state of symbiotic balance or harmony in which only apathogenic endobionts are active and which constitutes nothing other than a condition of health or well-being.

There are many facets of the Royal Rife story which could be told, ranging from his deep desire to identify the cause of cancer as well as his dedication to establishing a form of treatments that would cure cancer once its cause was identified (efforts that began in the late 1920's and early 1930's and which he was able to successfully demonstrate in 1934 – more on this shortly). Or, one could explore the

way in which the head of the American Medical Association (Morris Fishbein) sought to acquire a financial interest in Rife's discoveries and when that proposal from the head of the AMA was turned down, the latter individual directed the full power of the AMA toward ruining Rife as well as completely suppressing all knowledge about Rife's inventions, and, as part of this multifaceted attack, an engineer, who worked for Rife, was induced to betray the inventor and claim that the revolutionary optical device that was being used to make fundamental discoveries, as well the frequency treatment technology that had been developed by Rife for the purpose of curing cancer and which was complementary to the aforementioned breakthrough in microscopy were the result of the engineer's own work and not dependent on any contributions from Rife. Alternatively, one might examinee the way in which Rife introduced improvement after improvement to both what came to be known as a 'Universal' microscope as well as the frequency mechanism that he used to cure cancer during the aforementioned period of decade-long attacks by the AMA. Finally, one might investigate the way in which, little by little, Rife's nerves began to become frayed as a result of the vicious legal and institutional attacks that were being leveled against him by the American Medical Association, and, eventually, he broke psychologically under the constant strain. Unfortunately, the only coping mechanism that Rife could find which was capable of quieting his nerves (at least in the beginning) was through the consumption of alcohol and, in time, this led to years of substance abuse and various forms of institutionalization.

In the end the judge who was trying the Rife case indicated that the engineer who had betrayed Rife had not adequately demonstrated that the invention of the 'Universal microscope' or the frequency treatment device were the result of the engineer's work. However, the damage already had been done, and, notwithstanding a legal verdict in his favor, Rife's professional reputation had been torn to shreds and, as a result of the concerted efforts of the American Medical Association, the scientific and medical world had been induced – without actually objectively engaging the issues -- to ignore, reject, or distrust Rife's inventions and his work.

Let's begin with a simple overview of the essential issue. In 1934, a group of prominent bacteriologists and medical doctors conducted a cancer clinic at the University of Southern California. The research and testing at the clinic demonstrated three things.

First, cancer appeared to be the result of the presence of a microorganism that could be observed using Rife's microscope. Rife labeled the different forms of the microorganism as BX or BY depending on whether a given instance of cancer involved, respectively, a melanoma or a sarcoma.

Secondly, Rife had developed a form of frequency treatment which was capable of eradicating such microorganisms in a manner that was painless to human beings. The eradication process took just a short period of time.

Thirdly, the 1934 cancer clinic showed that the effects of cancer could be reversed. People who, previously, had been considered to be terminally ill with some form of cancer (and other serious forms of illness as well) were able to be restored to complete health.

For reasons that, shortly, will be indicated, the American Medical Association soon began to suppress the attempts of anyone who tried to inform people – professionals and potential patients alike -- about the discoveries and treatments entailed by the 1934 University of Southern California cancer clinic results. In addition -- and rather inexplicably unless one were to presume that the motivations for doing so had nothing to do with science, truth, or the well being of ill patients -- the American Medical Association along with like-minded confederates not only refused to put Rife's discoveries, instruments, and treatments to any sort of objective study, but, as well, they brought different kinds of pressure on doctors to discontinue pursuing the Rife approach to certain kinds of ill-health.

Millions of people die every year from cancer. Billions of dollars have been spent searching for variations on the cut (surgery), burn (radiation), and poison (chemotherapy) approaches to cancer treatment that have become the so-called 'standard of care' in medicine.

Yet, the American Medical Association in its infinite wisdom decided that it had the right – nay, the duty – to make sure that no one

should be able to teach about, engage in research on, or publish material concerning the Rife microscope, his frequency-based treatment device, or the successful results that had been achieved through the Rife approach to cancer. The deaths which give expression to the colossal, tragic collateral damage which have ensued as a result of such hubris, jealousy, greed, ignorance, and a desire to have complete control over all of medicine and science cannot really be considered to constitute an example of iatrogenic death but would appear to better represent a clear cut case of murder, theft of taxpayer money, and defrauding of the public by many members of the medical establishment.

Royal Rife was not the only individual who became a victim of the arbitrary wrath and Machiavellian tactics of the head of the American Medical Association. For a little more than 25 years (from 1925 to the 1949 when he was ousted at a convention in Atlantic City), Morris Fishbein ruled the AMA with an iron, inflexible, dictatorial vice-like grasp that forced everyone within his medical sphere of influence to bow down and worship his interests, beliefs, values, as well as his way of doing things or suffer some rather nasty consequences including: (a) The loss of their medical license; (b) the loss of research funds since, at the time, whether directly or indirectly, a lot of that funding came via the AMA., (c) the loss of access to being able to have research published in the pages of the Journal of the AMA; as well as (d) the loss of the opportunity to be hired by universities to explore and reflect on such issues with aspiring medical students.

Furthermore, whenever medical practitioners were able to develop successful treatments, Fishbein had established a sort of tithing system in which medical practitioners were forced to pay tribute to the AMA in the form of advertising revenues. If a medical practitioner was unwilling to submit to such arrangements, then no one would be permitted to find out about whatever form of successful treatment had been developed.

One might hope that after Fishbein had been removed from his position as the head of the American Medical Association, the course of medicine might have changed direction in the United States. Unfortunately, this was not the case, but, rather, the process of medical research, the teaching of medicine, the publication of medical papers,

and the practice of medicine merely took on new overlords – including the 1930 transformation of the Hygienic Laboratory into the government run National Institutes of Health that took a few years to become organized, but, eventually, began to determine who would get research funding, and, as a result, came to control what got taught, and what got published, and who got hired, and who got to have careers, and what role pharmaceutical companies would have in the world of medicine.

The foregoing was especially true in relation to the manner in which the National Institute of Allergy and Infectious Diseases, a sub-division of the National Institute of Health, was run from 1984 to 2022 under the self-serving leadership of Anthony Fauci. In effect, although there were certain differences, Fauci conducted business at the NIAID with much the same kind of dictatorial ambience as Morris Fishbein had run the American Medical Association.

As was true with respect to the legacy of Morris Fishbein, so too, the fruits of that form of iron-handed control affected – in many negative, extremely destructive ways -- the development of medicine in America (the "HIV causes AIDS" fiasco being just one such tragedy and the COVID-19 travesty being another). Researchers, practitioners, and teachers had to abide by the tenets of a medical form of theology being disseminated by individuals like Fauci which determined what ideas would be funded, and what ideas would be published, and what ideas would be taught at medical schools, and what forms of medicine would be suppressed.

However, before Fauci came along, there were other individuals such as Cornelius P. Rhoads who, for the decade lasting through the 1930s, acquired a perspective that was shaped substantially by the sort of petroleum-based pharmaceutical medicine that was being instituted at, and evangelically spread by, the Rockefeller Institute. Beginning in 1940, and continuing on through 1959, Rhodes took the razzle-dazzle of his petroleum-based pharmaceutical show on the road when he became the head of the Sloan-Kettering Cancer Center in New York.

From 1943 to 1945 he also served as the director of the chemical warfare service. This served to provide him with deeper insight into

the capacity of chemistry to modulate, damage, and kill living systems – a form of toxic knowledge.

After the war, he championed the process of using chemotherapy as a primary form of cancer treatment. As a result under Rhodes' guidance – if such a description is actually warranted – Sloan-Kettering became the premiere center in the United States for testing cancer drugs.

As noted previously, Cornelius Rhodes not only had been inculcated or indoctrinated with the Rockefeller theory of medicine prior to becoming head of the Sloan-Kettering Cancer Center, but after he assumed control of the Center, he established deep connections with the American Cancer Society which had been established in 1913 by John D. Rockefeller as a means of promoting, and pushing for the development of petroleum-based pharmaceuticals in the treatment of, among other things, cancer.

Rhodes often attacked – verbally and in other ways as well -- anyone who had different ideas concerning the cause or treatment of cancer than he did. For instance, in 1950, he suppressed the research of Dr. Irene Diller when the Sloan-Kettering director made arrangements to stop her from addressing the New York Academy of Science concerning the discovery of a cancer-related microorganism – a discovery that resonated with the findings of Rife nearly 20 years previously.

The approach of Dr. Diller went contrary to Rhodes fundamental belief that cancer was in some way a cellular problem that was set in motion by mutational damage to some aspect of an individual's genome. As such, he maintained that cancerous cells needed to be destroyed through the use of chemotherapy – an idea that is inherently resistant to a perspective such as the one being put forth by Dr. Diller which indicated that a microorganism of some kind might be responsible for the emergence of cancerous tissue and, therefore, one had to address the issue of cancer through the specific activity of that microorganism instead of, indiscriminately – as Dr. Rhodes wished to do -- on a general cellular level.

The head of the Sloan-Kettering Cancer Center was up to the same sort of Machiavellian tricks in 1953 when he sought to undermine the work of Dr. Caspe who made a presentation in Rome involving the

discovery of the same microorganism as Dr. Diller had sought to speak about three years earlier – a discovery that, once again, supported the work of Royal Rife several decades previously. In retaliation, Rhodes arranged for the funding of Dr. Caspe's laboratory in New Jersey to be pulled and eventually forced the laboratory to shut down.

According to Barry Lynes who wrote the book: *The Cancer Cure That Worked!*, the Sloan-Kettering Cancer Center actually had run a series of tests in 1975 indicating that there was pleomorphic activity present in all of the blood samples of the cancer patients who were being tested. However, because the official position of the Sloan-Kettering Cancer Center had always been that the notion of pleomorphism was a myth and that the principle of monomorphism accurately reflected the nature of microbiological organisms, officials at the Center buried the evidence of pleomorphism to which such tests had given expression.

Consequently, if one wished to become a non-entity within American medicine during the twenty's thirties, forties, fifties, sixties, and seventies all one had to do was disagree with people like Rhodes and Fishbein. Such ego-driven individuals had established an oppressive scientific and medical atmosphere that would continue on for another sixty years through people like Anthony Fauci at NIAID, and like-minded medical theocrats at the Center for Disease Control (CDC) as well as the Food and Drug Agency (FDA).

Initially, allusions to Royal Rife showed up – somewhat indirectly -- in Fishbein's medical crosshairs when the director of the AMA came to find out about an extraordinary cancer cure in relation to an elderly, 82year old man from Chicago where the headquarters for the AMA were located. The man had various cancerous growths on his face when he left to seek out the Rife frequency treatment via the facility that had been set up by Dr. R.T. Hamer in southern California which was rooted in Rife's research and technological inventions.

The elderly man wanted to take one last lunge of hope concerning the possibility of grabbing some extra time from the brass ring of life. When the man returned home from his encounter with the Rife frequency treatment at the Hamer facility in California, all of the cancerous growths were gone and there was nothing more than a

small black mark on his face. The man's appearance had gone from grotesque to normal within a fairly short period of time.

The old man was so overjoyed with the result of the Rife treatment that he couldn't stop talking about his cure when he returned home. Fishbein, who lived in the same city, came to find out about the case and set up a dinner engagement with the gentleman in order to wine and dine the elderly man with the hope of finding out what that individual could reveal about the Rife treatment procedure,

Following the aforementioned dinner engagement, Fishbein, eventually, sent an operative from Los Angeles to meet with practitioners from the aforementioned Hamer facility who were successfully using the Rife frequency treatment. The operative had been instructed to put forth a proposal concerning Fishbein's desire to acquire a financial interest in their business, but the proposal was rejected.

Up to that point in time, the Rife frequency treatment had not been advertised. In fact, the practitioners were being so overrun with a steady stream of new cases (involving an array of individuals who had heard by word of mouth about the effectiveness of the treatment) that Dr. Hamer had to hire and train several new technicians to deal with the increasing patient load.

On average, forty patients a day were being treated at his facility. Although many of those patients previously had been diagnosed as being terminally ill or had not been helped in any appreciable manner by so-called mainstream or orthodox modes of cancer treatment, the Hamer facility was actually curing individuals who were being told by mainstream physicians that, among other things, such clients should begin to put their affairs in order.

However, under extreme forms of professional, legal and financial pressure applied by the American Medical Association at the direction of Dr. Morris Fishbein, Dr. Hamer was forced to discontinue his practice. The foregoing process of termination took place despite the fact that Dr. Hamer had accumulated a wealth of documented, evidence concerning successful outcomes with respect to both cancer cases as well as in relation to various other kinds of pathologies thanks to the technologies that Rife had invented and which Dr. Hamer had been using.

The forms of dissuasion employed by the American Medical Association and those who came under its influence were not restricted to professional, legal, and financial dynamics. For example, one of the annual reports of the Smithsonian Institute contained some positive coverage concerning Rife's inventions, discoveries, and treatments, but shortly thereafter, the author of the article was shot at through the front windshield of his car, and, as a result, he never wrote about Rife again.

Against the backdrop of the foregoing sorts of machinations, one might note (and this was touched upon earlier) that during the late 1800s and moving forward for another 40 years, or so, pathogens were divided into two classes. On the one hand, there were micro-sized objects that were capable of being filtered from, or out of, a biological sample (such as blood or some other fluid from an individual), and, on the other hand, there were other kinds of micro-sized objects that were presumed to be present in such samples that were not capable of being filtered from the latter fluids.

The former objects consisted of various kinds of bacteria, parasites, and the like. The latter class of smaller objects constituted something of an unknown nature, but they were referred to as filterable viruses (that is, poisons).

Eventually, using the term "filterable" before the word "virus" was discontinued. However, the understanding being alluded to here by use of the term "virus" without the term "filterable" appearing in front of it does not necessarily have anything to do with the modern theory of a virus.

The original sense of the term "virus" had to do with some unknown kind of poison or toxin that was capable of by-passing the filtering process. However, the modern sense of the term "virus" refers to a nano-sized entity containing a sequence of DNA or RNA which is encapsulated within a protein sheath that, somehow, is capable of penetrating or gaining entry to the interior of cells and, supposedly, is capable of holding those cells hostage while such entities co-opt certain aspects of some of the biological mechanisms within the invaded cells in order to be able to unleash whatever capabilities are supposedly present in the aforementioned DNA or RNA sequence that

is believed to exist in the interior portion of the micro-sized object that, theoretically, is surrounded by an outer protein sheath.

Rife referred to the microorganism that he had discovered and considered to be the cause of cancer as being a virus. However, he was not using that word in the modern sense of the term, but, rather, he was using the word in its original etymological sense of being a toxin or poison of some kind that was capable of passing through filters that were capable of separating out larger microorganisms from a biological specimen, but those filters were not capable of filtering out such smaller entities.

Bacteria that can be separated out of a biological specimen through the use of a filter are in the order of 1 micron, or so, in size. “Filterable viruses”, understood in the original sense of that phrase, tend to have a size that is a thousand times smaller than the typical bacteria -- a size that falls somewhere between 10 nanometers and several hundred nanometers, or two tenths, or so, of a micron.

There are good reasons for resisting the idea that Rife’s use of the term “virus” is equivalent to the modern notion of virus. For example, although, supposedly, viruses in the modern sense of the term require a cell to be able to propagate, Rife discovered that the small microorganism that he was observing and which could pass through filters that separated out larger bacteria, were capable of surviving, if not thriving, on something known as K-medium (the K standing for the inventor of the medium, Dr. Arthur Kendall, who collaborated with Royal Rife beginning in 1928). K-medium was a non-cellular form of nutrient that the nano-sized microorganisms being studied by Rife could use to sustain themselves but which would have been useless to viruses in the modern sense of the term since these latter, hypothetical entities are considered to be little more than storage packages made of proteins that contain strands of DNA or RNA, and, therefore, have no need for, or the means to be able to metabolize, nutrients in order to be able to survive.

In addition, the smaller-sized entities that were passing through the filters that separated out larger, bacterial forms of microorganisms seemed to be exhibiting many bacterial-like properties. Indeed, based on his own observations, Rife maintained that the microorganisms that were passing through the filters were actually transformed

versions of the bacteria that previously had been observed on a larger scale and – when not undergoing transformation to a smaller, different morphology from its original status as a large bacterial form – could be filtered from a biological sample.

In other words, Rife's observations of the life cycles of microorganisms indicated that the latter entities were pleomorphic in character. They could change their morphology, as well as function, and in the process could, among other things, transform from, on the one hand, a bacteria whose size was such that it was capable of being filtered from a biological sample, to, on the other hand, a bacterial-like microorganism that was capable of passing through the very same filter that, previously, had been able to be separated out in the form of the larger version of the much smaller edition of that same microorganism.

Due to the influence of Pasteur's notion of monomorphism – a notion for which Pasteur put forth conjecture in place of evidence – modern microbiological orthodoxy held – again on the basis of no actual proof – that bacteria were incapable of changing their morphology and/or function. On the others hand, Béchamp had put forth considerable evidence to indicate that microorganisms were pleomorphic in nature, and as pointed out previously in this chapter, Enderlein also had released a great deal more evidence to demonstrate that microorganisms were pleomorphic in nature.

In addition, through the use of his Universal Microscope, Rife was now providing live-action, microscopic proof concerning the existence of such bacterial transformations. These transformations were pleomorphic in nature rather than being monomorphic in character as Pasteur, without evidence, had misled subsequent generations of scientists and researchers to presume was the case and which, as a result, framed their understanding of microbiology in problematic ways.

The journal *Science* actually published (December 11, 1931) an account of the research of Dr. Kendall (a colleague of Royal Rife) concerning this issue. The research documented the transformation of larger bacteria into smaller editions of the same bacteria which -- following such a transformation -- could pass through a filter that previously separated out the larger form of that bacteria.

Dr. Kendall had been invited to attend the May, 1932 session of the Association of American Physicians at Johns Hopkins University in Baltimore, Maryland in order to speak about his research. Upon hearing about the foregoing presentation, Dr. Thomas Rivers of the Rockefeller Institute tried to have that scheduled address cancelled. When this attempt to derail things failed, Dr. Rivers subsequently insisted that both he and Harvard's Dr, Hans (a physician, bacteriologist, and author of many papers and books) should be allowed to speak to the members of the Association of American Physicians in response to whatever Dr. Kendall might say.

In December of 1926 – six years prior to the aforementioned May 1932 gathering of the Association of American Physicians -- Dr. Rivers had put forth a proposal to the Society of American Bacteriologists that supposedly established a set of criteria that would permit people to distinguish between bacteria and virus-sized entities. At the heart of his perspective were several beliefs. For example, at the December 1926 meeting, Dr. Rivers proclaimed – on the basis of what evidence is rather unclear -- that: (a) viral entities were functionally dependent on the presence of living cells in order to be able to reproduce; (b) entities known as viruses could not possibly be bacterial in nature because bacteria are inherently incapable of assuming viral-sized forms.

The problem, of course, with the foregoing perspective is that, as was discussed previously, the research of Royal Rife and Dr. Arthur Kendall indicated that bacteria were not only capable of assuming the size of virus-like entities (in the original sense of the term) and, therefore, were able to pass through filters that had been able to separate out typical forms of bacteria of a much larger size. In addition, according to Dr. Kendall, the smaller sized bacterial-like entities were capable of reproducing without the need for other cells being present to help make such reproduction possible.

Obviously, the worldview of Dr. Rivers was being threatened by the research of Dr. Kendall. Consequently, he intended to vigorously defend the position that he had announced to the world during the aforementioned December-1926 meeting before the Society of American Bacteriologists concerning the alleged differences between bacteria and viruses because, in effect, research was now being

released by Rife and Kendall indicating that Dr. Rivers didn't really know what he was talking about.

Upon request – or demand – Dr. Rivers and Dr. Zinsser were provided with the directions and information needed to replicate the methods used to generate the research results of Dr. Kendall's work in 1931. However, following the presentation of Dr. Kendall at the May 1932 meeting of the Association of American Physicians at Johns Hopkins University, Dr. Rivers and Dr. Hans Zinsser both sought to dismantle the perspective of Dr. Kendall by, among things, charging the latter individual with having perpetrated scientific fraud because neither Dr. Rivers nor Dr. Hans Zinsser had been able to replicate the results that were reported in 1931 by Dr. Kendall.

Dr. Edward C. Rosenow, Jr. – son of Edward Rosenow Senior, who had been a supporter of, and who collaborated with, both Dr. Arthur Kendall and Royal Rife – notes that he had been a student of Dr. Hans Zinsser while attending Harvard. The younger Rosenow indicates that during this period of time, Dr. Zinsser once confessed to him that he -- Dr. Zinsser -- had not actually bothered to follow the methodological protocol with which he had been provided to carry out the process necessary to – potentially -- replicate the 1931 results concerning the capacity of bacteria to change their morphology and functional properties, and, yet, Dr. Zinsser proceeded to be critical of Kendall's announced results nonetheless.

Apparently, many people in the audience at the May 1932 Association of American Physicians were influenced –-- at least in a rhetorical sense -- by what Dr. Rivers had to say on that occasion. This outcome – to whatever extent it is true – might well have been because many members of the audience permitted themselves to forget about such matters as empirical evidence, methodology, and demonstrable results, and, instead became caught up in arguments from authority as well as the infamous capacity of Dr. Rivers to verbally and publically bully individuals in a manner that rarely had anything to do with the truth of an issue but was, instead, dedicated to Dr. Rivers need to satisfy the hungers of his own ego at the expense of the feelings and reputations of other individuals.

Several decades prior to the verbal brawl before the Association of American Physicians in 1932, Peyton Rous had, in 1911, established a

strong case – strong enough to lead to winning the Nobel Prize for his work some 55 years later -- that the cause of cancer might have something to do with the presence of a virus -– in the original sense of the term … that is, a poison or toxin of some kind that was capable of passing though a filter that was capable of separating out larger forms of bacteria. However, at the time of the foregoing discovery, the orthodox manner of depicting or framing the cause of cancer was considered to be a function of some sort of mutagenic change to the way in which DNA and/or RNA were being processed, and, therefore, such mutated cells were believed to become rogue centers of dysfunctional biological activity.

Later on, the work of Dr. Eleanor Alexander-Jackson established that the so-called Rous virus had been observed to generate both DNA as well as RNA sequences and since viruses in the modern sense only were supposed to contain either DNA or RNA but not both, the Rous virus was really more bacterial in nature. In a 1969 paper that was authored by both Dr, Alexander–Jackson and Dr. Virginia Livingston, the assertion was made that the reason why no one had been able to understand that the cause of cancer was due to the presence of a single Rous-like bacterial form was that most researchers had refused to be willing to entertain the possibility that the pleomorphic perspective -- which indicated that bacteria were capable of altering their morphology and functionality – might actually be correct. In short, researchers had been unwilling to undergo a process of de-framing in which various forms of fabrication which were shaping their perspective needed to be removed.

Five years later, in 1974, Dr. Lida H, Mattman, working out of the Biology Department at Wayne State University discovered the existence of what are referred to as “cell-wall deficient forms of bacteria’. For example, what are now referred to as mycoplasmas give expression to such entities, and the data surrounding cell-wall deficient forms tends to further corroborate the pleomorphic idea that began with Béchamp, and was further substantiated through the research of individuals such as Enderlein, Rife, Kendall, Alexander-Jackson, Livingston, Mattman, and others.

Unfortunately, the sorts of people who had control over much of medicine and biological research back then were being misled by

people such as Morris Fishbein, Cornelius P. Rhoads, and Thomas Rivers. Rivers had not only been a member of the Rockefeller Institute for more than a decade, but in 1935 he became the Director of the Rockefeller Hospital and served in this position until 1959, and, in addition, he became the Vice President of the Rockefeller Institute from 1953 until in his death in 1962. Throughout this time period he vigorously served, protected, and defended the interests of the Rockefeller approach to medicine which was rooted in: (a) The monomorphic theory of microorganisms that – despite the complete lack of evidence -- had been first proposed by Pasteur in the late 1800s, as well as: (b) The commercially extremely profitable notation that petroleum-based pharmaceuticals were the key to 'doing no harm'.

Like Fishbein of the American Medical Association and Cornelius Rhodes of the Sloan-Kettering Cancer Center (which had some rather incestuous ties with the Rockefeller Institute), Thomas Rivers sought to disparage, if not destroy, anyone – such as Rife and Kendall – who championed a perspective other than the one to which Dr. Rivers was committed. As a result, the foregoing three individuals took active steps, each in his own inimical manner, to discredit, suppress, harass, and undermine a great deal of the research that, among other things, was able to evidentially show or strongly suggest that a monomorphic view of microorganisms was an untenable theory and that, instead, the pleomorphic approach to microbiology was – from the perspective of actual evidence -- far superior to the empirically challenged idea of monomorphism. Therefore, a great deal of the research that was published, taught, and applied throughout America during their tenures as directors of the previously noted powerful organizations (tenures which loomed over the first six-plus decades of the twentieth century) was forced to genuflect before the likes and dislikes of such power brokers and recite whatever catechism of medical theology and litanies of cognitive self-effacement that were called for by various sets of circumstances.

Fishbein, Rhodes, and Rivers were all following the "leadership" model that had been established by Louis Pasteur. In other words, they were all people who were more interested in power and self-serving ideologies than they were interested in the well-being of

individuals, and, consequently, they leveraged power as well as were leveraged by that which made such access to power possible, and, in the process, they betrayed both the truth and their fellow human beings.

To somewhat paraphrase or re-phrase the words of Günther Enderlein that were quoted during the opening pages of the present chapter, the foregoing three individuals were people who might know a lot about disease but knew very little about the nature of life or what constituted health. Nevertheless, they considered themselves to be gods of medicine – if not more -- and, therefore, they set about creating servants in their own image, but there were those who followed the sound of a different drum.

In 1913, Royal Rife was a happily married, twenty-five year old man. He had moved to San Diego (from Nebraska) in order to further pursue his life-long interest in electronics, microscopes, inventions, as well as biology, and, he was able to pursue a number of those interests when he worked for the Navy during World War I and had been sent to Europe by the US government in order – for reasons that are unknown and, perhaps, classified – to investigate various laboratories in different countries.

A few years following the end of the war, Rife became intrigued with the possibility of finding ways to use electricity in some fashion that might help cure diseases of one kind or another. More specifically, he began to explore the idea that different electrical frequencies might have different effects upon biological organisms.

He was able to secure funding from a couple of interested San Diego industrialists who were willing to bankroll his scientific, medical, and inventive pursuits. Rife put the money to good use during the 1920s, and, as a result, he successfully invented both an extraordinary microscope as well as certain prototypes that seemed to be able to eliminate various kinds of pathogenic microorganisms through the use of frequencies.

Rife actually had begun work to construct the sort of microscope that he had envisioned in 1917. However, once his instrument had been built (and it consisted of thousands of parts), he proceeded, over time, to make a series of improvements to his novel form of microscope.

His microscope was unprecedented in a variety of ways. To begin with, at the time, the best microscopes of the day were capable of resolutions in the order of between 2,000 and 2,500 diameters, whereas Rife's initial microscope was capable of resolutions in the range of 31,000 diameters,

Piece by piece (eventually reaching a total of nearly 5,700 pieces), he expanded the original resolution capacity of his microscope to 50,000 diameters. As a result, he was able to observe the actual dynamics of life down to a size of $1/20^{th}$ by $1/15^{th}$ of a micron which enabled him to observe, among other things, the sorts of pleomorphic transformations in microorganisms that eluded normal light microscopes and which, for different reasons noted previously, could not be captured by electron microscopes.

The microscope contained a series of 14 lenses and prisms, together with an illumination unit, all of which were made from quartz materials that were transparent to ultraviolet light. These features enabled an observer to see objects that were invisible to normal light microscopes that did not use quartz lenses and which, therefore, hid the presence of objects that were only visible when one used lenses capable of transmitting ultraviolet light.

The Rife microscope had a second system of illumination that bent and polarized its light in a manner that could be controlled via the intricacies made possible by some 5,700 parts and which permitted the operator of the microscope to run through an array of very small changes in frequency gradation that were capable of bringing into focus those objects that had a chemistry which generated a frequency that interacted with whatever frequency of polarized, bent light which was being modulated within the microscope at a given time. In effect, the Rife microscope was able to paint microorganisms with frequencies of light to which such microorganisms responded in characteristic ways (such as color) and through which the microorganisms became visible as entities with specific, colors that was unique to the frequency that was characteristic of the chemical dynamics inherent in such microorganisms.

With the help of the foregoing capabilities of his microscope, Rife drew up a color-coding chart which enabled him to differentially and consistently identify numerous microorganisms as well as various

stages of their pleomorphic life cycle. Each micro entity had a specific form of color emanation that never varied, and, therefore, if, after adjusting the microscope in certain ways, one observed a microorganism with a certain color emanation, then, one knew whether, or not, it was something that one had previously encountered or whether it emanated with a color that had not, yet, been catalogued and, consequently, constituted a new discovery of sorts.

Frequency not only played a role in enabling one to see, for example, certain kinds of microorganism in different stages of their pleomorphic life cycles, but frequency also played a role in the development of an instrument that was designed to terminate the existence of certain forms of microorganism. Through a process of trial and error, Rife was able to determine the MOR or Mortal Oscillatory Rate associated with any given microorganism that enabled one to dismantle or disintegrate such entities.

Rife's initial investigations in this regard involved a search for a frequency that would terminate the microorganism that was believed to cause tuberculosis. However, after he located the proper MOR frequency and disintegrated the entity, he found, nonetheless, that some of the test animals continued to die from some sort of toxic poisoning.

Rife was aware that during the late 1800s Robert Koch had had similar experiences during his experiments with anti-venom. In other words, despite giving the requisite anti-venom to animals, Koch discovered that some of those animals still died.

After some critical reflection, Rife began to suspect that in some of those perplexing cases it might be that before the targeted, pathogenic microorganism had been eradicated (the one that was believed to cause tuberculosis), Rife entertained the possibility that, perhaps, different editions of the targeted, pathogenic microorganism had either released, or been transformed into, some sort of virus – that is, a toxic or poisonous entity. If so, then, this toxin or poison (i.e., a "virus" in the original sense of the term) could be responsible for the death of some of the test animals that had died despite the fact that the original form of that microorganism had been treated with, or exposed to, an appropriate MOR.

If the foregoing conjecture were correct, then, Rife had to discover what the nature of such a "virus" was and, then, seek to determine what its MOR might be. Three years of intensive research and experimentation were needed for him to be able to resolve the problem.

Eventually, however, he found that two different frequencies were necessary. One MOR frequency was needed to terminate the original bacterial form which was capable of causing tuberculosis, but, as well, another MOR frequency was also needed to be able to terminate the "viral" form (in the original sense of "virus") of that same microorganism.

In other words, in order to properly treat tuberculosis once it has arisen, one had to learn how to simultaneously terminate two different pleomorphic stages or forms in the life cycle of a given microorganism. Yet, terminating the pathogenic stages of that microorganism's life cycle doesn't actually indicate what it is – or was -- in the terrain within which such a microorganism exists or existed that induced the microorganism to enter into those aspects of its life cycle that are pathogenic in nature rather than continue on in an apathogenic mode of existence.

One of the reasons why it took so long for Rife to find a solution to the foregoing quandary was that, initially, he had tried to find ways of staining the "virus" form of the microorganism in a traditional manner by using chemical dyes of one kind of another. After a considerable amount of unsuccessful trial and error, he came to the conclusion that the "virus" mode of the pleomorphic microorganism was too small to stain in a traditional manner (i.e., through the use of chemical dyes), and, as a result, he began to search for alternative methods of staining.

It was at this point in his explorations that the intuition came to him concerning the idea of using frequencies as a means of rendering such entities visible. Consequently, he set about building a microscope that had the capacity to use frequency as a way of inducing what had been invisible to become visible through the unique color emanation that arose when the microscope used a certain frequency of light in conjunction with a microorganism that had a sort of receptive frequency.

Although Rife's first practical breakthrough came in relation to his work on the tuberculosis problem, his original impetus for undertaking such work had been a function of his ultimate desire to find a cure for cancer. In fact, his cancer research had begun in 1922, but he was having difficulty identifying the precise form of the microorganism that he believed might be the cause of cancer.

Therefore, in the meantime, he worked a problem about which he did have some knowledge since, based on the work of Robert Koch, and others, he knew what the identity of one of the primary culprits was that seemed to play a causal role in the onset of tuberculosis. When he discovered the MOR or frequency for terminating that pathogen, and, then, upon further research, discovered that there was a "viral" form of that same pathogen which also had to be identified as well as eliminated, he became caught up in the many tasks that were entailed by the process of updating his microscope so that it could paint microorganisms – and, thereby, make them visible – with appropriate frequencies that induced those microorganisms to become manifest or resonate with unique colors.

During the latter stages of the foregoing research, Rife's work was assisted considerably by the presence of Dr. Milbank Johnson and Dr. Arthur Kendall. Both Dr. Johnson and Dr. Kendall were well-regarded.

Dr. Johnson was a high-profile physician in Los Angeles who, among other things, was a member of the board of directors at the Pasadena Hospital in California. Dr. Kendal was the Director of Medical Research for the Evanston, Illinois-based Northwestern Medical School, and, was not only a well-regarded microbiologist but the inventor of a culturing medium that, among other things, would play a central role in helping Rife in his cancer investigations.

The culturing medium that was invented by Dr. Kendall was protein-based and devoid of living cells that were capable of sustaining the "viruses" (in the original sense of the term; that is, denoting a toxin or poison) which could not be filtered out of, or removed from, say, a blood sample, Nevertheless, the K-medium was able to sustain those viruses despite the absence of such cells and, therefore, as pointed out earlier, contradicted the 1926 claims of Dr. Thomas Rivers which conjectured that one of the distinguishing features between "viruses"

and bacteria was that the former could not reproduce in the absence of cellular life.

Since the modern notion of a virus presupposes that the foregoing assertion of Dr. Rivers is true, and since Dr. Kendall's invention of the K-medium demonstrated that one of the supposed primary differences between viruses and bacteria (according to Dr. Rivers) -- which had to do with the alleged need of viruses to live off the avails of living cells -- was, actually, false, then, one comes to the rather startling conclusion that evidence has existed for more than 90 years indicating that the modern theory of viruses is incorrect because that theory relies on a perspective – namely, the foregoing conjecture of Dr. Rivers – which the existence of K-medium served to show was untenable. Nevertheless, the mythology of modern virology is unwilling to abandon its insistence on carrying on with its counterfactual façade that one can differentiate between viruses and bacteria because viruses need a cell host to be able to perpetuate themselves. As Dr. Kendall and Royal Rife had shown by the early 1930s, so-called "viruses" are actually a bacterial-like form of organism that is capable of engaging in metabolic processes quite independently of the presence of cellular life.

The K-medium of Dr. Kendall helped Rife to be able to culture the viral form of the bacterial microorganism that, along with the latter bacterial form, was responsible for tuberculosis. Rife's new improvements to his microscope was capable of not only making such microorganisms visible in a manner that was capable of being replicated, but showed, as well, the nature of the pleomorphic dynamics that gave rise to different stages of the life cycle of a single microorganism as those entities transformed into one another.

On November 30, 1931 the *Los Angeles Times* carried a story about a meeting held several days previously that had been arranged by Dr. Milbank Johnson on behalf of more than 30 prominent members of the scientific and medical communities in California in order to provide those individuals with an opportunity to learn about the work of both Royal Rife and Dr. Kendall. A photograph of the two scientists juxtaposed next to the new microscope was featured some five days later in the same newspaper.

A month later, on December 27, 1931, the *Los Angeles Times* published another story on the work of Royal Rife. This time the article was about a gathering of some 250 scientists who had been invited by Royal Rife and his colleagues to learn about their research and inventions.

The research and work of Rife and his colleagues was given national exposure through the mainstream journal *Science*. Moreover, several weeks prior to the aforementioned Los Angeles Times article of December 27, 1931, an edition of *Science News*, a sort of supplemental magazine related to the journal *Science*, ran with a story about how filterable bodies – i.e., viruses in the original sense of the word of being toxins or poisons that could not be separated out by filters – had been viewable via the Rife microscope.

The foregoing kind of coverage and notoriety is what led to Dr. Thomas Rivers and Dr. Hans Zinsser trying to cancel the presentation of Dr. Andrew Kendall before the Association of American Physicists in May of 1932 that was to be held at Johns Hopkins. When they were not able to cancel the scheduled meeting, they wormed their way in to being allowed to make their own presentation and used that opportunity to engage in a series of attacks that were filled with rhetorical bombast and little more, but many members of the audience who were physicians seemed to find that sort of rhetoric to be comforting.

Apparently, only one individual in the audience is reported to have stood in defense of Dr. Kendall. However, what was missing in numbers was more than compensated for by the prestige of that speaker – namely, Dr. William H. Welch.

Dr. Welch was the individual who first began to introduce, and teach about, bacteriology in the United States. Moreover, his scientific stature was such that at one point in time the library at Johns Hopkins had been named in his honor.

The thrust of the remarks offered by Dr. Welch on the occasion of the May 1932 presentations was that the work of Dr. Kendall had served to advance the cause of medicine. However, unfortunately, rhetoric, verbal bullying and unpleasantness seemed to carry the day.

Notwithstanding the foregoing sort of setbacks, Royal, Rife, Dr, Kendall, and other individuals such as Dr, Edward C. Rosenow of the Mayo Clinic continued to move forward with their research concerning, among other things, the pleomorphic nature of microorganisms, as well as with a continued search for medical protocols that might successfully treat different kinds of pathology.

Dr. Rosenow was of the opinion that as impressive as the substantially increased capacity of the Rife microscope might be with respect to being able to resolve the details of living objects on the sub-micron level, nonetheless, as far as Dr, Rosenow was concerned the capacity of that same microscope to be able to make visible what previously had been invisible by means of its ability to paint those microorganisms with a resonance that induced the latter entities to emanate with a color that uniquely identified them as being one kind of organism rather another was of far greater importance. This is precisely the feature of that microscope that, along with the K-medium of Dr. Kendall, led, in 1932, to the discovery of the microorganism that appeared to be a cause of cancer.

Through a series of fortuitous but unintended consequences, Rife discovered that when he took a cancer culture and sustained it with K-medium and, then, exposed that culture for approximately 24 hours to the lighting frequency of an argon gas-filled tube that had been heated by 5000 volt electric current, and, then, followed the foregoing processes by exposing the culture to a combination of water and vacuum for another 24 hours that was maintained at 37.5 degrees Centigrade, he was able to see that for which he had been looking for nearly a decade, In other words, after employing the aforementioned sequence of methodological steps, he observed a significant change in the cancer culture since part of it was induced to emanate at a frequency that was visible through his microscope as being purple-red in color.

The size of the particle was sub-micron in dimensions – namely, $1/20^{th}$ of a micron by $1/15^{th}$ of a micron. According to Rife, the cancer microorganism had four different pleomorphic stages.

The smallest of the discovered microorganisms was labeled “BX” and seemed to be responsible for inducing carcinomas and melanomas involving different kinds of skin cells. A slightly larger version of the

same underlying microorganism was referred to as “BY” and it seemed to be related to the emergence of sarcomas (a form of cancer involving connective tissue such as: Fat, cartilage, and bone as well as vascular and blood stem cells). The other two forms of the cancer-related microorganism were a monococcoid form which has been observed to be present in the blood of roughly 90% of all cancer patients, as well as a fungal form of that same underlying microorganism.

All three of the latter forms of the same underlying microorganisms were capable of being transformed into the smallest expression of the microorganism – that is BX -- within a period of 36 hours. Once such a transformation had taken place, the resulting BX microorganism was shown to be capable of inducing tumors to develop with all of the attendant pathological characteristics of such tumors, and, in fact, Rife and his colleagues had been able to demonstrate this more than 300 times with precisely the same set of results.

Rife indicated – without necessarily knowing or understanding – that what induced the foregoing transformations to occur had something to do with the nature of the biological terrain in which those forms had been placed, Consequently, the actual cause of cancer was a function of the way such different forms of the same underlying microorganism interacted with or were engaged by the biological terrain in which they were placed.

While Rife maintained that when the terrain of a human body was properly balanced it was not susceptible to any of the foregoing sorts of cancer-related transformational activities taking place, nevertheless, what precisely constituted the character or nature of a properly balanced biological terrain was not clear or necessarily known. In a sense the four forms of the pathogenic microorganism served as the toxic or poisonous inflammatory dynamic that appeared to constitute what might be referred to as necessary conditions, that lacked the sufficient wherewithal to be able to cause cancer, but the precise nature of the conditions that needed to be present in the biological terrain to enable such toxicity to take hold and come to dominance were somewhat elusive.

Once Rife had identified the pleomorphic forms of the underlying microorganism that played a role in the onset of cancer, he went in

search of the MOR or specific frequency that was needed to terminate those forms. Through trial and error, he discovered the requisite MOR and proceeded to show that he could terminate such entities irrespective of whether they existed in isolation (that is, outside some sort of biological terrain), as well as when those microorganisms were located within test animals, and, in fact, during the course of his experiments, he was able to accomplish the foregoing process of termination in tests animals more than 400 times.

When the appropriate terminating frequencies were applied, the test animals became free of all cancerous dynamics. In other words, they were pathology free – that is, they had been "cured"

The next step involved human trials. While the complete story encompassing the cancer clinic that was held at the University of Southern California in 1934 might never be known because, in one way or another, all of the notes and documents were lost or mysteriously disappeared, nonetheless, there are enough eye-witness accounts of competent and trained observers to provide an overview of what appeared to have taken place.

The frequency treatments did not destroy tissue but only affected the pathological forms of the underlying microorganisms. Moreover, the treatment was found to be completely painless.

Initially, a patient was exposed to the frequency machine for a period of three minutes every day. However, subsequently, Rife and his colleagues discovered that applying the three-minute treatment every third day led to better results.

Apparently, by staggering the treatment protocol so that it was administered only every third day, a patient's body seemed to be provided with the time it needed to be able to detoxify (via the lymphatic system) and get rid of the dead carcasses of the pathological microorganisms that were being terminated by the frequency treatment. When the frequency protocol was run every day, this tended to lead toward the detoxification system becoming overwhelmed and, as a result, could lead to problems of toxicity of one kind or another if a given patient's body was not provided with enough time for the build-up of dead microorganisms to be eliminated.

A total of 16 individuals exhibiting an array of cancerous conditions were treated at the University of Southern California in 1934. All of the foregoing individuals had been diagnosed by various medical officials as suffering from conditions of incurable forms of cancer. Following 3 months of the frequency protocol that had been developed by Rife, 14 of the individuals participating in the clinic were pronounced as being free of all traces of cancerous activities.

Were any follow-up studies done with the foregoing individuals? I have not come across any evidence indicating that this was done, and, so, of course, there are unanswered questions concerning what the ultimate health status of those individuals might have been 5 or 6 years after the clinic ended in 1934.

Irrespective of what might have been happening with those individuals in relation to the issue of cancer later on in their lives, the purpose of this section of the present chapter has been to not only: (a) Provide an overview of a very exciting but, unfortunately, an almost completely unknown (save for the research efforts of individuals such as Barry Lynes and Christopher Bird) period of medical history in America, but, as well: (b) To indicate that Rife and his colleagues had established, once again (following in the empirical footsteps of Béchamp and Enderlein before them) that microorganisms operate in accordance with pleomorphic principles rather than the monomorphic ideas of Pasteur. Because the scientific and medical communities in the United States have permitted the dogmatic evangelical, power-seeking ideologues of monomorphism to take control of how biology and medicine are: Taught, researched, written about, and practiced, then, unfortunately, many pathological conditions – cancer among them – continue to be improperly understood, and, therefore, improperly treated, and it is the public that suffers from such intransigence.

Like Rife, Gaston Naessens (1924 – 2018) was a genius who had: An abiding interest in science; a capacity for incredible inventiveness, as well as a commitment to discovering ways that might either cure an array of pathologies or, at least, help improve the quality of people's lives in substantial ways. Furthermore, like Rife, Gaston Naessens was harassed by medical authorities (e.g., Dr. Augustin Roy) who lacked the former individual's intelligence, character, talent, and success.

While still in his twenties (which would have been some 20 years, or so, after Rife had constructed his own ground-breaking microscope in the late 1920s and early 1930s), Naessens – completely independently from Rife's work -- invented a microscope that was as revolutionary in its own way as was the earlier Universal microscope of Royal Rife. The Naessens microscope – which came to be known as the "Somatoscope" – was capable of resolutions down to 15 nanometers. (150 angstroms), and like Rife's Universal microscope, but unlike the electron microscope, the Somatoscope enabled one to observe actual living organisms as they went about their lives and pleomorphic transformations.

The Somatoscope employed principles of optics and physics that still do not appear to be completely understood. However, less one suppose that the microscope was an exercise in trickery of some kind, one might note that individuals such as Rolf Wieland, who served as the head of microscopy for the internationally acclaimed German optics firm Carl Zeiss indicated in 1989, after having had an opportunity to work with the Naessens instrument, that he considered the Somatoscope to be a significant improvement in light microscopy.

One might also note that the Somatoscope was capable of resolutions that were far superior to microscopes that were being constructed some forty years later than the time in the 1950s when Naessens came up with his invention. For example, the World Research Foundation announced in 1990 that it was releasing the Ergonom-400 microscope that was capable of magnifying objects some 25,000 times (which was actually less than the what had been achieved by Rife's Universal microscope) and which had a capacity to resolve objects down to 100 nanometers (1000 Angstroms) … some 85 nanometers (and 850 Angstroms) less than what Naessens microscope was capable of achieving.

The reason why the Somatoscope carries the name it does is because of the ultramicroscopic entities that Naessens discovered through the use of his optical invention. More specifically, in the blood of human beings as well as in the sap of plants, Naessens had observed a subcellular microorganism that was capable of reproduction and whose existence was largely, if not entirely, unknown prior to

Naessens discoveries. Naessens referred to this organism as a "somatid" (tiny body).

Somatids were capable of being cultured independently of a host body or cell. In addition he found that they were pleomorphic in character – in other words, they were capable of changing their forms of morphology and functioning during the course of their life cycle.

In fact, he determined that in healthy individuals, the somatid only underwent the first three pleomorphic transformations of a total of some 16-plus possibilities. However, in sick individuals, one could observe one or more of the other 13, or so, possible transformations, and which of these possibilities became manifest was functionally dependant on the condition of the biological terrain in which they resided.

Notwithstanding the importance of discoveries made by Béchamp, Enderlein, and Rife, Naessens, brought a level of detail to the study of pleomorphism and its varied roles within the lives of human beings (both apathogenically as well as pathogenically) that had not been attained by any of his predecessors. Naessens not only was confirming the earlier work of Rife, Enderlein, and Béchamp while also disconfirming the "research" of Louis Pasteur, but, he was adding significant, additional information as well.

The pleomorphic life cycle of the somatid involved such entities as: Spores, double spores, bacterial forms, double bacterial forms, rod forms, microbial globular forms, yeast forms, fungal forms, mycelial forms, and fungal filaments – each of which had different morphological features as well as different biological functions. Naessens maintained that if one knew how to read the somatid cycle in the blood of an individual, one could determine what manner of pathology was likely to emerge up to 18 months in advance of overt symptomology.

Naessens considered the microzymas that had been discovered and observed by Béchamp to be larger "cousins" of the much smaller somatid. Presumably, Enderlein's notion of spermits, protits, or endobionts might also be close relations, of one kind or another, to the primordial somatid.

Naessens ran the somatid through a number of experiments, and it seemed to have a relatively indestructible nature. For example, acid seemed to have no effect on somatids.

Somatids also appeared to be capable of withstanding, without adverse effect, normally lethal exposures of as high as 50,000 rems of radioactive exposure. Moreover, somatids also seemed to be able to retain a full range of functionality after having been heated to temperatures such as 200 degrees Centigrade (392 degrees Fahrenheit).

Like Béchamp's microzymas, somatids are believed to survive the decay and decomposition of a biological organism. Thus, just as Béchamp discovered microzymas in limestone samples taken from the Earth that were gauged to be some 60 million years old, and just as he detected the presence of microzymas in samples of street dust and chimney soot, so too, somatids are believed to be present in every part of an ecological system.

Nonetheless, the origins of both microzymas and somatids, along with the spermits/protits of Enderlein are unknown. Moreover, what kinds of dynamics transpire within such entities is largely unknown.

According to Naessens, somatids exhibit electrical properties. More specifically, the inner dimension of the particle appears to be positively charged, whereas the exterior portion of that particle is negatively charged.

When somatids are immersed within a liquid environment such as blood plasma, the particles repulse one another. This resonates with the behavior of healthy cells within a similar sort of liquid environment – namely, the cells tend to repel one another,

However, Naessens indicates that the charge associated with a somatid is actually much larger than what one finds in conjunction with cells. In fact, Naessens considers somatids to be energy condensers that might be able to underwrite, or make possible, various kinds of energy dynamics.

Naessens believed that the possibility of life was dependent on the presence of somatids. He maintained that while somatids could exist independently of life, he did not believe that life could exist independently of somatids, but what the precise nature of the

relationship between living cells and somatids actually might be appears to be, at the present time, shrouded in mystery.

He contends that for each organ of our bodies, there are somatids that are unique to, and which service, that organ and only that organ. Furthermore, all of the different kinds of somatids that are dedicated to various kinds of organs are simultaneously present in either the circulatory system and/or the lymphatic system.

Experiments have been conducted by Naessens in which he has extracted the somatids from a white-furred rabbit and transferred those somatids at the rate of one cubic centimeter per day for two successive weeks into the bloodstream of a rabbit with black fur. Within a period of about a month, Naessens indicates that the hair of the formerly black-furred rabbit will become lighter as roughly half of the hairs making up the fur continue to be black while the other half of the hairs making up the fur of the previously black-furred rabbit will have turned white.

Naessens indicates that the reverse of the foregoing transformation can also take place. All one has to do is start with the somatids from a black-furred rabbit and transfer those somatids to the bloodstream of a white-furred rabbit in accordance with the indicated rate and for the designated length of time, and one will end up with a gray-colored rabbit with half of the hairs of the previously all white rabbit continuing to remain white while the other hairs that make up the fur will have become black.

As interesting as the foregoing experiment is, it is not the most interesting discovery that was made in conjunction with such experiments. If one cuts roughly the same size patch of skin from rabbits that have undergone the aforementioned process of somatid transfer, and, then, one takes the skin patch of the rabbit from which somatids have been extracted and, then, grafts its patch of skin onto the body of the rabbit to which somatids have been transferred, the graft will exhibit none of the traditional signs of rejection.

If the foregoing experiment can be verified and expanded upon, the implications for the whole issue of organ transplants and accompanying rejection issues might become a thing of the past. Unfortunately, because medical orthodoxy has been so resistant to Naessens research and his discovery of the pleomorphic nature of the

somatid life cycle, such orthodox practitioners seem willing to place their patients at risk so that such practitioners can save their own vested interests.

Somatids are viral-like in size (that is, they are nano-scale in size which is the size that viruses are hypothesized to be. Yet, given the right kind of biological conditions, they are capable of all manner of pleomorphic transformations, and, therefore, they were not viral-like in functionality.

In other words, they could survive and function independently of host cells. Furthermore, during certain stages of the somatid cycle they were capable of exhibiting bacterial-like properties despite being able to resist the process of being filtered from a given sample.

From the perspective of toxicity or exhibiting poisonous properties, many stages of the somatid cycle resonate with the original etymological sense of the term “virus”. In other words, many of those somatid stages give expression to entities or forms that have toxic properties or potentials, but all of those somatid stages exhibit a capacity for independent activity and, therefore, are not dependent on the cellular mechanisms of other organisms to carry out those activities as is required by viruses in the modern sense of the word.

Consequently, while somatids are capable of assuming morphological forms on the sub-micron or nano scales, and while they have the capacity to give expression to toxic/poisonous properties under certain condition, nonetheless, somatids are not viruses in the modern sense of the term. As such, they are a non-viral form of microorganism, because no viral species – theoretical or otherwise – has the properties, potentials, and capabilities of somatids.

Naessens refers to somatids as being precursors to DNA. However, what this means or entails is not at all clear.

In fact, the notion that somatids are precursors to DNA raises at least one important question. Given that the 16-plus stages to which the aforementioned pleomorphic cycle of a somatid gives expression, and given that RNA and DNA capabilities are present in the entities that are present in the bacterial, fungal and other kinds of biological forms that make up the components of that cycle, then, exactly how

does such DNA/RNA capability arise if somatids – in their most primordial form -- are said to be precursors to DNA?

During a relatively brief discussion encompassing issues of viruses (in the modern sense of the term), evolution, and somatids that takes place fairly early in the book by Christopher Bird entitled: *The Persecution and Trial of Gaston Naessens*, there is reference to a report in the August 10th, 1989 edition of the British journal *Nature* concerning the alleged discovery – apparently for the first time – of large quantities of viruses (some 2.5 million such entities per liter) in unpolluted seawaters. Prior to the appearance of the Nature article by Ovind Bergh and his colleagues at the University of Bergin in Norway, biologists, apparently, had always believed that seawater contained extremely low concentrations of viruses.

According to the *Nature* article, the entities that were found by Bergh and his colleagues were less than 1.2 micros in size. This is roughly equivalent in size to some of the larger somatid forms that been discovered and observed by Naessens.

There are several problems with the foregoing considerations. For example, although the entities that were found in the seawater were referred to as viruses, how were the identities of the entities confirmed to be viruses? Were they dismantled, sequenced and demonstrated to consist of only DNA or RNA encapsulated within a protein package of some sort and nothing more?

How can one be sure that whatever entities were found in the unpolluted seawater weren't somatids or endobionts (e.g., spermits or protits) of some kind? Perhaps, they were maybe even samples of microzymas.

How does one know that what had been discovered by the Norwegian research group were viruses? Were all 2.5 million entities per liter examined?

Furthermore what is the basis of the supposed claim by biologists that prior to the Bergh "discovery", unpolluted seawater was believed to contain only small amounts of viral entities? Does such a prior belief give expression to an actual empirical determination or is it just an unsupported conjecture that is awaiting empirical confirmation, and, if so, then, in point of fact, the alleged discovery of Bergh and his

colleagues actually suggests that whatever the supposed empirical basis is for claiming that seawater was believed to contain low amounts of viruses is, obviously, actually wrong and had no real empirical basis.

The Norwegian researchers who wrote the *Nature* article alluded to earlier are excited – and Christopher Bird is including reference to that study in his book with a similar sort of curiosity -- because they all believe they might have opened up a theoretical possibility which accounts for how DNA or RNA might have been dissolved in seawater in large amounts and, thereby, become sources for subsequent genetic experimentation in the open waters. However, to put first things first, before one begins to calculate the genetic possibilities that might come in the form of dissolved DNA from alleged viral entities in seawater, perhaps, one might explain how such a complex molecule as DNA was able to arise and find its ways into such an encapsulated particle. Furthermore, without being able to rigorously prove that one is, in fact, dealing with viruses -- rather than, say, somatids, spermits, protits, or microzymas -- in the unpolluted seawater samples one is examining, then one might want to exercise a bit more scientific caution concerning what one believes one has found and what the theoretical ramifications of such a "finding" might be.

One might note in passing – although this is hardly the sort of thing that ought to be dismissed so quickly – that Naessens had discovered a formula that was capable of treating, among other things, an array of pathological disorders, including cancer. The compound, was given the name "714-X" (the "7" stood for the 7th letter of the alphabet -– "G," the first initial of his first name -- while 14 stood for the 14th letter of the alphabet – "N," the first initial of his second name, and the X stood for the 24th letter of the alphabet and symbolized his year of birth – 1924).

Just as Rife ran into trouble with medical authorities as a result of his successes – rather than failures – in treating cancer, and just as Dr. Frederick Koch had been harassed by the American Medical Association for having developed a treatment for cancer –- namely, glyoxylide (an article – "Glyoxylide: A Cure For Cancer" appeared in the December 3, 1936 edition of the *New England Journal of Medicine*) and, subsequently, in the 1940s was forced to migrate to Brazil (a

situation that national columnist Drew Pearson referred to as one of the biggest scandals in the history of American medicine), and just as Dr. Stanislaw Burzynski has been harassed constantly for more than 50 years by medical authorities in both federal and state governments as a result of having had success using antineoplaston (amino acid-based) compounds in the treatment of cancer, and just as Dr. Nicholas Gonzalez was harassed by an array of medical authorities for having developed a diet and supplement-based way of successfully treating various kinds of cancer, so too, Gaston Naessens was harassed by Canadian medical authorities (Dr. Augustin Roy among others) for his success, rather than failures, in treating cancer – and many of the cases he treated were diagnosed as being terminal in nature.

What Rife, Koch, Burzynski, Gonzalez, and Naessens all shared in common (there also are others who could be added to this list) was the development of a form of treatment – although the nature of the protocols being used were different for each of those individuals – which was capable of achieving successful outcomes in conjunction with the treatment of, among other kinds of maladies, cancer. What the opponents of the foregoing individuals all had in common was an inability to cure cancer, and in fact, their legacy of a "cut, burn, and poison" approach to cancer has been, for the most part an abject failure, wasting billions of dollars and costing millions of lives across more than a hundred years.

As far as the current book is concerned, rather than becoming entangled in issues of cancer treatment, I am most interested in the way in which one can go from the research of Béchamp, and, then, proceed on through the research of Enderlein, Rife, as well as Naessens and be able to empirically substantiate the existence of a long-standing scientific tradition that is not only capable of demonstrating how microorganisms are pleomorphic in nature, but, as well, can show that the theory of germs introduced by Louis Pasteur and adopted by much of subsequent science and medicine is without reliable foundation. However, to the extent that cancer treatments have been mentioned in the present chapter, this has been done to indicate that while some individuals (Enderlein, Rife, and Naessens – among others) have had success in the treatment of cancer, nonetheless they have been harassed because of that very success by a

cadre of authorities who insist – for ignoble reasons – on working against the former individuals. Therefore, one is confronted by a very fundamental issue: Namely, the kind of theory of medicine that one uses to frame experience can have a huge impact – both constructively and destructively – on how one engages the idea of pathology and, therefore, how patients are treated.

On the one hand, to whatever extent one wishes to frame the world of microorganisms through the monomorphic lenses of Pasteur's theory of germs, one is introducing frames of obfuscation that are hiding, if not distorting, information which alters what one sees and how one understands that which one is permitted to see. On the other hand, to whatever extent one wishes to engage the world of microorganisms through the pleomorphic lenses of Béchamp, Enderlein, Rife, and Naessens, one is being introduced to forms of framing that disclose a great deal more accurate information than is available through the lenses of a monomorphic approach to microbiology.

I remember watching a video featuring Dr. Barre Lando in which he was discussing different facets of his medical training background. He indicated that at one point during his development as a would-be healer he had gone to Canada to study with Naessens and that, from time to time, symposia of one kind or another would be organized by Naessens and his associates for purposes of, among other things, providing interested or curious individuals with an opportunity to be exposed to, in a hands-on manner, concerning the power and capabilities of the Somatoscope, as well as to offer them a chance to explore the world of somatids, the somatid cycle, and other facets of pleomorphism,

On such occasions, Dr. Lando indicated that a variety of people with medical backgrounds from Canada and/or the United States would attend those gatherings. They would be instructed in the use of the Somatoscope and be shown, among other possibilities, some of the dynamics of pleomorphic transformations that could be observed with that instrument.

However, according to Dr. Lando, even though, invariably, the guest participants would marvel at what they, via the Somatoscope, were seeing and, therefore, were unable to deny what their eyes and

minds were showing them to be real phenomena, nonetheless, they also indicated that they would never be able to divulge what they were seeing when they returned to their respective practices because they would be running the risk of promoting a perspective that countermanded medical orthodoxy. As a result, to publically report what they had seen and experienced would likely open themselves up to the possibility of being sanctioned or penalized in one way or another by members of the aforementioned orthodoxy.

Chapter 3: The Virus Has No Clothes, Part 1

The last two chapters have provided an overview of some of the considerations that led researchers such as Béchamp, Enderlein, Rife, and Naessens (working, collectively, across a period lasting approximately 160 years, from midway through the 19th century to early in the 21st century) to maintain that Pasteur's monomorphic hypothesis does not reflect reality. Indeed, instead of claiming -- as Pasteur and his acolytes did and do -- that microbiological organisms are fixed in their forms and functions, the foregoing four researchers spent their lives demonstrating that microbiological organisms are not fixed in their forms and functions … that they are pleiomorphic and not monomorphic.

More specifically, Béchamp, Enderlein, Rife, and Naessens all contended that depending on the conditions which are present in the biological terrain of, for example, a human being, microbiological organisms which reside in that terrain are capable of changing both their form and function in response to the conditions that are present in such a terrain. When a given biological terrain is destabilized (e.g., through nutritional deficiencies, genetically-based forms of dysfunctional dynamics, or as a result of being brought into contact with toxins and/or poisons via air, water, or foods), the terrain tends to depart from normal, healthy forms of metabolic functioning and begins to give expression to biological forms of activity that have the capacity to induce various microorganisms that are present to change their morphology and modality of functioning.

As understood from the perspective of the foregoing individuals, human illness is never due to entities – whether in the form of microorganisms or so-called viruses – which: Invade the biological terrain from without; proceed to infect that terrain, and, then, bring about some form of infectious pathology which either passes with time (an acute illness) or becomes chronic. In other words, the non-filterable entities that, in the 1800s, were referred to as 'viruses' were not understood in the way that many, if not most, researchers in the world today conceive of the phenomena to which the term "virus" is applied.

More specifically, the scientists of the 1800s and early 1900s did not contend that the term "virus" referred to entities which consisted

of a capsid, or container shell, which was constructed from structural proteins of one kind or another (and, in certain cases, such capsids were combined with lipid molecules). Moreover, the scientists of the 18th and early 19th century did not maintain that the alleged capsids contained a single strand or a double strand of either DNA or RNA that could be transferred to the interior of cells where it, supposedly, would take over certain facets of the metabolic machinery of a cell, replicate itself (including the coding for the capsid proteins and their nucleic acid contents), and, then, kill the cell in the process of releasing the replicated forms of the alleged original virus so that it would be able to proceed to the next round of a similar process of cellular infection.

In contradistinction to the foregoing notion of viral entities, the original understanding of a virus held that it was a toxin or poison of some kind that was capable of passing through even sophisticated filtering systems. In fact, before being referred to simply as "viruses," those entities were known as "non-filterable viruses" – that is, they were poisons of unknown composition which were incapable of being filtered out of a given sample and were able to retain their toxicity or poisonous properties after being run through a given filtering system.

When engaged through appropriate forms of microscopy (whether in the form of dark-field microscopes, Rife's Universal Microscope, Naessens Somatoscope, or microscopes using lenses made from quartz rather than glass which are capable of illuminating entities that become visible in certain ranges of ultraviolet light), researchers were able to watch the pleiomorphic dynamics of microorganisms unfold in real time. For anyone who would look, the evidence was overwhelming that Pasteur's monomorphic hypothesis was incorrect and that many forms of microorganisms had pleiomorphic capabilities.

Over a period of roughly 160-plus years, Béchamp, Enderlein, Rife, and Naessens were like the Galileo Galilei of their days who looked at certain aspects of reality through a viewing instrument. On the other hand, many, if not most, of the medical and biological scientists who conducted research during that same period of time as the four foregoing investigators tended to play roles comparable to the church

authorities of Galileo's time because those individuals refused to look through the scientific instruments being offered to them.

In addition, contrary to the beliefs of many, if not most, of the medical, biological and evolutionary scientists who have conducted research during the last 160-plus years, Béchamp, Enderlein, Rife, and Naessens were arguing that there were entities – sometimes referred to as microzymas (Béchamp), or endobionts/protits (Enderlein), or somatids (Naessens), and these terms are not necessarily referring to one and the same thing – that were smaller than cells, and, yet, they were capable of reproducing themselves independently of the presence of other cellular life. When the foregoing perspective is viewed through the lenses of modern paradigms, the entities to which Béchamp, Enderlein, Rife, and Naessens were alluding could not possibly be viruses. After all, one of the defining characteristics of viruses in the modern sense is that they do not have the capacity to reproduce in the absence of some form of cellular life which viruses can parasitically exploit, and, consequently, whatever microzymas, protits, or somatids were, they were able to accomplish what viruses could not do – namely, reproduce in the absence of any other kind of cellular life – and, yet, these entities operated on the same level as non-filterable "viruses" (understood in the original sense of the word).

According to Béchamp, Enderlein, Rife, and Naessens, whatever toxins or poisons were present in non-filterable samples, those toxins and poisons were the result of the way in which pleiomorphic microorganisms changed their morphology and function in response to the manner in which the biological terrain of an organism was being destabilized by environmental and/or nutritional, and/or genetic forms of dysfunctional dynamics. As a result, there was no need for Béchamp, Enderlein, Rife, Naessens, or others who operated out of a pleiomorphic perspective to posit the idea of viruses in the modern sense of the word in order to have a way of accounting for the existence of different pathological states because they maintained that many illnesses and their treatments could be explained through a scientifically- or empirically-based set of conceptual lenses that demonstrated how such pathological conditions could arise when a destabilized biological terrain (as a result of, say, nutritional deficiencies or environmental poisoning of some kind) induced

pleiomorphic changes in microorganisms and that such changes led to the emergence of morphological and functional forms of the pleiomorphic microorganisms which were capable of further contributing to the onset of pathological conditions of one kind or another.

In order to try to provide some context for the way in which allopathic medicine has, I believe, entangled and endangered society in problematic ways, consider the following list of diseases that are claimed to be caused by viruses in the modern sense of the word … a claim which the ensuing discussions will demonstrate to be inherently problematic in fundamental, scientific ways. The reason why the following list is so essential to understanding the magnitude of the difficulties that allopathic medicine has so egregiously imposed upon society, is because **if** none of the following diseases can be shown to be caused by a virus, then, much of the diagnostic and treatment infrastructure that surrounds those diseases is rooted in total ignorance, and, therefore, given the foregoing premise concerning the issue of ignorance, then, when medical doctors diagnose such conditions as being caused by a "virus" in the modern sense of the word, then, apparently, they don't actually know what they are talking about.

The list of alleged viral diseases being alluded to in the foregoing paragraph include: Mumps; Hepatitis A, B, and C; HIV/AIDS; colds (some of which, supposedly, are due to various forms of coronaviruses); influenza (e.g., swine flu, bird flu); small pox; measles; polio; chicken pox; HPV (human papillomavirus); rabies; certain forms of meningitis; viral pneumonia; SARS 1 and 2; Epstein-Barr; mononucleosis; RSV (respiratory syncytial virus); an array of hemorrhagic fevers including Ebola, Lassa Fever, and Marsburg; hantavirus; yellow fever; dengue fever; some researchers believe that 15% of cancers are due to viruses of one kind or another; West Nile Virus; Zika; Western Equine Encephalitis; Herpes Simplex Virus I and II; shingles; roseola, as well as monkeypox, Many other viral candidates could have been added to the foregoing list, but enough diseases have been identified that supposedly link to alleged viral disorders to be able to indicate that if viruses do not exist, then, the medical establishment really has no clue as to what the nature of the

illnesses are to which the foregoing names are alluding nor do they have any idea about what might cause those illnesses.

Furthermore, if such illnesses are not actually caused by a virus, then, to whatever extent treatments for the foregoing diseases are based on antiviral strategies, then, those treatments are contraindicated because patients are being treated for something that they do not have – namely, a "viral" infection in the modern sense of the word. Moreover, while treatment protocols (which are successful, to varying degrees, some of the time) often arise in clinical settings that are based less on what is causing an illness than on what seems to help alleviate some of its symptoms, one still needs to clearly note that such treatments have little to do with any medical understanding of what is causing a given set of symptoms, and, in a very fundamental sense, those treatments give expression to the experimental side of medical practice in which patients are the subjects of such trial-and-error treatment procedures.

Since the work of John Enders in the 1950s, virologists have been engaging in a fraudulent game (maybe, in some cases, intentionally or, maybe in other cases, because they have never bothered to really critically reflect on what they were doing) in which virologists attempt to give the impression that they have discovered the basic structure and nature of a given entity (e.g., virus in the modern sense of the term) when all they have really done is reify some theoretical abstractions by running through a algorithmically-driven process of computer modeling in which everything that is generated through that process is nothing more than a conceptual placeholder which virologists seek to instantiate with actual existential qualities that are not theoretical in nature – as Geppetto did (at least in fictional terms) with Pinocchio and Dr. Frankenstein sought to do with his own creation – and, therefore, virology is, to a considerable degree, just a matter of fictional pretense.

For instance, Jeffrey Taubenberger's alleged "discovery" concerning the genetic sequence and structural character of the H1N1 virus that, supposedly, was at the heart of the 1918 Spanish Flu epidemic follows a script similar to that of Olfert Landt and Christian Drosten with respect to the issue of using PCR to allegedly detect the presence of SARS-CoV-2 [see Chapter 6 of my book: *Observations*

Concerning My Encounter With COVID-19 (?)]. In other words, in lieu of having access to a real, concrete, material virus with a specific sequence of DNA or RNA molecules that underwrites the functioning of real genes, Taubenberger, like those who worked before him as well as those who have come after him, constructed a set of artificial, synthetic genes based upon arbitrary, entirely theoretical considerations and, as a result, the entire structure of the H1N1 genome – like that of SARS-CoV-2 -- is an invented, fictional, computerized structure, and hopefully, the remainder of the present chapter will help lend credence to the foregoing claim (For a more expansive exploration of such issues along with an array of related considerations, are see: *Follow the What? An Introduction*)

During the previously mentioned book: *Observations Concerning My Encounter With COVID-19 (?),* an overview was provided concerning the work of Canada's Christine Massey and her New Zealand colleague –- work which established that evidence indicating that the SARS-CoV-2 virus actually exists is so overwhelming (my tongue is firmly planted in my cheek at this point) that more than 130 medical establishments, universities, research labs, government health ministries, and a litany of other scientific-medical organizations and institutions have been unable to cite even one study that is capable of lending credence to claims that such a virus exists. However, while Christine Massey accumulated a considerable number of official affidavits indicating that a variety of health, scientific, health, research and government agencies admitted that they did not possess or know of any documentation that was capable of demonstrating the existence of SARS-CoV-2, nevertheless, the absence of documentation capable of supporting the SARS-CoV-2 hypothesis does not necessarily mean that her findings constitute incontrovertible evidence that the alleged virus, SARS-CoV-2, does not exist. Instead, the extensive survey conducted by Christine and her research partner only indicates that none of the organizations and individuals which had been contacted were prepared to go on record with respect to confirming or being aware, apparently, involving the verifiable existence of any paper, article, or document that gave expression to evidence indicating which some individual or research team had been able to properly isolate and determine the genomic sequence of such a properly isolated SARS-CoV-2 particle.

In an attempt to definitively address the latter issue (i.e., the matter of proving that viruses in the modern sense of the word do not exist), one must take a much more direct and active approach. More specifically, one needs to show how and why the methods of virologists are inherently incapable of demonstrating that SARS-CoV-2 (or any other virus) exists.

There are variations in methodologies which permit certain degrees of freedom to be exercised in developing protocols for culturing an alleged virus and generating what virologists refer to as an "isolate." Nonetheless, all of those variations work off an underlying set of methodological procedures which has not really changed since the mid-1950s when John Enders began to do such work, and this underlying set of methodological procedures needs to be examined.

The normal format for a professional research paper consists of a number of sections. These include sections involving material covering: An abstract; introduction; methodology; results; discussion, and, finally, a conclusion.

While each of the foregoing aspects of a journal article has a role to play, one of the most important features of such a research paper lies within the section on methodology because the methods that are used will have a pervasive impact on the structure and character of all of the other facets of the paper. To get a sense of an article or paper, many people will read its abstract, but the real measure and value of such articles tend to be found within the section on methodology because that is the dimension of the article that actually informs a reader how any given experiment was run.

Let's consider some research that was conducted in late 2019, or early 2020 that was directed toward demonstrating the alleged existence of the SARS-CoV-2 virus that, supposedly, causes COVID-19, but please bear in mind that the following discussion actually applies to any research that purports to be providing evidence for the existence of a virus in the modern sense of the word. For example, the title of one paper (Reference #1, led by N. Zhu, et. al.) is: "A Novel Coronavirus from Patients with Pneumonia in China," and it was published in the *New England Journal of Medicine* (382), pages 727-733, 2020. The title of a second paper (Reference #2, authored by L.L Ren and others) is: "Identification of a Novel Coronavirus Causing

Severe Pneumonia in Humans: A Descriptive Study," This latter study was published in the *Chinese Medical Journal* (English), pages 1015 - 1024, 2020).

The title of the first paper –- (Reference #1) -- indicates that a Novel Coronavirus was discovered in conjunction with – that is, can be correlated with -- some patients who had pneumonia in China. The title of the second paper –- Reference #2 –- claims (more forcefully) that a novel form of coronavirus has been discovered that is capable of causing severe pneumonia in human beings (rather than being just something that correlates with the presence of pneumonia in certain patients).

The Discussion section of Reference #1 states that the researchers have discovered a species of coronavirus that is "likely" to have been the cause of severe pneumonia in the patients that were being studied in Wuhan, China. The Discussion section goes on to assert that:

"Although our study does not fulfill Koch's postulates, our analysis provides evidence implicating 2019-nCoV in the Wuhan outbreak."

If one has not fulfilled the requirements of Koch's postulates (and, more accurately, if one has not satisfied the requirements of Rivers' updating of the Koch postulates for use with possible "viral" materials), then, one has not shown the following – namely, that a given entity which supposedly emerged after having been cultured in conjunction with some sort of swab from a patient suffering from a severe form of pneumonia has been properly isolated and purified. Moreover, one has not shown that an allegedly purified edition of such an entity is capable of inducing other people to also exhibit the same sort of severe pneumonia when such an isolate is transmitted to the latter individuals.

So, one can't help but wonder just why anyone should suppose that whatever it is that a group of researchers believe they have discovered to be present in the specimen swab taken from a patient ill with severe pneumonia is "likely" to be the cause of the observed severe pneumonia, especially given that there can be many causes of severe forms of pneumonia. In addition, one can't help but wonder what the nature of the alleged evidence is that supposedly indicates or demonstrates that some given "isolate" is the cause of such a form of pneumonia despite the absence of any evidence (a fact that is

confirmed by the authors of the paper) which is capable of satisfying any of the Koch-Rivers conditions for determining causality with respect to the etiology of a given form of severe pneumonia.

According to Rivers' reformulation and extension of Koch's postulates, a virus must be capable of being shown to be present in every instance of the disease for which it is purported to be a cause. If the disease occurs without the presence of that putative virus, or if the alleged virus is present, but the disease is not actively being manifested, then, one has a prima facie case indicating that the relationship, if any, between an alleged virus and a given disease is problematic if not questionable.

Rivers also maintained that one needed to be able to completely isolate a putative viral entity from a person's body and from all other products associated with a given disease process in order to be able to ascertain that it is the virus which is causing a disease and not some other artifact that might be part of the disease process. Rivers goes on to stipulate that the alleged virus must be grown in a "pure culture", and, as soon will be evident, this really isn't something that virologists have been, or are, able to accomplish in any sort of convincing manner.

Finally, according to Rivers' updating of the Koch postulates, one must be able to demonstrate that an isolated/purified virus is capable of producing the same disease as the one which is associated with the swab that has been taken from an ill person. If one were to purify an alleged virus, and then, expose, say, animals to that putative virus, and, yet, those animals did not exhibit any of the sorts of severe pneumonia that had been observed in the patient from whom a swab had been taken for purposes of culturing, then, once again, one has reason to question the nature of the relationship, if any, between an alleged virus in the modern sense of the word and a given form of pathology, such as severe pneumonia.

In the discussion section of Reference #2, one finds the following words:

"These findings primarily indicate that the novel CoV is associated with the presence of severe pneumonia. However, it remains to be determined whether this novel CoV is capable of causing similar diseases in experimental animals."

Yet the title of the paper in which the foregoing quote appears is: "Identification of a Novel Coronavirus Causing Severe Pneumonia in Humans."

Obviously, there is a considerable disconnect between what the title of the article asserts and what actually is being confessed with respect to the absence of any Koch-Rivers confirmation concerning the capacity of a given form of CoV to be able to cause severe forms of pneumonia in humans during the Discussion section of that same paper. Unfortunately, many academics, researchers and medical doctors who are often pressed for time might tend to look only at the title of a paper, and, perhaps, its abstract before moving on to other things. Consequently, anyone who limited themselves to doing things in the foregoing curtailed manner -- and, therefore, actually failed to have read the paper in its entirety -- would be under the impression that some researchers in China had proven that CoV caused severe pneumonia when by the admission of the authors themselves in the paper's Discussion section, nothing of the sort had been demonstrated.

Let's consider – in more detail – another paper entitled: "The Pathogenicity of SARS-CoV-2 in hACE2 Transgenic Mice." The paper involved research by Bao and others. It appeared in *Nature* –- a top-tier scientific publication -- Volume 583, in the July 30, 2020 edition of that journal.

The title of the paper makes a claim. It states that the pathogenicity of SARS-CoV-2 can be shown to be actively present in hACE2 transgenic mice.

Mice do not usually express ACE2 receptors (and should keep in mind that there have been researchers such as Harold Hillman who have raised a number of technical difficulties with respect to whether, or not, such receptors actually exist). Consequently, assuming that ACE2 receptors actually do exist, one has to breed transgenic versions of those mice that are capable of expressing such alleged ACE2 receptors.

The transgenic processes being referenced in the foregoing paragraph tend to lead to alterations in other aspects of the physiology of mice that extend beyond a capacity to give expression to such

alleged ACE2 receptors. Therefore, due to the presence of the alterations being alluded to, the nature of whatever parallels are believed to exist between transgenic mice and human beings is uncertain.

There were two control groups in the Bao study. One group consisted of mice that had not been bred through a transgenic process and, therefore, were without a gene that, supposedly, was capable of being expressed in the form of ACE2 receptors.

Another alleged control group was referred to as being mock-infected. The mice in this group were also transgenic, but they were not given the concoction that allegedly contained whatever was causing the sort of illness that was observed in the individual from whom a swab of some sort had been drawn originally, and, instead, the members of this second control group were administered a phosphate buffered solution.

The foregoing mock-infected test subjects do not really constitute a true control group. To qualify as such a control, the transgender mice in this group should have been given bodily fluids of some kind that came from a healthy organism rather than a phosphate buffered solution.

The study indicates that the non-control group of transgenic mice was “given” the alleged virus. However, this actually obfuscates what is taking place.

Materials were taken from an ill organism and transferred to the transgenic group of mice. There was no evidence that what was transferred contained the alleged virus, nor was there any evidence that even if present, such a virus was responsible for whatever illness was being observed.

Other materials also were added to whatever was taken from an ill patient. Among other things, the resulting concoction contained Vero kidney monkey cells.

Vero kidney cells are a line of cells that were developed in 1962 in conjunction with African Green Monkeys. They are used in the culturing process because of the high degree of alleged homology between the genetic contents of monkey cells and human genomes,

and, as such, they are believed to be able to serve as a sort of credible stand-in for what might take place in human cells.

In addition to the Vero kidney cells, the process of culturing a virus also contains a number of other ingredients. Among these extra materials are: DMEM (Dulbecco's Modified Eagle Medium, a growth medium); fetal bovine serum; streptomycin, penicillin, or other antibiotics such as gentamicin and, sometimes, anti-fungal agents (e.g., amphotericin B) – all of which can be quite poisonous to Vero kidney cells and which, therefore, constitute alternate "suspects" for being the cause of any cytopathic event in the laboratory culture (i.e., the demise or death of the Vero kidney cell) rather than being due to the presence of some putative virus.

Thus, when one considers the process of culturing an alleged virus, one should understand that whatever swab of material comes from an ill organism (and quite independently of the issue as to whether such a swab does, or does not, contain viral material of some kind), the swab being cultured is co-joined with an array of other materials. These other materials have properties that are capable of obfuscating and confusing a person's understanding about whether, or not, viral particles actually exist in such a concoction or whether whatever might happen in that culture can be attributed to the presence of a virus.

A more rigorous way of trying to determine whether alleged viral particles exist in the original swab that is taken from an ill organism would be to institute something akin to the following protocol. First one would need to filter the lung fluid in the original sample in order to remove cell-sized objects since the objects for which one is searching are, supposedly, far smaller than a cell.

Next, one would want to run the filtered material that was derived in step one through a density gradient centrifuge process. This will result in particles that have the same density being bound together in tight bands that permit one to distinguish such bands from other chemicals and particles which might present in the culture that possess different density properties.

Third, one would need to identify the kind of density band in which one felt that alleged viral particles of a certain kind were most likely to be found (and one should ask, at some point, what the basis is

for supposing that one will find a putative virus in such a gradient band). Then, one would use a pipette or syringe to gather together whatever was in the density gradient band in which one was interested.

If one believed that a certain density gradient band contained the alleged virus in which one was interested, then, the final step would be to take the identified band which had been removed via a pipette or syringe and, then, transfer the material, through one method or another, to the transgenic mice in the experimental group. Once that material has been transferred, one would wait to see whether, or not, any form of pathology or illness emerged and whether, or not, the nature of that illness or pathology was similar to whatever the nature of the disease process that had been present in the ill individual from whom test swabs had been taken originally.

Clinical manifestations or symptoms were recorded in conjunction with the three groups of mice (one experimental group and two alleged control groups of mice) during the Bao experiment that currently is being critically reflected upon. The symptoms that were observed by the researchers consisted of various degrees of weight loss and instances of slightly bristled fur, and, moreover, less than half of the mice in the study developed any symptoms at all.

Presumably, weight loss and, especially, slightly bristled fur are not typical symptoms associated with COVID-19 – at least in humans. None of the mice in the study exhibited coughs or had any sort of respiratory problems supposedly associated with COVID-19, and, yet, experimenters had been claiming that what took place in the mice was evidence capable of demonstrating -– as the title of their paper stipulated –- "The Pathogenicity of SARS-CoV-2 in hACE2 Transgenic Mice."

On June 8, 2020, the *Lancet* (another top-tier medical journal) published an article that provided some details about autopsies that had been performed in conjunction with 38 human patients who had tested positive for COVID-19. Given what can be stated [see Chapter 6 of my book: *Observations Concerning My Encounter With COVID-19 (?)*] concerning the lack of credibility that surrounds the whole process of PCR testing, let's put aside that aspect of the *Lancet* article and focus on some of the results of those autopsies.

Among other things the autopsies revealed that many of the bodies of the examined patients exhibited diffuse damage in conjunction with the system of alveoli sacs in the lungs (where oxygen and carbon dioxide are exchanged). In addition, there was considerable interstitial edema (congestion of fluids); necrosis of pneumocytes (these consist of several types of surface epithelial cells of the alveoli); metaplasia (involves a transformation of normal adult cells into abnormal forms of those cells); hyaline membranes (a form of lung injury that involves a deficiency in a surfactant – consisting of six lipids and four proteins – that is responsible for helping to maintain surface tension and providing stability for the alveoli), as well as an array of blood clots in small arterial vessels within the lungs.

Now, irrespective of whether, or not, the foregoing set of problems noted during the autopsies was due to SARS-Co-V-2 is a separate issue. Nonetheless, many people were labeling such a list of effects as indicators of the presence of COVID-19 (primarily because such individuals had been misled by the presence of a positive PCR test that had been assigned to such deaths … tests that, as pointed out previously) were actually meaningless as indicators of the presence of disease of any kind.

Yet, even if we were to suppose that the foregoing findings with respect to the 38 autopsies that were performed in Italy were due to the presence of SARS-CoV-2, what has any of that got to do with the Bao paper that is being discussed. The Bao paper had a title claiming that it was presenting evidence which demonstrated the pathogenicity of SARS-CoV-2, and, yet, all the results which were reported in that paper merely indicated that some of the mice (in all three groups) exhibited some degree of weight loss, while others showed signs of bristled fur, and less than half of any of the mice developed any symptoms at all, and, therefore, none of the reported symptoms of the transgenic mice reflected the findings of the 38 autopsies concerning human beings who supposedly had died from a severe acute respiratory syndrome.

Anyone who merely read the title of the paper in question might believe that here was another piece of evidence in which not only had SARS-CoV-2 had been proven to exist, but, in addition, SARS-CoV-2 had been shown to be a virus that had a certain kind of profile of

pathogenicity to which that alleged virus gave expression. Unfortunately, the paper by Bao, (et. al.,) was devoid of any such proof or evidence.

Autopsies of the mice in the Bao study were done. Unlike the 38 autopsies of humans performed in Italy, no edema of any kind was detected in any of the mice. There were no hyaline membranes found in the mice. There had been no indications that metaplasia occurred within any of the mice. There was no evidence of blood clots of any kind within the mice, and, therefore, one has to ask what, precisely, is the nature of the evidence which demonstrates that transgenic mice exhibited symptoms that were similar to what had been documented in 38 individuals who had died of some form of severe acute respiratory syndrome.

If one looks at the alleged culturing process of any given virus, one comes into contact with a standard methodological protocol template that has been used by virologists and microbiologists since the time of John Enders in the mid 1950s. The general character of this set of methodological protocols for such a culturing process has already been touched upon in the previously discussed Bao experiment, but, I believe that further critical reflection on that protocol will prove to be instructive.

To begin with, one takes a sample or swab from a diseased organism and introduces that swab/sample into a culturing process. The latter process consists of: Using a Vero kidney monkey cell; adding some sort of growth medium; mixing in a soupçon of fetal bovine serum; throwing in a few antibiotics that often are poisonous to the Vero kidney monkey cells but are included to make sure that there are no problematic bacteria lurking about in the culture, and, finally, putting the whole conglomeration in a minimal nutritional state.

What occurs next is a cytopathic event. In other words, one observes the death of the Vero cell, and for decades virologists and microbiologist have attempted to claim that such an event is proof that the swab/sample from the ill person contained a virus that was introduced into the culturing process and, necessarily, is responsible for the death of that cell. This end product of the culturing process constitutes the alleged “isolate” through which, supposedly, the putative virus has been induced to assert its lethal presence.

Stefan Lanka, a German virologist and microbiologist, has done something relatively recently that most virologists and microbiologists have never done. More specifically, he decided to run a controlled experiment in which everything would be exactly as it had been during the standard culturing experiment in virology (i.e., Vero kidney cell, growth medium, fetal bovine serum, various antibiotics would all be present, and the whole mixture would be subjected to a condition of nutritional starvation), but instead of introducing a swab/sample from an ill person, he added a swab/sample from a healthy individual.

He discovered that the same cytopathic (death) event took place in conjunction with the swab from a healthy person. In other words, the kidney cell being cultured had still died despite the absence of a swab containing the sort of allegedly infectious materials that – for decades – has been identified as the reason why the Vero kidney cell in such cultures were dying.

However, because there was no swab/sample from an ill person that had been introduced into the culturing process in Lanka's control experiment, one couldn't blame the death of the cell on the presence of an alleged virus that had been hypothesized to be present in the swab/sample from an ill person. The reason that the cell died in both instances was because the components that made up the culturing process were responsible for the death of the cell and not because there had been any kind of exogenous organism or viral body that had been introduced into the culturing process.

Back in the mid-1950s, John Enders actually had run the same sort of controlled experiment as Stefan Lanka has performed relatively recently. Enders too had discovered that the reason why the cells died in the two culturing processes (one involving material from an ill person, and one involving material from a health person) had nothing to do with the presence of an alleged virus but was due, instead, to the cytopathic (lethal) nature of the culturing process in and of itself independent of the presence of possible viral agents.

Unfortunately, virologists only seemed to want to remember the part of the Enders experiment that involved taking samples/swabs from an ill person, culturing that material, and, then, observing that there was a cytopathic effect which – enabled virologists to conclude (although this was done in an unscientific manner) that the

manifestation of such an effect (i.e., the death of the Vero monkey kidney cell) proves that there was some sort of putative virus present which was responsible for that cytopathic event. Yet, simultaneously, they also seemed inclined to want to forget or ignore that if one performed the same process of culturing with material from a healthy person as has been done with a swab/sample from an ill person, and, thereby, established a control group for the first part of the experiment involving a swab/sample from an unhealthy person, then, the result of running the control group gives rise to the same cytopathic effect – that is, kidney cell dies, lyses, and releases all of its biological contents into the culture due to the toxic nature of the culturing process and not because of the presence of an alleged virus. Perhaps their memories were a little cloudy because if they remembered that John Enders also demonstrated that the same cytopathic effect occurred when added swabs from healthy people into the culturing process, this memory would undermine their elaborate narratives concerning the idea of viruses.

The foregoing process of ignoring what happened in the control group within the Enders experiment is really a case of willful-blindness. Such people are only willing to see what they want to see and the significance of what occurred with the control group in the original Enders experiment (which has been confirmed by the German virologist and microbiologist, Stefan Lanka) has been forgotten because the existence of such an empirical reality appears to be quite inconvenient for most virologists.

When the cytopathic effect takes place in the Vero monkey kidney cell and the cell lyses, the contents of that cell are emptied into the cultured conglomeration. In addition to the contents of the Vero kidney cell, one also has additional sources of biological content coming from the fetal bovine serum that was part of the culturing process, plus whatever cellular and biological material came from the swab/sample that was taken from either a healthy or ill individual.

As noted earlier in the present book, electron micrographs are often recorded in conjunction with certain products or objects or entities that come forth during the process of lyses that takes place during the cytopathic event. Small particles often can be observed in these electron micrographs, and after a research person highlights

some of those particles or draws arrows to draw attention to their presence in the EM imagery, the claim is often made that such objects constitute the virus (e.g., SARS-CoV-2, or chicken pox, or polio, or measles, or whatever other virus one believes to be present) and, yet, the very same objects/entities could be seen if one were to go through the same culturing process and a Vero kidney cell dies in conjunction with a healthy swab/sample (rather than from an unhealthy source) because it has been added to a culturing process that is inherently toxic and constitutes the actual reason why the Vero monkey cell dies irrespective of whether the swab/sample that is added is from an healthy or unhealthy individual or organism.

The many particles that can be imaged following the aforementioned cytopathic event in the cultured sample are believed by virologists to be the result of a viral replication process that is enabled by the presence of the culturing medium. According to the theories of virologists, a virus needs either the living tissue of a host (say in the area of the lungs) or a culturing environment in order to be able to replicate itself, and the particles that are depicted in various Electron Micrographs are said to give expression to the end result of the viral replication process.

Nonetheless, there is no data in the EM which demonstrates how the particles being depicted actually arose. There is no experimental evidence (but there are lots of theories) which purportedly demonstrates how a virus supposedly gains entrance to cells (whether in living tissue or a cultured medium). There is no experimental evidence (but, again, there are plenty of theories concerning this issue) which shows how a virus takes over a cell's capacity to replicate, and, then, proceeds to replicate until sufficient numbers of viral particles have been produced to lyse the cells in living tissue or lyse the Vero monkey kidney cell, nor is there any actual experimental evidence (although there are considerable theories concerning such an issue) to show how a virus actually goes about the process of cell lyses.

Specialized genes have been proposed for all of the foregoing functions (e.g., the ability to gain access to a cell's interior; the ability to take over a cell's machinery of replication; the ability to engage in the process of cell lyses in order to be able to exit from one cell and move on to other cells within a given instance of living tissue). Yet,

unless one can demonstrate that such genes are actually contained within however many base pairs that make up the alleged genome of a putative virus, then, all of the foregoing is nothing more than a theoretical account of how things might work.

Electron Micrographs are static images. If virologists had something more than such static images -- that is, if they had been able to capture dynamic images of the genes of a virus accessing, entering, taking over the metabolic machinery of a given cell, and, then, exiting a cell (whether being cultured or in actual tissue) -- those virologists wouldn't just be showing people EMs and, then, trying to interpret what is being depicted in that static image.

The sort of evidence – i.e., EM – that is being presented by virologists actually reveals the weakness of their perspective. If they had the sorts of dynamic imagery that are being alluded to above, (which would constitute a form of rigorous evidence that strongly supported claims concerning the presence of a virus in living tissue or a cultured cell, as well as documented proof concerning the actual nature of their activity with respect to cells in living tissues or in conjunction with the culturing process), virologists wouldn't have to restrict themselves to presenting static EMs and, then, try to convince viewers that the particles seen in those images are actually virus particles despite the absence of any independently derived evidence capable of confirming that such particles actually were viral in nature.

Circling, or pointing toward, or highlighting particles in an EM does not, in and of itself, actually prove anything about the actual nature or identity of the particles that are being singled out. One needs to examine those objects through whatever methods are available in order to try to determine what the nature of the internal composition of those objects depicted in the EM might be.

Do those particles harbor some given number of base pairs that are capable of uniquely identifying such particles as instances of one kind of virus rather than another? Or, is the internal compositional nature of those particles indicative of some other kind of particle -- such as endosomes (tiny – viral sized -- intracellular organelles that might play a role in storing and/or transporting and/or cleaning up various materials within a cell) or exosomes (tiny – viral sized – organelles that tend to be membrane bound and could have arrived

from the extra-cellular environment surrounding a cell and is either in the process of being absorbed by a given cell, or such a particle could be in the process of being released by a cell to serve purposes beyond the membrane of the cell to which the exosome is temporarily bound).

If the particles or objects in the Electron Micrographs to which virologists are pointing were, say, SARS-CoV-2, then, one should be able to discover that, yes, the particles under consideration all consist of 30,000 base pairs of genetic material (this is the theoretical estimate concerning the alleged size of the SARS-CoV-2 virus). Furthermore, one also should be able to sequence such a genome and identify those aspects of the sequence that are unique to SARS-CoV-2 and, thereby, differentiate it from all other species of virus.

Surely, virologists have succeeded in doing all of the foregoing. Surely, they have shown that when one examines the particles depicted in the EM, then, one discovers an approximately 30,000 base pair genome that can be sequenced to show that, say, SARS-CoV-2 has a unique structure that in some way differentiates that virus from all other viruses (and this unique feature would be the very thing that any credible test for the presence of SARS-CoV2 would have to be able to detect and which the Drosten PCR test cannot demonstrate can be satisfied in any credible manner and which is why the PCR test is completely useless and meaningless).

Some researchers have claimed that they have been able to sequence the whole genome of SARS-CoV-2. Recently, Stefan Lanka ran a series of tests – and is running further entries in that series – to determine whether such a claim is defensible.

Lanka took a cell culture to which no materials from an ill or healthy person had been added, and therefore, there was no possibility that any virus was present in the culture. The culture contained the usual materials consisting of a Vero monkey kidney cell, fetal bovine serum, a growth medium and antibiotics of one kind or another. In addition, according to standard procedure, the culture was placed in a minimal nutritional condition (i.e., it was starved).

The culture underwent a cytopathic event and, as a result, broke down and released its contents. In one of the experiments conducted by Lanka, he added mRNA to the foregoing concoction.

The mRNA was from an easily accessible form of commercial yeast. Steps were taken to ensure that there was no virus present in the yeast.

The concoction to which the mRNA was added contained various fragments of the broken-down Vero cell that were the result of the cytopathic event that had taken place in the Vero cell. In addition, the concoction contained fetal bovine serum, antibiotics or antifungal agents of one kind or another, as well as some limited or minimal level of nutrients.

Lanka next examined the contents of the foregoing concoction of materials, in order to try to detect the presence of an assembly (presumably via the activity of the mRNA that came from the yeast) of 30,000 base pairs (the letters of the genetic code) that gives expression to the SARS-CoV-2 genome. He did not find such a genome, nor did he discover any sort of set of 30,000 base pairs that had a sequence which could be shown to be uniquely specific to the alleged SARS-CoV-2 virus.

In fact, nowhere in the entire history of virology has anyone ever been able to take a cell culture similar to the one with which Lanka was working and demonstrate –- after it undergoes a cytopathic event –- that one can find in such a culture the base pairs for a viral genome that can be sequenced to show that such a sequence is unique to a given virus and, thereby, differentiates it from all other forms of viral material. Moreover, if one looks at any of the experiments that were reported early on in China, Canada, Australia and elsewhere concerning claims that they had located and sequenced the SARS-CoV-2 virus, one will not find any evidence in those experiments which shows that some 30,000 base pair genome had been discovered in their cultures and, then, demonstrated that the researchers had been able to properly sequence those base pairs and, also were further able to demonstrate that the foregoing genomic sequence was both infectious and lethal.

Those papers (like the Zhu, Ren, and Bao papers examined earlier in this chapter) are all smoke and mirrors. In each case, article titles are presented that claim one thing, but when one actually examines the sections covering methodology, results, and discussion, there often is a game of bait and switch taking place, and, presumably, the authors

of such papers/articles are counting on the laziness of readers and/or counting on the time constraints under which, many researchers operate to obfuscate the fact that claims in the title or the abstract section have not been substantiated with actual evidence in other sections of the paper/article.

As stipulated earlier in this chapter, although the foregoing discussion has focused on research involving the theoretical entity known as the SARS-CoV-2 virus, the principles established during that discussion apply to research concerning any kind of virus that is claimed to cause disease in human beings (the so-called phage viruses will be examined in several later chapters, but phages are associated with diseases affecting bacteria rather than human beings.) Virologists, pathologists, and medical doctors all indicate that one is unable to find direct evidence for the existence of viruses in the samples that are drawn from ill people and, consequently, any claims concerning the presence of viruses in such individuals depends on culture studies of the kind that have been discussed previously in this chapter.

There are indirect methods – based on measuring various surrogate markers -- which are claimed to be indicators capable of revealing the alleged presence or absence of a given viral agent. However, there is a considerable complex of assumptions, hypotheses, and theory surrounding the alleged connection between any given surrogate marker and the viruses that those markers supposedly are capable of identifying as being present or absent (for example, consider the many problems pointed out by, among others, the Perth Group that have been shown to permeate the use of the Western blot test and the Elisa blood tests with respect to, allegedly detecting the presence of HIV because the antibodies that supposedly emerge in response to the alleged presence of HIV entities have been shown to promiscuously interact with more than 90 kinds of antigens), and the existence of such a complex of conceptual considerations is why the tests based on those considerations are known as surrogate markers and, as such, do not constitute a direct indication that any putative virus is, or isn't, present.

The only way of supposedly being able to directly detect the presence of viral agents of any kind is via the sort of culture protocols

that were outlined earlier in this chapter. Unfortunately – at least for medical doctors, pathologists, and virologists – if one runs the appropriate kinds of control groups along side of the experimental group in the performance of such culture studies, one discovers that irrespective of whether the sample being tested is from an ill person or from a healthy individual, the cultured sample will lead to a cytopathic event (i.e., death of the Vero kidney cell) because the lethal dimension of those prepared cultures is a function of the protocols governing the preparation of any given culture and has nothing necessarily to do with whether, or not, some putative virus is present in such a culture, and if this were not the case, then, cultures prepared with a tissue, blood, or mucus sample from a healthy person should not become entangled in the death of the Vero kidney cell because such a healthy sample doesn't contain anything that would be capable of causing a cytopathic event.

If, by their own admission, virologists, pathologists, and medical doctors admit that one cannot directly examine a sample from an ill person and discover the presence of a virus in such a sample, and if empirical studies – such as those conducted by John Enders and Stefan Lanka -- have shown that when proper control groups are included in culture studies, then, cytopathic events are associated with samples drawn from both health and unhealthy and that this indicates that the cytopathic event or death of the Vero kidney cell in the culture is a product of the experimental protocol and not due to a putative virus, and if, finally, surrogate marker tests are entangled in a complex of unproven assumptions, hypotheses and theories concerning the alleged relationship between, say, antibodies and alleged antigens called "viruses," then, one is confronted with a fairly straightforward consideration. There is no proof that there are viruses in existence which are capable of causing illnesses in human beings.

During the so-called pandemic of 1918, experiments were run in both Boston and San Francisco. "Volunteers" – they were really individuals who were in trouble with either the military or the law or both and who had volunteered to participate in the experiments in exchange for certain considerations of leniency or forgiveness being made in their respective cases – were exposed to patients who were in

various stages of whatever illness it was that they had (and was presumed to be some form of a virulent flu).

Materials were taken from ill patients (who might just have become sick, or who were in more advanced stages of their disease process, or who might be on the verge of death). Those materials were transferred to "volunteers" by means of various methods.

Sometimes the transfer took place through the patient coughing and breathing in the face of a volunteer who was just a foot, or so away. Alternatively, ill patients might have been told to spray spit or sputum on the "volunteers", or mucous discharges of the patient's might have been injected or worked into various bodily openings of the volunteers (ears, noses, and so on).

Despite the foregoing experiments with – all told – probably 100 volunteers across an array of experiments in several studies in different parts of the United States -- none of the volunteers got sick. If the alleged 1918 influenza was so virulent and infectious, how does one account for what took place in the foregoing studies?

Toward the beginning of the present chapter, a list of diseases was given that supposedly are caused by viral agents. These diseases included: Mumps; Hepatitis A, B, and C; HIV/AIDS; colds (some of which, supposedly, are due to various forms of coronaviruses); influenza (e.g., swine flu, bird flu); small pox; measles; polio; chicken pox; HPV (human papillomavirus); rabies; certain forms of meningitis; viral pneumonia; SARS 1 and 2; Epstein-Barr; mononucleosis; RSV (respiratory syncytial virus); an array of hemorrhagic fevers including Ebola, Lassa Fever, and Marsburg; hantavirus; yellow fever; dengue fever; West Nile Virus; Zika; Western Equine Encephalitis; Herpes Simplex Virus I and II; shingles; roseola, as well as monkeypox, and one might add that some researchers believe that 15% of cancers are due to viruses of one kind or another.

I went on to say that if viruses in the modern sense of the word that attack, infect, and (purportedly) cause illness in human beings cannot be shown to exist, then, the medical establishment really has no clue as to what the nature of the illnesses are to which the foregoing names are alluding nor do they have any idea about what might cause those illnesses. What is being asserted in the foregoing is not that such illnesses or conditions are fictitious or unreal, but, rather, there is

absolutely no reliable evidence to indicate that those illnesses or conditions are caused by viral agents.

Furthermore, if such illnesses are not actually caused by a virus, then, to whatever extent treatments for the foregoing diseases are based on antiviral strategies, then, those treatments are fraudulent in nature. This is because patients are being treated for something that they cannot be proven to have – namely, a "viral" infection in the modern sense of the word "virus."

The foregoing set of circumstances gives expression to a form of toxic knowledge. Medical doctors are using a framework of understanding that is considered to be knowledge, but, in reality, is nothing more than a compilation of statements that are untrue which have been woven into a narrative that is used to diagnose and treat people in ways that can only harm them, not help them.

For example, vaccines that are administered as alleged counters to, or protections against, this or that virus cannot possibly be effective because they are based on a theory concerning entities – for example, viruses – that have not been proven to exist. Moreover, vaccines contain components – such as adjuvants like aluminum and preservatives like thimerosal – that have been demonstrated to be toxic and, consequently, vaccines containing such components cannot possibly be safe.

The theory of virology is being treated as if it were a body of knowledge. Unfortunately, such alleged knowledge – which actually only constitutes knowledge concerning various theories of viruses rather than actual knowledge about the structure of the world – has toxic ramifications (for medicine, for health, for education, for law, and for sovereignty) and, as such, constitutes a form of toxic knowledge. (For a more thorough discussion of the topic of vaccines, please read Chapter 12 in: *Follow the What? – An Introduction*.)

<u>Chapter 4</u>: The Virus Has No Clothes, Part 2

Virologists go through a sort of pseudo-methodological process in an effort to save the appearances of their viral theories. They claim that at the present time we do not have the necessary techniques or technological advancements to be able to detect viruses in the cells or tissues of a human being who is ill … viruses which they believe, nonetheless, are present in the cytopathic residue of cultured cells.

The foregoing considerations lead to an obvious question. If -- allegedly -- one can find viruses in a cultured cell, then, why can't one also find them in the cells of a person who, supposedly, has a viral illness?

Instead of direct evidence (that is, finding actual viral materials in a sick individual), virologists have devised indirect methods for generating data which they claim demonstrates that viral pathogens actually do exist in ill human beings. The process to which virologists are alluding is referred to as: "Unbiased De Novo (Anew) Next Generation Sequencing."

The ensuing discussion attempts to summarize a variety of problems that are present in the foregoing technique. I am indebted to the explanatory efforts of Dr. Andy Kaufman, Dr. Thomas Cowan, Dr. Stefan Lanka, Dr. Sam Bailey as well as her husband Dr. Mark Bailey, along with my medical friend who sought to help me long distance during a relatively recent bout of illness (two and a half years ago) and with whom I have had many long conversations, for quite a few years now, concerning all of the issues that are touched upon in this chapter.

Apparently, the meaning of the term "unbiased" in the foregoing phrase or term: "Unbiased De Novo (Anew) Next Generation Sequencing," is intended to convey the idea that the process is not being affected by the likes and dislikes of the investigator. However, as we shall see during the following discussion, the entire process seems to give expression to various biases and assumptions that virologists tend to carry and which also shape much of what takes place through the pseudo-methodology that is about to be described.

So, the question that needs to be asked is the following. How do virologists make the transition from: (1) a concoction consisting of human genetic material (in the form of a swab/sample taken from an

ill or healthy individual), as well materials from other kinds of genetic fragments arising from the Vero monkey kidney cells and fetal bovine serum that are used during the culturing process, in addition to, possibly, the genetic material that is present in whatever – if any – viral entities that are present (all of which, collectively, could give rise to millions, if not billions, of genetic fragments from an array of: Human, bovine, Vero monkey kidney cells, and, possibly, viral sources) to: (2) some sort of credible claim that one can methodologically engage all such genetic materials and end up with only precisely those fragments that belong – allegedly – to, the hypothetical presence of a given virus?

Virologists begin to sort all of the different kinds of DNA and RNA that are present in a cell culture that has undergone a cytopathic event. Step one seems to involve the idea of removing all DNA fragments from the foregoing concoction.

The reason that tends to be given for undergoing the foregoing step has to do with the belief that, for example, SARS-CoV-2 is, supposedly, not a DNA virus (the discussion that occupies the following page focuses on SARS-CoV-2, but the ideas that are being explicated here actually apply to any and all hypothetical viral candidates). However, if one asks for the empirical basis that substantiates the foregoing claim, virologists really have no independent way of justifying such a claim or step.

For example, if someone were to claim that the particles being depicted in various Electron Micrographs are non-DNA instances of SRS-CoV-2, then, the thinking becomes circular. This is because one starts out with certain assumptions about what is being depicted in such EMs, and, then, such assumptions bias the nature of the conclusions which one draws about what is, and is not, relevant to one's search for the presence of SARS-CoV-2.

Presuming that the SARS-CoV-2 exists, is it a DNA virus or is it a RNA virus? How does one demonstrate this independently of the allegedly "unbiased" Next Generation Sequencing process?

One would have to have an independent confirmation of the nature of the genetic material in SARS-CoV-2 prior to the process of sequencing a given string of nucleic acids. Without such a process of independent confirmation, one could not justify eliminating all of the

DNA fragments that one might find in the materials that are contained in the conglomeration of particles and fragments that are left behind in the cell culture that has undergone a cytopathic event because one has no independent proof that the contents of the alleged SARS-CoV-2 virus are made from RNA rather than DNA.

The next step of the Unbiased De Novo Next Generation Sequencing process involves removing all of what are believed to be the RNA fragments that can be matched up with human or known microbial sequences. However, if one doesn't know what the actual sequence of SARS-CoV-2 is, then, one is no way to empirically establish whether any given RNA sequence comes from SARS-CoV-2, Vero monkey cells, human tissue, or fetal bovine serum since, among other possibilities, there could be various genetic sequences in the alleged SARS-CoV-2 virus that are held in common with RNA sequences from other organisms. What is the scientific principle that permits one to determine from where a given fragment of RNA might come in the complex of biological materials that are released following a cytopathic event?

Once again, a source of potential bias is being arbitrarily introduced into the De Novo Next Generation Sequencing process. Allowing such a bias to stand unchallenged has the capacity to affect the nature of the conclusions one might reach using such a method, and, as a result, the process is no longer unbiased and objective but is being shaped by certain kinds of assumptions that are being made but which cannot be scientifically justified.

After eliminating the DNA fragments and the RNA fragments that the virologists feel are irrelevant to, and even capable of obfuscating, their search for SARS-CoV-2, virologists will take the RNA fragments that remain and cut them up into fragments that are a certain number of base pairs-long. Purportedly, the purpose for proceeding in the foregoing fashion is so that, subsequently, researchers will be able to amplify different instances of those fragments by mixing in primer sequences that are capable of attaching to such fragments in the cultured materials that have broken down, and, then through the PCR process, the quantities of those fragments can be increased through various cycles of amplification.

At this point virologists add the entire set of genetic sequences that come from a previous, putative corona virus. This is not done materially but algorithmically.

The aforementioned addition takes place through computer programs. Such digital templates are used as comparison markers, of sorts, for detecting the degree of homology that might be in the viral genetic material (supposedly SARS-CoV-2) that could be somewhere in the ingredients that have undergone a culturing process.

When a cytopathic event occurs, the various biological ingredients in the culture contents break down into a vast array of fragments, particles which the virologists are hoping will contain genetic material that will match up – to a degree – with some of the structural and sequential features of the previous corona virus template. However, there are several problems inherent in the foregoing step.

First, aside from the questionable tenability of having removed various kinds of DNA and RNA from the culture without any real good scientific reason for having done so, one would like to know the etiology of how the entire set of genetic sequences that allegedly are from a previous corona virus came into being. Did someone discover or uncover an approximately 30,000 base-pair (A-T, G-C or G-U)) long sequence of actual molecules (in the form of adenine, guanine, thymine, or cytosine – in the case of DNA – and uracil instead of cytosine in the case of RNA, along with a certain kind of sugar molecule (different sugars for DNA and RNA) as well as a phosphoric acid molecule that is covalently linked to the rest of the components that make up the nucleotides that form the backbone to which a genetic sequence is attached that supposedly give expression to the genome of such a corona virus?

The answer to the foregoing question is: No, someone did not find an actual entity -– that is, a molecular entity of some kind that exists in the world as opposed to being a series of 1s and 0s in a computer – which is approximately 30,000 base-pair long which matched the foregoing description. Every alleged viral sequence is entirely computational in nature in the sense that each of them has been generated through algorithmic programs (such as “Muscle” and subsequent creations of a more sophisticated nature) that run through an array of interpolative, extrapolative and other sorts of possible

interpretations of available data (in the form of molecules that are in the cultured conglomeration that has broken down following a cytopathic event, and in the process, such a computation supposedly produces a "best" estimate of what an alleged viral sequence might look like given sequences that are presumed to be correct that already have been worked out previously in similar sorts of algorithmically driven computations (e.g., an earlier edition of some other kind of a corona virus).

Libraries of the foregoing sorts of computations are maintained. The entries in those libraries are used for purposes of comparison with other on-going computations, and, as indicted in the present 'Unbiased De Novo Next Generation Sequencing' process', an entry from one of those libraries has been introduced into the computerized representation concerning the culture breakdown products (following the arbitrary removal of various kinds of DNA and RNA) which are to serve as something of a template for determining the extent of the complimentary matches that might arise.

In legal-court terms, I believe such a process would be referred to as leading the witness. The corona sequence from one, or another, library is actually framing the manner in which the computational-algorithmic process being used in the "Unbiased De Novo Next Generation Sequencing" goes about it processes of interpolating, extrapolating, and interpreting available fragments with respect to how they might have fit together prior to the cytopathic event that led to the cultured products breaking up into millions, if not billion, of molecular fragments, and, as such, the process is hardly "unbiased" since using an "earlier" corona template in the analysis is shaping the character of what transpires during the computations that currently are being conducted.

If the cultured conglomeration of cellular materials that is breaking down contains millions, if not, billions of fragments of RNA material, and if such fragments are further sliced up in accordance with the protocols of the "Unbiased De Novo Next Generation Sequencing" process, then, why wouldn't a "reasonable" person assume that one is highly likely – on just a random basis – to be able to produce a genetic sequence that has a fair degree of homology with the sequential nature of the corona template that has been introduced into

the cultured products that are breaking down. This would be the case not necessarily because any such extended genetic sequence existed in the cultured conglomeration prior to the cytopathic event but because if one is only working with four genetic letters, then, the possible sequential combinations which might be assumed by those letters is likely to include the genetic sequence of the earlier template for an alleged corona virus that is being introduced into the culture. This is especially the case if the RNA fragments that are present in the cultured breakdown products are being helped to do so by the presence of a library template that tends to push the computational or algorithmic process in the sequential direction of such a template.

If one had introduced a different kind of priming template into the cultured conglomeration – say, polio, or measles, or small pox (all of which have been generated algorithmically and not biologically) – one would have produced different results during the "Unbiased De Novo Next Generation Sequencing" process. However, a corona template was introduced into the cultured conglomeration precisely because the virologists were searching for – in the present example -- the alleged presence of SARS-CoV-2, and, consequently, by so doing, their results were biased by the presence of that priming template which is being used to assess the degree of homology, if any, which exists between the genetic residues that might be present in a given cytopathic culture and a template that has been drawn from an existing library of templates for other alleged types and subtypes of computer-generated, hypothetical viruses.

The parts of the computational process involving the cultured products breakdown that are homologous with an existing library template will be cited as proof that there is a close genetic connection between what had been drawn from the library and what is being computationally put together (constructed) during the process of so-called "Unbiased De Novo Next Generation Sequencing". The aspects of the two computations that do not match (one from the library and one from the algorithmic computational representation involving the current contents of a cultured conglomeration that has broken down following a cytopathic event) will be interpreted as constituting evidence supposedly demonstrating the presence of genomic aspects from a new edition of coronavirus. However, one needs to keep in

mind that such "unique" aspects have been constructed through a computational, extrapolative, interpolative, algorithmically driven process which, nonetheless, in time, will be entered into a computer-generated template library so it, at some point in the future, can be used in a similar way with some future cultured conglomeration that has broken down and is believed to contain some other edition of a coronavirus.

At no point during the "Unbiased De Novo Next Generation Sequencing" process is any 30,000 base pair corona virus actually found. Whatever is found is the result of a computational, algorithmic construction that is entirely theoretical in nature and which has been heavily influenced by the sequential structure of the corona library template that has been introduced by virologists into the process so that such "established" sequences can be compared with the alleged sequences that are found (via a computer program) in the breakdown products of the cultured conglomeration that has undergone a cytopathic event.

Are real genetic molecules being referred to during the foregoing analysis? Yes, there are, but the sequence of those molecules is a reflection of the computational methodology being used and, therefore, does not necessarily constitute proof that such a sequence of genetic molecules had been present and intact in the cultured conglomeration prior to the cytopathic event that took place and is being analyzed by an algorithmically-driven computational process.

In fact, there is absolutely no evidence which establishes the existence of actual viruses independently of the foregoing sort of computational process. All claims concerning the existence of viruses are artifacts of a process of computational invention, and such claims are not based on any virologist having empirically uncovered an actual viral genome that can be sequenced independently of the computational/algorithmic processes being discussed above, and, therefore, such claims are entirely theoretical in nature.

Virology, for the most, is largely a theoretical system for arranging and interpreting the results of an array of computational/algorithmic forms of analyses that cannot be shown to be tied to any actual, instances of viral genomes that can be shown to have actual ontological status in the wild. As such, virology is about the theoretical

entities that different virologists seek to project onto the world while simultaneously being devoid of any empirical proof that those projected theoretical entities actually exist independent of the theories of virologists.

Consequently, virologists tend to be the sorts of people who are not able to sway people with actual evidence. As a result, in accordance with the old adage that if one doesn't have evidence, then, one must resort to trying to dazzle people with bullshit … and, in the present case, the BS is a complex of theoretical entities that are organized into libraries of arbitrarily invented sequences that are apropos of nothing real but which give expression to computational and algorithmic techniques that are so technically shiny that people are misled into believing that those techniques are capable of producing results that are substantive and credible but which are not actually either – that is, substantive or credible.

In a series of recent experiments, Stefan Lanka has been able to document important elements of the foregoing modalities of critical expression. He used the same sorts of PRC priming techniques that are employed by virologists.

The PCR amplification process gives rise to an optical change (e.g., color or luminosity). This change enables an individual to see whether the sequence carried by a primer is present in the culture conglomeration that has broken down into fragments and, then, subsequently, sliced up a bit more so that the PCR protocol can be used.

One can't PCR the whole culture at once because the PCR process only works with sequences of a limited length, but one can use certain primers that are based – at least theoretically -- on short sequences in the corona template that virologists have taken from one of their existing libraries of sequences and fragments and which has been introduced – algorithmically, that is, as part of a computer program – into the analysis of the culture being investigated. Once the amplification process indicates there is a match between the sequence on a given primer and the some aspect of the contents of the cultured conglomeration being studied, then that match can be amplified and becomes visible through the PCR protocol.

In one experiment, Stefan Lanka ran through twelve cycles or amplifications of the primer sequences being sought (that is, twelve rounds of doubling the presence of certain sequences) in a culture that contained the usual contents of a culture minus a tissue sample from a sick individual. He found 20% of the purported sequence of the SARS-CoV-2 genome (and, remember, the purported sequence of the SARS-CoV-2 genome is entirely theoretical in nature and has never actually been found independently of these sorts of computational analyses).

In the next experiment, Lanka increased the number of amplification or doubling cycles to 30. Nothing was added to the cultured conglomeration during this time of analysis.

He discovered that after 30 cycles of doubling, the primers matched up with 98% of the alleged SARS-CoV-2 genomic sequence. Once again, one must keep in mind that the foregoing genomic sequence is based on a computational-algorithmic methodology that has not been shown to have any independent connection with an actual – that is a material or substantive -- 30,000 base pair genome that has been found in nature.

One also should keep in mind that all of the foregoing activity took place without anything being added to the cultured conglomeration that had broken down. The only difference was the number of cycles of PCR amplification that were used.

Why did Lanka "find" only 20% of the alleged genomic sequence of SARS-CoV-2 at 12 cycles? Why did he "find" 98% of the alleged genomic sequence of SARS-CoV-2 after 30 cycles of amplifying cultured fragments?

As Kary Mullis has made clear on many occasions following his invention of the PCR protocol, the very nature of the PCR process is to be able to create a series of new sequences through that process. Given all the RNA fragments that were present in the cultured conglomeration being studied, if one runs the PCR process through enough cycles, one can reproduce almost any sort of sequence for which one might be searching based on the primers one is using.

None of the foregoing proves that SARS-CoV-2 was originally present – as a substantive, existential entity -- within the cultured conglomeration being investigated. Rather, Lanka's ability to

reproduce 98% of the theoretical sequence of the SARS-CoV-2 genome was entirely an artifact of the PCR process when it is used in conjunction with certain primers (based on an earlier theoretical sequence concerning an alleged corona virus) that, in effect, biases the direction in which the PCR process goes.

Lanka goes on to indicate that 78% of the fragments and pieces that were "found" in his experiments were the result of the way the PCR process takes place. The PCR process is capable of rearranging sequences and fragments depending on an array of factors involving the sort of enzymes that are used, or the temperature at which things are run, as well as numerous other factors that are noted in the MIQE Guidelines (Minimum Information for Publication of Quantitative Real-Time PCR Experiments) that govern the techniques involved in so-called Quantitative PCR analysis (and I might add at this point that Kary Mullis, the inventor of the PCR methodology once indicated that the notion of "quantitative PCR" is an oxymoron).

One of the issues with which Quantitative PCR analysis is concerned (along with the MIQE guidelines that have been developed to govern such analysis) has to do with the tremendous differences in results that are possible due to the way in which the foregoing sorts of conditions under which any given PCR analysis is run can affect PCR analysis. As a result of those sorts of differences, researchers often encountered difficulties trying to have their own work verified or have had difficulty verifying the accuracy of the work of others precisely because those kinds of differences were not taken into account, and, as a result, analyses tended to vary and were not standardized in any fashion – as the MIQE guidelines try to do.

Lanka's experiments had been set up in a way that precluded the possibility that SARS-CoV-2 could have been present in the cultured system that he had established and which, then, underwent a cytopathic event. Nonetheless, he had been able to reproduce 98% of the alleged sequence – a theoretical sequence – as an artifact of the PCR process that was arbitrarily biased – via the primers that were used and which were based on a theoretical corona sequence that had been taken from a library – which would move the analysis in the direction set by the primers and not because SARS-CoV-2 had been present in that cultured system from the beginning.

The computational-algorithmic process that is used to piece together the different fragments through various modes of interpolation, extrapolation, and other forms of filling in the empirical gaps that are left by the limits and characteristics of the PCR process are stitching together – or inventing – a new sequence. However, that sequence cannot be shown to be capable of being independently tied to an actual particle of SARS-CoV-2 that has precisely the genomic sequence that virologists have theoretically claimed it has.

At no point has empirical reality been shown to meet up with the theoretical claims of virologists. This is the case both with respect to SARS-CoV-2 as well as any other alleged virus.

As noted previously, if one had used a different set of primers based on sequences in the theoretical libraries of virologists that had to do with measles, or polio, or some other alleged virus, then, despite the fact that there was no possibility that such entities had been in the original cultured conglomeration, nevertheless, after running the PCR process through 30 cycles, one would be able to generate sequences that were a 98% match with the alleged genomic sequences of such purported viruses from the library of genetic sequences. Once again, these results would be an artifact of the methodology being used, and the title of that methodology notwithstanding – namely, an "Unbiased De Novo Next Generation Sequencing" – the entire process is nothing but a series of biases that are being implemented, all of which undermine any claims concerning the reliability of the results that are have been, and are being published, by one virologist or another concerning the genomic sequences that they are supposedly discovering, and, thus, it turns out that such discoveries are only in their imaginations.

The hypothesized genetic sequence for the theoretical neuraminidase protein that many virologists believe (but do not know) was present in the 1918 influenza virus – along with the computer generated genetic sequence for the theoretical hemagglutinin (HA) viral surface protein -- is a conceptual construct. Neither the protein nor its purported genetic sequence was found intact on the surface of, or inside of, an actual, concrete, existential virus that had been properly isolated but, instead, such models of a virus were put together by running a variety of RNA fragments (of

unknown provenance or origin) that were present in tissue samples through a computer program to see whether, or not, those fragments could be put together in a way that was capable of matching -- to varying degrees of homology – the theoretical template being used in the underlying computer program.

This is like taking multiple copies of all of the letters from a given alphabet – say, English – and dumping those letter-copies into a solution of some sort and, then, running those letters -- along with whatever fragmented, short combinations of those letters that might show up -- through a computer program containing templates of certain words (for example: "hemagglutinin" and "neuraminidase" (the H and N, respectively of the putative H1N1 flu virus) in order to see whether, or not, one might be able to come up with a set of possible alphabet sequences that were capable of matching up with the program templates (the words: "hemagglutinin" and "neuraminidase").

By engaging such issues in the foregoing manner, one's understanding is being filtered through the lenses of a theoretical framework. As a result, one might, or might not, be introducing some degree of obfuscation into the process of trying to understand whether such words (i.e., "hemagglutinin" and "neuraminidase") were actually present in the sample from a patient or one merely had discovered a way to come up with such words using the alphabetic letter fragments that were available in a given sample.

To claim that such words actually were present in the original sample -- but simply had degraded over a period of time -- is a problematic contention. After all, the foregoing two words (i.e., "hemagglutinin" and "neuraminidase") were not actually found intact in the sample one was studying but, rather, those words had to be constructed as possibilities based on what is known about the presence of various kinds of alphabetic exemplars that were found in a given sample that contained both single instances of the letters of the alphabet being considered along with various fragments of combined components of those alphabetic letters from which the foregoing words might be constructed.

One might keep in mind that Kary Mullis once indicated that if one were really good at using the PCR protocol, one could find almost

anything one wanted to find. Indeed, Stefan Lanka was able to "find" 98% of the alleged sequence of the SARS-CoV-2 virus despite the fact that the sample which he used to "search" for such a sequence had been organized in a way that precluded the 30,000 base-pair sequence that allegedly constitutes the sequence of SARS-CoV-2 from being present at the beginning of the experiment.

Lanka did not "find" SARS-CoV-2 in his culture. Rather, 98% of a particular nucleic acid sequence was artificially constructed from bits and pieces of different fragments of nucleic acids which happened to be present in the culture that he was analyzing, and that construction process was guided by an appropriately designed computer sequencing program that was used in conjunction with the right kind of sequencing template and set of primers.

To be purporting to do something – i.e., sequencing the nucleic acid components of the chromosome or genes of an alleged real world entity that, supposedly, infects human beings (namely, a "virus" in the modern sense of this term) when such an entity cannot be proven to exist (as the previous chapter demonstrated) and, therefore, as the present chapter has demonstrated, showing that such a sequencing process is a function of arbitrary conceptual inventions (i.e., computer sequencing algorithms rather than actual discoveries concerning the nature of the world), is to engage in the propagation of toxic knowledge. Such knowledge – which only extends as far as having an understanding of the structural character of a theory (e.g., virology) – is toxic because it induces people to adopt a delusional system of thought (e.g., the use of vaccines to counter entities – namely, viruses that infect human beings but which cannot be proven to exist), and such a delusional orientation interferes with the possibility of developing an understanding of the world as it is instead of as some belief system desires it to be.

Given that considerable evidence exists (some of which has been presented previously) indicating that viruses do not exist, and given that Béchamp's, Enderlein, Rife, Naessens, and others have put forth evidence indicating that the natural tendency of the human body seems to function in accordance with a set of dynamics that appear to be geared to maintain or re-establish a condition of detoxified stability in which the terrain has a symbiotic relationship with the microbiome

that exists within the biological terrain, and given that many microorganisms tend to be pleiomorphic/pleomorphic in character and can only be induced to transition away from a relationship of symbiosis with the biological terrain that surrounds it when some other non-microbial cause of inflammation or de-stabilization has taken place, and given that no one has been able to demonstrate that there are proteins which exist which have the sort of morphological and immunological properties that "antibodies" are supposed to have, then there would seem to be no purpose which is served by the administering of vaccines in a great many cases.

For example, measles, mumps, small pox, polio, chicken pox/shingles, RSV (respiratory syncytial virus), viral pneumonia, HPV (human papillomavirus), Hepatitis A, B, and C, Herpes simplex, rabies, influenza, MERS (Middle East Respiratory Syndrome), SARS-CoV-1 and 2, HIV, as well as a number of cancers are believed to be caused by viruses capable of infecting human beings. Yet, if viruses capable of infecting human beings don't exist, then, while one would be willing to acknowledge the existence of pathological conditions that correspond to each of the foregoing pathological designations, nonetheless, any vaccine which is based on a theory that the associated medical conditions underlying the foregoing labels are due to viral infections needs to be able to prove that the viruses which allegedly cause those diseases actually exist, and this has not been done.

Furthermore, many vaccines contain one or more (usually more) of the following components: Heavy metals such as aluminum or thimerosal (an organomercury compound) and both of which have been proven to have neurodegenerative capabilities (moreover, when these two metals occur together, they have been shown to have synergistic interactions that render them far more toxic than when they used separately); genetically modified organisms (which are synthetic entities that often prove to be disruptive to, or capable of undermining, the dynamics of a person's natural biological terrain precisely because such drugs are synthetic creations that present problems for both anabolic and catabolic aspects of metabolism … indeed, the adverse side-effects that tend to be associated with different drugs are a direct reflection of the synthetic nature of those drugs since synthetic molecules tend to be incompatible with natural

metabolic pathways in a variety of ways, and it is such incompatibility that often underlies the adverse side-effects of a drug); formaldehyde or other kinds of preservatives tend to have toxic properties and also have been shown to have a carcinogenic potential as well (some individuals try to argue that formaldehyde occurs naturally in the body, and, therefore, small amounts of injected formaldehyde are innocuous, but what might be innocuous in one context could be quite problematic in a different biological context … a molecule can be both beneficial and injurious depending on how it gets into the body and depending on what other components it might cross-react with during such an entry process); stabilizers (such as gelatin to which some people are allergic); surfactants such as polysorbate 80 which often contain contaminants because the actual polysorbate portion of those compounds only constitutes a relatively limited aspect of the overall composition of the compound; PEG or polyethylene glycol (to which many people are allergic); bacteria of one kind or another that are ecological outliers and, as a result, have no established, symbiotic relationship with a person's biological terrain; cells from monkeys, from the brains of mice, or from the kidneys of dogs (all of which often are either in a condition of being, or becoming, cytotoxic -- that is dying and releasing whatever is present in those cells – including an array of foreign proteins that could be toxic to human beings, and, therefore, none of these cells have any business being injected into people); adjuvants such as squalene (which has been shown to have a toxic effect on many people); antibiotics such as streptomycin, gentamicin, and neomycin (each of which might prove problematic for some individuals); potassium chloride which has the capacity to adversely affect the heart and respiratory system (which could be problematic for infants, young children, and anybody with breathing or heart problems); and, peanut oil (which is either capable of adversely affecting people with peanut allergies and their presence in vaccines might be connected to the fact that there has been a veritable explosion of cases involving the emergence of peanut allergies.

People, of course, do suffer from pathological conditions. However, if such illnesses (for example, any of the conditions listed several pages ago) cannot be shown to be due to the presence of an entity (e.g., a virus that is capable of infecting human beings since the existence of such an entity cannot be proven), then, such individuals

certainly have no need to receive a vaccine that is supposed to protect against a pathogen whose very existence can be credibly challenged. An even more important consideration is that if the entities (i.e., viruses) which viral vaccines supposedly protect people against do not actually exist, then there is absolutely no need for people to be injected with a vaccine which contains all manner of additive ingredients that accompany such injections and which have been proven to have a considerable potential for introducing toxicity of one kind or another into a person's body. In other words, people are being injected with potentially toxic vectors of one kind or another, and none of this is capable of being justified in any viable fashion because the target of such concoctions cannot be demonstrated to exist.

Apparently, there are some people who should know better but who are either ignorant or willfully blind concerning all of the foregoing possibilities but, nonetheless, have bestowed upon themselves the right to poison other individuals and expose the latter individuals to potential toxins. This is done despite the fact that in view of what has been said already, viral vaccines are nothing more than de-stabilizing vectors of toxicity, and governments in many, if not most locations within the United States, are using legal mandates to enable such toxicity to be injected into the bodies of infants, children, and teenagers.

The foregoing set of circumstances gives expression to a double form of toxic knowledge. More specifically: (1) What such individuals claim to know about vaccine technology does not accurately reflect the fact that properly run experiments with appropriate control groups indicate that entities – known as viruses which are allegedly capable of infecting human beings – cannot be proven to exist. Unfortunately, despite the presence of such countervailing empirical evidence, nonetheless, "knowledge" concerning the preparation and manufacture of allegedly anti-viral vaccines is used to create products that have no provable purpose and, yet, those products are being forced upon people without informed consent, and, therefore, this kind of oppression constitutes a form of toxic knowledge because of the way in which it undermines the sovereignty of individuals and, thereby, introduces moral, social, legal, institutional, medical, and educational toxicity into society. (2) despite the fact that anti-viral

vaccines are based on a fraudulent theory (i.e., the idea that entities called viruses which, supposedly are capable of infecting human beings actually exist), nevertheless, all manner of potentially toxic materials are being put in vaccines (in the form of adjuvants, preservatives, stabilizers, surfactants, and so on) that have been proven to have a potential for toxicity and, therefore, entail a capacity to harm human beings.

Chapter 5: A First Look at Phages

The previous four chapters – plus Introduction -- offer a synopsis and limited re-working of certain aspects of material that had been put forth in two earlier books that issued forth from me – namely: (a) *Observations Concerning My Encounter with COVID-19?* (b) *Follow the What? – An Introduction*. Additional information was presented in those two books which complements, supplements, and contextualizes what is being given expression in the first four chapters of the present book, but I wanted to try to offer a sketch or overview of certain themes drawn from the two aforementioned books which might help to orient and frame what will emerge in the remainder of the present work.

So, let us begin with the process of orientation. If one were to try to sum up the thrust of the foregoing four chapters, one might make statements along the following lines.

First, modern medicine and biology committed major errors involving both acts of commission and omission when such disciplines endorsed Pasteur's monomorphic approach to microbiology. In the process, many researchers, scientists, and medical practitioners sought to deny, suppress, and eradicate 160-plus years of empirically rooted scientific research which had been able to demonstrate that many microorganisms are pleiomorphic rather than monomorphic in character and, as a result, contrary to the claims of Pasteur, such organisms are capable of changing their morphological and functional properties in response to various kinds of shifts in the dynamics of the biological terrains in which those microorganisms reside.

Failure to understand, for example, that: Bacteria have life cycles in which, depending on the conditions in which those bacteria exist, one and the same entity can undergo a series of morphological and functional changes, has led microbiology, virology, evolutionary theory, and medicine down some very unproductive, problematic, and injurious paths. Indeed, the failure to understand that many microorganisms have pleiomorphic properties has led to the accumulation of a great deal of toxic knowledge because such so-called knowledge encompasses a body of interconnected assumptions, concepts, ideas, and data which can be proven to be incorrect, and,

consequently, such "knowledge" has had a litany of toxic ramifications for humankind.

A second statement which gives expression to the thrust of the opening four chapters of the present book is that, for the most part, virology is an emperor without clothes. This is because not only has no one been able to properly isolate and purify any entity that is referred to as a virus which is capable of invading, infecting, and undermining (acutely, chronically, or lethally) the health of a human being, but, in addition, the sequencing methods that dominate virology are largely the work of arbitrary narratives concerning entities that cannot be proven to exist, and, in addition, such narratives are based on lab protocols and software programs that cannot be justified as constituting reliable scientific methodology since at no point can those instruments, methods, computations, and protocols be shown to reflect or reveal anything that can be demonstrated to reveal the presence of something (for example, some aspect of reality) that is independent of the theory to which such instruments, methods, computations, and protocols give expression.

The problem is not just that virology uses instruments, methods, techniques, and forms of interpretation that make it difficult to disentangle theory and reality because virology, like all scientific activities, can be described as being theory-laden as Norwood Hanson noted more than 70 years ago. Rather, the problem is that the ways through which virology generates data completely obfuscates whether, or not, there is anything present in such a process of data generation which contains some actual content of existence that is being discovered and, as such, is independent of the means through which such a discovery is being made and, therefore, does not constitute just an abstract idea that has been reified – or given concrete, material existence -- and, then, subsequently, imposed on experience in a delusional fashion according to the properties and characteristics of the theoretical framework and lenses through which virology engages and parses life.

There is a great deal of modern medicine which is based on forms of toxic knowledge concerning entities – called viruses, and which, allegedly, are capable of infecting human beings – that cannot be demonstrated to exist and, furthermore, that have become entangled

in methods which purport to be able to sequence the genomes of entities that cannot be proven to exist. The prevailing situation in virology is akin to someone taking the non-existent cartoon character 'Casper the friendly ghost' and performing experiments which, purportedly, show how one can sequence Casper's genome … thereby revealing the nature of the sequential ghost that exists within a fictional ghost.

Such toxic knowledge has provided modern medicine with a fraudulent form of justification which seeks to lend credibility to the idea that one can prepare vaccines that are capable of protecting people against entities – namely, viruses that, supposedly, attack, invade, infect, and sicken human beings – but which can't be proven to exist and which, purportedly, have been sequenced by methods that are entirely a function of the problematic assumptions, biases, arbitrary processes of extrapolation, interpolation, and accumulated lacunae that have been programmed into certain kinds of computer sequencing software and, as such, those methods are never able to demonstrate how the results generated by the foregoing sorts of programs ever actually touch upon real world dynamics and, instead, all those programs demonstrate is that there appears to be a sizable disconnect between theory and reality.

Even all of the injustices, inequities, hypocrisies, forms of ignorance, and corruption that surround and permeate the Vaccine Court -- which the United States government created to, allegedly, provide a way of compensating those who were injured or died as a result of receiving vaccines -- cannot hide the fact that more than 5 billion dollars have been awarded to individuals who have been able to legally prove –- despite many obstacles and hurdles being intentionally, but unnecessarily placed in their paths -- that vaccines are neither safe nor effective. In other words, some plaintiffs have been successful in a Court that is heavily weighted, if not prejudiced against them and such plaintiffs have been successful in a court system which uses tax-payer money to help cover the cost of the salaries of U.S. federal attorneys who are, in effect, serving as shills for a vaccine industry that lacks so much confidence in its products that it helped to induce the United States legislature to pass The National Childhood Vaccine Injury Act (NCVIA) in 1986 which, among other things, helps

protect companies, and individuals, who are operating within the vaccine industry from being held liable for various kinds of injuries or deaths that might be due to the use of their products.

Notwithstanding all of the foregoing considerations, there are an array of individuals who will argue that quite apart from whatever – if any -- truth might be present in the foregoing claims about the non-existence of entities (known as viruses) which are said to be capable of attacking, invading, infecting, and sickening human beings, nonetheless, there are a category of entities – known as phages – which satisfy the definition of a virus in the modern sense of the word. That is, such entities consist of a capsid, or shell, usually made from structural proteins (but sometimes lipids are present in, or operate in conjunction with, such structural proteins), and within that capsid or container-shell, there is a double-stranded or single-stranded chromosome of DNA or RNA (along with, sometimes, an array of ready-made proteins) which, reportedly, is capable of invading, infecting, taking over the metabolic machinery of a bacteria, replicating, and, then, releasing themselves, in one way or another, from the organism that had been "infected".

Therefore, according to those who maintain that phages are a form of virus, then, as much as some people might wish to claim that viruses do not exist, nevertheless, there are nano-scale entities which – unlike the viral entities that are alleged to infect human beings – can actually be proven to exist. Consequently, trying to remove the term "virus" from scientific discourse is unwarranted.

While there might be certain structural and functional dimensions of the nano-scale entities known as pages that are viral-like in nature, a fairly strong argument can be made that the full nature of phages is not properly understood and, therefore, to try to limit the functionality of phages to being nothing more than viruses in the modern sense of the word is to misrepresent the role that phages play in any ecology.

More specifically, one could argue (and arguments in support of this possibility will be developed in the next several chapters) that phages give expression to a form of epigenetic modulation -- like methylation, acetylation, and so on, albeit phages constitute a much more complex form of that kind of modulation – which helps to regulate the manner in which an organism responds to the dynamics

that emerge in a given biological terrain as a result of changing environmental conditions. This form of modulating dynamics concerns the way in which phages and bacteria interact during different aspects of a given bacterium's life cycle.

In many respects, phages appear to have a symbiotic relationship with bacteria. To be sure, there are times when phages induce bacteria to undergo a form of apoptosis (and, sometimes, this involves a process of cell-lysis), but even here the modus operandi of a phage is not necessarily a matter of merely seeking out bacteria – via a random form of drifting – in order to exploit the latter forms of organism for purposes of replication.

Phages can serve as a medium of communication with, and among, bacteria. Moreover, phages have the capacity to transfer various genes and accompanying capabilities from one bacterium to another.

On occasion, phages supply bacteria with toxins that enable those bacteria to defend themselves. In addition, sometimes, phages lend bacteria biological support of one kind or another to assist bacteria to deal with certain epigenetic challenges that are created by changing environmental conditions.

Many virologists suppose that phages infect bacteria and, then, proceed, to take over the mechanisms of bacterial cell metabolism in order to move toward subsequent stages of replication and release from bacterial cells. However, there are a great many unanswered questions about how – or if -- phages are really able to accomplish the foregoing sorts of tasks on their own, and, as a result, there could be good reasons for entertaining the possibility that the interaction between phages and bacteria might be a function of different forms of co-operative genetic and epigenetic transactions that are being carried out on behalf of a given bacterium, or a colony of such bacteria, or the ecology in which such a colony or bacterium resides.

Furthermore, many phages have a multiplicity of genes for which virologists have not, yet, been able to discover the nature of the functioning of those genes. In fact, generally speaking, given the methodological limits of modern virology, if a gene does not seem to have something to do with how a phage supposedly enters a bacterium, or goes about replicating itself, or involves the manner in which a phage supposedly goes about leaving bacterial cells

(sometimes destructively and sometimes without incident), then, for many virologists, trying to figure out what other genes do that are present within various phages tends to be something of a "riddle that is wrapped in an enigma within a mystery."

If all one is interested in establishing is how a given entity (say, a phage) gains access to, replicates, and exits the organism or cell that, supposedly, was infected by such an entity, then one's understanding of what one is studying is going to be colored by one's own limited interests and activities. Thus, if a researcher begins with the idea that phages are entities which have the capacity to enter, replicate, and leave a given host, then, just as all that a hammer "sees" are nails, so too, all that such a researcher is likely to see is the viral-like qualities of such entities, and, as a result, that individual might entirely miss the ways in which those qualities are entangled in a much more complicated, rich, and nuanced context that can be reduced to the status of a viral entity only by distorting the nature of what one is looking at by insisting that people look only at certain, limited aspects of what is taking place.

Why, as previously noted, do so many genes appear to exist in the genomes of various phages if all a phage does involves: Gaining access to a cell, replicating one's own blueprint while using that cell's machinery, and, then, exiting that same cell? Genetically speaking, many phages seem to be very over-qualified for such a limited set of tasks, and, consequently, one can't help but wonder what phages actually are.

Are they nothing more than viral entities that, for the most part, parasitically prey on their hosts, or are they much more complex entities that might have the capacity to bring about the death of a bacterium but, conceivably, might only exercise that capacity under certain circumstances? If the functionality of phages extends beyond the activities of a virus, can one necessarily refer to phages as viruses since such a label places limits on how we tend to think about phages as well as tends to dismiss the broader, more expansive sorts of roles which they might play within any given ecology?

For example, what if – instead of supposing that phages are external entities that attack or infect a given bacterial or fungal host – we were to entertain the possibility that, under the appropriate

circumstances, phages give expression to an epigenetic process within a given bacterium (that is, a dynamic within a given bacterium has initiated a series of metabolic steps that results in the generation of a phage) and, as such, are part of the pleiomorphic life cycle of the bacterium that gave rise to such phages? Or, what if one were to critically reflect on the possibility that bacterial cells might engage in processes involving the export and import of phages according to the condition of a given bacterium, or the condition of the colony in which such a bacterium resides, or the condition of the ecological system of which the colony and the individual bacterium are a part?

Given the foregoing considerations, then, conceivably, phages don't necessarily "infect" a bacterium. Instead, they might be called to a given location via, for example, frequency messages, and, when, such phages find their way to the bacterium and/or colony that has sent out such a message, the phage – partly through its own capabilities and partly through the capabilities of the bacterium – is able to work its way into the interior of a bacterium and, then, sets about interacting with the bacterium to carry out this or that task.

Many phages might have the capacity to modulate the dynamics of a bacterium in a variety of ways. One such modality of modulation is, of course, to induce a bacterium to bring about its own demise by assisting the phage to do what is necessary to bring about an apoptosis-like condition.

However, the same sort of dynamic takes place in a human being thousands of times every day, and, yet, nonetheless, such a process of apoptosis is not considered to be a form of viral activity. So if a phage assists a bacterium to participate in its own termination, then, why should an individual be forced to suppose that such an activity must be considered to be an expression of viral activity rather than being part of the pleiomorphic life cycle of a given microorganism?

The genetic properties of many phages are found within the genome of a bacterium. Perhaps, contrary to the supposition of many virologists, those elements have not become integrated into the host's genome over time but, rather, maybe, those genetic elements are merely part of a bacterium's epigenetic potential and, therefore, when necessary, can be called upon to generate or construct phages which also contain the genetic blueprints for replicating those same entities

so that they can perform this or that life-cycle function either within a given bacterium or without such a bacterium in the surrounding colony or in the more expansive context of the ecology in which such a colony and individual bacterium resides?

The foregoing considerations serve as a bit of a contextual background to help orient the discussion which follows. However, before exploring some of the nuts and bolts of phage functioning (the subject of the next chapter), let's place phages in an historical context, and much of this context (but not all) is based on the research of Tom Ireland which is contained in his book: *The Good Virus: The Amazing Story and Forgotten Promise of the Phage.*

However, there are several aspects of Mr. Ireland's perspective with which I disagree. Among these points of differences is the issue of evolution.

For instance, he refers to phages as being, somehow, akin to the phenomenon of dark matter. Yet, this seems to be a rather strange claim to make because, currently, no one knows what dark matter is or even whether it is, and, consequently, if "phages are the 'dark matter' of life on Earth" then, seemingly, this would mean that no one knows how, of if, phages actually do play a central role with respect to the way in which -– according to Mr. Ireland -- they allegedly contribute to the emergence of greater complexity in life forms.

Mr. Ireland also stipulates that when considered collectively, phages constitute the largest repository of genetic diversity that exists on Earth. Unfortunately, Mr. Ireland never actually explains how all that genetic diversity came into existence in the first place, but, rather, he just appears to assume that evolutionary forces somehow, mysteriously, like Santa's elves furiously working away to meet the Christmas Eve deadline, just cobbled things together with a random bit of cutting, gluing, and banging here and there.

Evolutionary theory can't even account for how triplets of just five kinds of nucleic acid came to represent, mean, or stand for the existence of twenty amino acids from amongst some 500 such molecules that are known to be possible, and, yet, one is supposed to accept the idea that chemistry – no matter how complex -- gave rise to biology of, in the beginning, a simple kind. Furthermore, trying to explain how evolutionary forces supposedly account for the

emergence of novel and more complex forms of biological functionality is nothing more than an exercise in assuming – again and again and again and again (add on trillions of 'agains') that out of random chaos comes biological order.

Fortunately, whatever disagreements I might have with Mr. Ireland's rather phantasmagorical supposition that, maybe, as some individuals have suggested, life began with virus-like entities rather than cellular arrangements (and, of course, there is no explanation for how either such encapsulated systems or cells would have been able to give rise to functional genomes), none of those disagreements need to undermine or detract from learning about certain facets of the history of phages. In this respect, Tom Ireland offers an interesting overview and narrative concerning some of those historical events in which the notion of phages is ensconced.

For example, he indicates that when Germany was invading Russia, a Russian scientist by the name of Zinaida Yermolyeva, a member of the Institute of Experimental Medicine in Moscow, had been tasked with the challenge of finding a way to prevent cholera – a bacterial disease that can induce, first, diarrhea, dehydration, and painful cramps, and, then, if not properly treated, can lead to shock, coma and death – from spreading to those who were defending Russia against the German invasion. Although penicillin was capable of disabling the bacteria that is associated with this disease (Vibrio cholerae), this antibiotic was still not being mass produced and, therefore, was not readily available in Russia at the time of the World War II invasion.

Professor Yermolyeva had been called upon because she had a reputation for having developed some scientific expertise with respect to being able to extract an entity from the bodies of people who had died from cholera and, then, use that entity to either bring cholera under control in those who were still alive but who had been suffering various symptoms to which the disease gave rise, or to be able to prevent the cholera bacterium from establishing itself sufficiently to cause symptoms. Since the German invaders were the ones who were dying from cholera, and because Professor Yermolyeva wanted to prevent Russians from meeting the same fate, she arranged for various agents of Russian resistance to surreptitiously remove some of the

bodies of dead German soldiers from German field hospitals so that she would be able to search for what she needed in those bodies that might enable her to treat cases of cholera if and when that disease arose among Russian defenders, or, perhaps, enable her to prevent that disease from occurring at all among the Russian defenders of Stalingrad.

While phages were first discovered in 1917 (more on this shortly), and began to be used medically a few years later as a way of combating various bacterial diseases (and this was over a quarter of a century prior to the advent of antibiotics), nonetheless, working with phages was not straightforward. Not all phages were able to combat a given bacterial form, but, instead, only certain modalities of phages were capable of countering particular kinds of bacteria and, furthermore, some strains of bacteria were vulnerable to only a single kind of phage, and, therefore, if there was a mismatch between the phages one collected and the strain of bacterial disease one was trying to treat with such phages, then, the treatment would not succeed.

Professor Yermolyeva knew that the best place to try to discover the phage or phages that had the capacity to combat the strains of cholera that were killing German troops was in the bodies of those dead individuals, and, this is why she was having agents stealing bodies from German field hospitals. The bodies were taken to a make-shift, relatively primitive laboratory that had been set up beneath the streets of a certain part of Stalingrad, and in that research facility, Yermolyeva proceeded to look for those phages that might prove to be effective in combating the cholera strain or strains which were proving so lethal to the German invaders, and, then, in her laboratory she tested what she found in order to determine whether, or not, a given form of phage had the capacity to effectively eliminate colonies of cholera bacteria.

After she located the phages for which she was searching, she isolated the kind of phage in which she was interested, and, then, produced concentrated and purified cultures of those phages. This concentrate was translated into tens of thousands of doses of medicine that, subsequently, were given to Russians who were defending Stalingrad and helped those individuals to stay sufficiently free of cholera to be able to win the battle for Stalingrad.

The foregoing overview indicates something very important. Unlike the alleged viruses that supposedly infect and sicken human beings (entities that have never actually been proven to exist), phages can actually be isolated, purified, concentrated, and organized into doses of medicine that can be shown – as Zinaida Yermolyeva did in 1942 Russia during the defense of Stalingrad – to be able to give expression to effective forms of prevention and treatment with respect to cholera.

Cholera is not the only bacterial disease that can be combated through the use of phages. In fact, many forms (perhaps all forms) of bacteria appear to have at least one, and oftentimes, several kinds of phages that have an affinity for, and working relationship with, such bacteria, and, as was touched upon in the first part of this chapter, that affinity for, and working relationship with, bacteria is not necessarily restricted to one of assassin and target.

The sizes of bacteria are measured in thousandths of a millimeter known as microns. Phages have a size that is a thousand times smaller than bacteria and, therefore, reside on the nano-scale.

Bacteria give expression to a cellular form of life and, as a result, are capable of initiating, and having autonomous oversight concerning, whatever kinds of metabolic dynamics are needed to maintain that cell as a living entity provided there are enough nutrients available within an environment that is relatively stable and does not actively threaten the existence of such bacteria. Phages do not constitute a cellular form of life and, therefore, they do not possess the necessary biological wherewithal to have autonomous oversight concerning, among other things, their capacity to replicate themselves but, instead, phages depend on the genomic and metabolic capabilities of the cells in which they reside to be able to generate copies of themselves.

Unlike cellular life forms – such as bacteria – phages have no need for nutrients, nor do they even have a way of processing or metabolizing nutrients to provide the energy and basic components (e.g., molecules of various kinds, amino acids, ribose sugars, phosphates, lipids) that are needed to be able to generate (replicate) multiple forms of a given kind of phage. Instead, phages rely on their hosts to supply all of the basic constituents necessary for replication to take place.

The contents that are contained within the shell (usually made from protein units, but, sometimes lipids are involved) which encapsulates the contents of a phage provide a set of blueprints (genes) made of nucleic acids (either DNA or RNA, but not both) along with –- sometimes -- a set of ready-made proteins which have specific roles to play in assisting a bacterial host to help unpack and actively realize the directions that are contained in the genome of the phage which enable that entity to do whatever is indicated – according to the genetic potential of a given modality of phage -- in a certain set of circumstances. However, without the energy, supply of constituent molecules, genomic capabilities, and metabolic machinery provided by its host, a phage would be incapable of any functionality whatsoever.

As far as is presently known, phages do not represent any sort of threat to human beings. Moreover, given the specificity of the way in which different phages interact with only particular forms of bacteria, and given the manner in which different bacteria are developing resistance to many kinds of antibiotics, and given the way in which antibiotics are often indiscriminate with respect to the kinds of bacteria that are attacked (which, sometimes, includes bacteria that are playing useful roles in human health), and given that no significant class of new modalities of antibiotics have been discovered in more than three decades, phages have the potential to serve as a form of medical treatment that could replace the use of antibiotics which, as noted earlier, are becoming less effective, harder to invent anew, and, as well, sometimes have downsides in relation to the good bacteria that are killed by the use of such antibiotics.

Nevertheless, while phages might be best known for their ability to lead to the death of specific kinds of bacteria – as was evident in the case of the work of the Russian scientist, Zinaida Yermolyeva in conjunction with cholera – phages are not necessarily just agents of death. Like the processes of methylation and acetylation which help to modulate how the epigenetic dynamics of nucleic materials are processed under different circumstances within human cells or microorganisms, so too, phages also give expression to this dimension of modulation in which death merely constitutes an extreme form of that sort of activity in conjunction with: A bacterium (e.g., when the latter has reached the natural end of its series of life-cycles); a colony

(e.g., when the activities of certain bacteria within the colony threaten the colony and, consequently, must be removed from that colony), or a given aspect of ecological functioning (e.g., when a given ecological niche is threatened by the dynamics to which a particular colony of bacteria is giving expression in relation to such a niche).

Even when it comes to the issue of killing bacteria, the task of a particular phage might not be to eliminate all of a species or a strain of a given kind of bacteria with which the former entity comes in contact. Perhaps, even when the termination of a bacterium or group of bacteria takes place, the task of a phage might only be to ensure that the activities of such a bacterium or set of bacteria are constrained or limited or that their numbers are kept below some tipping point threshold so that the overall functioning of a bacterial colony or a given ecological niche is not pushed into the sort of instability if such a bacterial form was able to establish full spectrum dominance over a given aspect of ecological dynamics, and Tom Ireland himself appears to admit as much when he indicates that phages "… keep bacterial growth in check in every known ecosystem."

The foregoing considerations might have induced me to get ahead of the story, so to speak (which will be more fully developed in the following chapter). Therefore, let's take a look at certain additional themes concerning the history of phages before returning to the foregoing sorts of considerations.

A Cambridge scientist by the name of Ernest Hanbury undertook an 1892 field trip to India in order to study various kinds of infectious diseases. One of things which he discovered was that water from the Ganges River was able to incapacitate a culture of cholera bacteria in less than three hours – something that boiling water containing such bacteria could not accomplish.

There appeared to be something in that river's water that had an anti-bacterial effect – at least in conjunction with cholera. However, what that "something" might be was unknown.

In 1898, Martinus W. Beijerinck -- who was a faculty member at the prestigious Technical University located in Delft, Netherlands -- released results of his research concerning a disease which affected tobacco plants. He claimed to have found evidence indicating that

whatever was causing the disease affecting the leaves of such plants was smaller than the smallest bacteria known at that time.

More specifically, using a porcelain filter, Beijerinck found that if one passed a fluid which contained material from an affected tobacco leaf through the foregoing kind of filter, then, although all bacteria were believed to have been removed from the fluid, nonetheless, the filtered fluid was capable of transmitting something to tobacco plants that would result in plant disease. Professor Beijerinck didn't refer to the mysterious entity as a virus but used the term "contagium vivum fluidum" -- which means 'infectious living fluid' – as a way of referring to the phenomenon.

The foregoing term used by Professor Beijerinck to describe the tobacco disease might have been a misnomer. This is because at the time he had no way of knowing whether, or not, what was causing the disease involved some sort of living organism as opposed to a poison of some kind.

Based on his experiments, he knew that the entity was capable of diffusing through bacteria-containing agar (a polysaccharide-based complex consisting of a heterogeneous mixture of various kinds of molecules). He also knew that the unknown agent required a living plant in order for the unknown agent to be viable – which might suggest that whatever that agent was, it did not exist on its own and, therefore, might not be form of life.

Independently of Martinus W. Beijerinck, Dmitry Ivanovsky, a Russian scientist, had actually started to study the same Tobacco Mosaic Disease in 1887 more than ten years prior to the public release of research by Professor Beijerinck. Ivanovsky began his research by replicating, and in the process verifying, experiments that had been conducted by Adolf Mayer nearly a decade earlier.

More specifically, in 1879, Mayer, a German, was director of the Agriculture Experimental Station in Wageningen, Netherlands. He had been asked by various Dutch farmers to undertake some research concerning a disease that was affecting tobacco plants.

Seven years later, in 1886 – a year before Dmitry Ivanovsky began his research into the disease that was affecting tobacco plants – Mayer published a report. He named the disease "mosaic disease of tobacco."

His experiments demonstrated that the sap of the leaves of diseased plants contained whatever was causing the plant to exhibit a brown and green mosaic pattern which was symptomatic of the presence of the disease.

Ivanovsky repeated the experiments of his predecessor, Mayer. He removed the sap from affected tobacco leaves, and, then, proceeded to inject that sap into healthy plants.

Nearly 80% of the previously healthy plants began to display the tell-tale sign of the brown and green mosaic pattern on their leaves indicating the presence of disease. Whether Ivanovsky, or anyone else at the time, asked why 20%, or so, of the healthy plants did not develop the disease is uncertain, but the existence of such a large percentage of plants that did not become diseased despite having the suspect sap injected into them gives one pause for thought.

When Robert Koch laid down the principles that were critical to determining whether something caused a given disease, he had indicated that if one could show that there were instances in which the presence of the alleged cause did not result in the onset of the disease, then, this constituted evidence that the alleged cause was not necessarily responsible for the observed disease. To be the cause of a given disease, then, in every case, the presence of the cause had to be followed by the appearance of the disease being attributed to that cause.

Consequently, if something in the sap from diseased tobacco plants was the cause of such pathology, then, why were 20% of the plants able to avoid becoming diseased? Moreover, if whatever was causing the tobacco plant disease was present in the sap from diseased plants being injected into healthy plants, then, what was the nature of the disease process in the 80% of the previously healthy plants that began to exhibit the mosaic disease symptoms?

Adolf Mayer believed that some sort of small bacteria or toxin might be the cause of the plant disease. A decade later, Martinus W. Beijerinck maintained that the cause of the disease was an “infectious living fluid.”

However, neither Mayer nor Beijerinck could explain why 20% of the experimental plants remained healthy. Moreover, neither of those

two individuals could actually explain the nature of the disease process.

Was the cause of the disease a toxin of some kind, as Mayer thought might be the case? Or, was the cause of the disease due to some sort of living entity, as Beijerinck believed, and, moreover, irrespective of whether, or not, either of the foregoing possibilities might be the cause, how was the disease induced?

Dmitry Ivanovsky – who came between Mayer and Beijerinck -- began to run a series of experiments testing different possibilities in an attempt to get a better idea of the disease process. For example, he filtered the sap through what is known as a Chamberlin Candle which was, at that time, believed to be capable of removing whatever bacteria might be present in such sap, but when tobacco plants still showed evidence of the presence of disease after the sap had been run through the aforementioned filter, he concluded that whatever the cause of the mosaic disease might be, it was unlike anything that was understood to be capable of inducing disease up to that point in time.

He also ran experiments in which he crushed up the dead leaves of diseased plants and distributed that material in the soil around a healthy tobacco plant. This led to previously healthy plants becoming diseased.

Yet, other experiments were conducted in which diseased plants were placed next to healthy plants. He found that healthy plants remained healthy despite being in the proximity of diseased plants.

He also performed an experiment in which he heated the sap from diseased plants to determine what would happen when sap treated in that manner was injected into healthy plants. He discovered that heat-treated sap no longer led to the onset of disease when it was injected into healthy plants.

After concluding his experiments, he wrote up a report in 1902 concerning the mosaic disease that affects tobacco plants. Among other things, he hypothesized that the cause of the tobacco disease was either due to an unknown form of bacteria of some kind or, perhaps, a toxic molecule.

In 1946, Wendell Stanley, a scientist who had been working at the Rockefeller Institute for more than a decade, received the Nobel Prize

for his work with the entity that was said to be the cause of tobacco mosaic disease. He had discovered a way to purify whatever was in the sap from diseased leaves of the tobacco plant.

Although individuals such as Mayer, Ivanovsky, Beijerinck, and others had been able to produce cultures with sufficient toxicity to show that there was something in the sap of leaves from diseased tobacco plants that appeared to be able to cause mosaic disease in previously healthy plants, the degree of the purity of the apparent causal agent of tobacco mosaic disease was often limited, and this tended to create problems in relation to various aspects of research. However, when Stanley developed a way of using a lead acetate precipitation process in conjunction with a new method of centrifugation, he was able to produce a crystallized form of the apparent causal agent underlying tobacco mosaic disease that enabled scientists to, among other things, get consistent experimental results when dealing with that disease.

Experiments were run by Stanley which dissolved and re-crystallized his causal entity across fifteen such cycles. On each occasion, the re-crystallized complex led to the emergence of mosaic disease in the plants to which it had been applied.

Stanley believed that the crystallized form which his protocol produced was a protein of some kind. Yet, the chemical weight of the putative crystalline protein was 17 million times the weight of the heaviest protein known at that time.

Either the entity that appeared to cause mosaic disease in tobacco plants was a very heavy protein which had not been previously discovered, or the crystallized entity was some other kind of "stuff." In the mid-to-late 1930s, several Cambridge University scientists -- Norman Pirie, a biochemist and virologist, along with Frederick Bawden, a plant pathologist and virologist -- conducted a number of experiments involving the purported crystallization of agents believed to be implicated in certain kinds of plant diseases and came to the conclusion that the so-called "crystallized" causal agents were not true crystals (apparently, they lacked the regular three-dimensional structural properties of true crystals) and, in addition, their findings indicated that nucleic acids as well as proteins appeared to be present in those complexes.

Being virologists, Pirie and Bawden declared that the causal agents which had been "crystallized" in conjunction with various plant diseases were "viruses." Because their research findings indicated that nucleic acids (RNA) as well as proteins appeared to be present in the apparent causes of different plant diseases, they were of the belief that the causal agents of various plant diseases were more complicated than had been supposed by Stanley who previously had concluded that a protein of some kind was responsible for such diseases.

However, their research took place at a time prior to the discovery that RNA and DNA were molecules which were capable of carrying genetic information. Consequently, they did not appreciate the significance of their findings.

The characterization of such "viruses" advanced by Pirie and Bawden was more complex than that of Wendell Stanley. Nevertheless, what viruses were or how they worked was still a mystery.

Notwithstanding the differences in their respective descriptions of viral entities, Pirie, Bawden, and Stanley were still operating out of a shared conceptual framework. In other words, because none of the three individuals had any idea of how a protein or a combination of proteins and nucleic acids led to the emergence of various kinds of plant diseases, their paradigm was rooted in the original sense of the term "virus" – namely, that it was a toxin of some kind … possibly proteinaceous, or possibly a mixture of proteins and nucleic acids.

The discovery of phages is a twice-told tale. One tale involves Frederick Twort, an Englishman who studied medicine at St. Thomas Hospital, received a medical degree, and, then, settled into a career of scientific research, while the other tale involves a possible Canadian (but could have been French or Belgian) by the name of Felix d'Herelle, who liked to travel, was an autodidact, had an interest in microbiology, and seemed to have a knack for generating controversy of one kind or another.

While Twort was going from success to success in which he invented a staining technique that was useful in microbiology as well as made some important contributions concerning the bacteria that were associated with wasting disease in cattle, d'Herelle's career in microbiology began with a failed project that attempted to discover a method for converting maple syrup into whiskey, before his career

path began to gain some traction when he accepted a job in Guatemala in which, despite the absence of any formal education or training in bacteriology, he was placed in charge of carrying out bacteriological examinations for patients at the General Hospital in Guatemala City.

d'Herelle moved further along his career ladder in Mexico. He had been hired by the Mexican government -- hired, despite the absence of any formal education or training that would qualify him -- to be a doctor of sorts.

Over time, Twort and d'Herelle became employed in different parts of the world as well as were engaged in different kinds of bacterial research. However, both Twort and d'Herelle began to become aware of the same kind of phenomenon.

Twort had been trying to find a way of culturing 'viruses' in the original sense of the term – that is, non-filterable entities (meaning they were smaller than bacteria) which had toxic properties. While experimenting with a variety of possibilities, he began to notice there were some dishes that contained bacterial colonies which were exhibiting plaques or holes where bacteria previously had been present but were now absent.

He took material from these plaque areas and examined them under a microscope. There was no sign of bacteria in such material, only tiny granules of some kind.

He passed a diluted solution containing those granules through a porcelain filter in order to ensure that no bacteria of any known kind would remain in the liquid preparation. When he transferred a small portion of the filtered liquid to a bacterial colony, the same holes or plaques formed, and, eventually, the entire bacterial colony disappeared, once again leaving only tiny granular material behind.

The First World War brought Twort's research to a close. In 1915, he submitted an article on the foregoing phenomenon and submitted the paper to *The Lancet*, a well-known medical journal.

Twort was uncertain what he had discovered. Maybe the plaques or holes in the bacterial colonies were due to some form of enzyme that had a capacity to expand its presence, or, perhaps, the holes in the bacterial colonies were due to some sort of formless protoplasm.

Moreover, he did not rule out the possibility that there was some sort of virus or toxin present in the filtered solution which was poisoning the bacteria. Interestingly enough, however, Twort's uncertainty concerning whether, or not, a virus of some kind might be present was rooted in his observation that "we do not know for certain the nature of such a virus."

Meanwhile, d'Herelle had moved on from his doctor-like medical position in Mexico. Somehow, just as he had done in Guatemala as well as in Mexico, he managed to secure a position for which he was not necessarily qualified. This time he had been accepted to serve as an unpaid lab assistant in the Pasteur Institute in France.

Eventually, he worked his way to being appointed as the head of one of the laboratories at the Institute. In 1915, the same year that Twort had written his article on the plaque phenomenon, d'Herelle was dispatched by the Pasteur Institute to help out with an epidemic of dysentery that had broken out among French troops who were billeted near Paris.

Dysentery is characterized by painful cramps, diarrhea dehydration, considerable loss in body weight, and if not successfully treated, the disease can result in death. Many forms of dysentery are associated with one, or another, strain of the Shigella bacteria.

While in Mexico, d'Herelle had studied locusts that had been afflicted with some sort of disease. During that period of research (somewhere around 1910), he had come across the same phenomenon as Twort had previously encountered when the latter individual was searching for a way to culture viruses prior to the war.

More specifically, d'Herelle had observed the same sort of plaques or holes in bacterial samples that he was studying as Twort had observed in his own bacterial samples. Unlike Twort, d'Herelle did not publish his research, but d'Herelle did have an idea that did not seem to have occurred to Twort – namely, why not try to use whatever was causing bacteria to disappear in the lab to counter the presence of bacteria in individuals who were suffering from dysentery?

d'Herelle began to collect stool samples from the sick soldiers. He diluted those samples, ran the solution through a porcelain filter to remove whatever bacterial entities which might be present, added the

filtered solute to a colony of Shigella bacteria, and, then, put the flask mixture aside to await what might, or might not, happen by leaving the mixture to itself until the next day.

Prior to adding the aforementioned filtered solution to the bacteria-containing flask, the presence of Shigella had rendered the mixture in the experimental flask opaque. However, after having added the filtered solution to the bacteria in the flask the night before, the next day d'Herelle found there was no indication that Shigella bacteria were present in the flask because the bacterial-caused opaqueness of the flask mixture had completely disappeared.

d'Herelle attributed the disappearance of the Shigella bacteria to the presence of some sort of entity that could not be filtered out by a porcelain filter. He referred to this entity as a filterable virus and further stipulated that the entity had had a toxic, parasitic impact on the Shigella bacteria in the flask.

According to d'Herelle, when he provided his wife and two children with an account of his experiment, his wife asked him what he was going to call the entity that was capable of countering the presence of bacteria. The four family members began to suggest and, then, consider an array of names before settling on the term: "bacteriophage" which means: "eater of bacteria."

Since neither d'Herelle nor his family members actually knew what was taking place in the flask containing the filterable virus and the Shigella bacteria, the notion that the filterable virus was eating bacteria was not necessarily warranted. The mixture in the experimental flask might not have gone from being opaque to being transparent because the bacteria present in the flask had been eaten but because those bacteria had been induced to die by a viral entity of some kind, and, in the process of dying, the living, cellular bodies which had generated the opaqueness in the flask might have decomposed and, as a result of this process of decay, the nano-sized cellular contents of those bodies –- many of which were enzymes capable of helping (with some assistance from room temperature and/or ultraviolet light during daylight hours) to dismantle such dead bacteria -- spilled into the liquid mixture of the flask, thereby, joining the nano-sized filterable viruses, and due to their respective nano-scale sizes, both were invisible in the liquid that remained.

In 1917, d'Herelle presented a short two-page paper to the French Academy of Sciences. The presentation was entitled: "On an invisible microbe antagonistic to dysentery bacilli," and during the course of the presentation, he claimed that he had discovered a new form of life.

Of course, one can debate what is meant by life. However, given that d'Herelle didn't actually know what the nature of the entity was that he had been studying – other than that it seemed to have properties which were antagonistic to dysentery bacilli – then, one might entertain the possibility that his 1917 claim concerning having discovered a new form of life was somewhat premature.

The following year – 1918 – he followed up with an article about an experiment which he felt demonstrated that whatever his virus was, it was not a liquid with some sort of capacity to grow. According to d'Herelle, if the filterable antagonist to dysentery bacteria were such a liquid, then if one were to spread a highly diluted solution of that liquid across a surface containing the dysentery bacilli, one might anticipate that there would be a uniform form of antagonism that would be manifested across the entire surface.

However, the plaques or holes that formed were not uniform in nature. The plaques emerged in sporadic fashions that were unpredictable.

On the other hand, he was able to calculate how many holes emerged in a given bacterial colony over time. d'Herelle used this number to work out a technique for establishing the number of filterable viruses which had been in the original sample, and, this technique seemed to indicate that his filterable virus was a particulate entity of some kind.

What his counting technique couldn't tell him, however, was anything about the actual nature of the individual particulates. He could tell how many of them there were, but he still didn't understand what they were nor did he know any specifics about the nature of their antagonistic dynamic involving dysentery bacilli.

d'Herelle's proclamations concerning his discovery were met with considerable opposition. Some scientists -- forgetting, apparently, that the particulate (whatever it might be) had a chemical weight 17 million times greater than the largest protein known at the time --

believed that the filterable virus was not necessarily a life form but, rather, could be a ferment or enzyme of some kind.

Other scientists maintained that the filterable virus might give expression to a self-destructive capacity that emerged during a certain part of the life-cycle of bacteria. In referring to such a perspective, Tom Ireland, author of *The Good Virus*, inserted the following parenthetical phrase – "very far off" next to the idea.

One can't help but wonder why Ireland should suppose that the idea of bacteria, themselves, possibly being the authors of their own demise is "very far off" the mark. Béchamp, Enderlein, and Rife – all of whom were contemporaries of d'Herelle – believed that bacteria were pleiomorphic in character and, therefore, might have the capacity to enter into stages of their life-cycle in which their morphological and functional properties changed.

Human cells have the capacity to self-destruct during the process of apoptosis. So, why automatically reject the possibility that bacteria also could have a similar capacity to self-destruct under certain conditions and that the filterable viruses being studied by d'Herelle might be giving expression to a pleiomorphic life-cycle change in which the morphology and functionality of the bacteria were altered and that those sorts of changes led to the death of the bacteria that were affected in this fashion?

Perhaps, the filtered viruses which d'Herelle was applying to plates of dysentery bacilli might serve as a catalyst of some sort that induced vulnerable bacilli on the experimental plate to enter into a self-destructive stage of its pleiomorphic life-cycle. Tom Ireland is engaging the d'Herelle experiments through the lenses of modern viral theory in which viruses are believed to: Invade, enter, infect, take-over host metabolic machinery, replicate, and, then, depart from a host (sometimes with lethal consequences and sometimes without such consequences).

As a result, Ireland believes he knows what is taking place on the surfaces of the experimental plates when what are termed 'filterable viruses' meet with dysentery bacilli. Yet, much of what he believes he knows could be nothing more than a hermeneutical narrative which is being used to interpret a dynamic that no one – from the time of

d'Herelle until the present time – has actually observed taking place at close quarters.

Ireland's understanding of the foregoing sort of dynamic might be correct. However, if it is, this is not because he has been a witness to the specific dynamics that are taking place when a filterable virus engages dysentery bacilli, but, rather, the possible correctness of his perspective is due to the way in which a set of indirect data points and circumstantial pieces of evidence have been woven together in a manner that has captured aspects of such a dynamic but were collected long after the career and life of d'Herelle were over.

In the next chapter, arguments will be presented for why the understanding of Tom Ireland –- and those with whom he agrees with respect to the issue of viruses -– might either be incorrect in certain ways with respect to what could be happening when phages engage bacilli or reasons will be given in support of an alternate theory that can be advanced which is as tenable as anything that Ireland and those whom he seeks to popularize are saying about the nature of the way in which phages interact with bacilli. For now, however, raising a modicum of doubt concerning Ireland's interpretation of the nature of the interaction between filterable viruses and bacilli will have to be sufficient.

The next part of the d'Herelle-phage saga took place in Paris. A youth had been admitted to a Paris hospital in 1919, and he was exhibiting many of the symptoms of bacterial dysentery.

Several days prior to the youth's arrival at the hospital, d'Herelle had informed the head of pediatrics at the same hospital that a treatment for bacterial dysentery had been developed. The traditional ways of treating this kind of disease had been to administer various toxic chemicals such as arsenic derivatives or mercury compounds and -- as is the case in conjunction with many modern treatments of cancer -- hope that the bacteria responsible for the illness would succumb before the toxicities associated with the treatment had a fatal toll on the patient.

The head of pediatrics at the hospital was aware of the downsides associated with traditional forms of treatment. However, he didn't know anything about whether, or not, what d'Herelle's was offering would be either safe or effective, and, as a result, he told d'Herelle that

if the new form of treatment could be shown to be safe, then, the pediatrician would administer the treatment.

d'Herelle, as well as members of his family, had been imbibing phage solutions for a period of time without any ill effects. Consequently, in order to provide the pediatrician with a demonstration of how safe phages were for human beings, d'Herelle offered to drink a solution that would be a hundred times as potent as the one that would be given to the sick youth at the hospital.

Twenty doctors agreed to participate in the experiment as well. When no ill effects were reported the next day by any of the participants in the foregoing experiment, the hospital's head of pediatrics agreed to administer the suggested dose to the sick youth.

Following the treatment, the youth's health improved. After several days, all Shigella bacteria seemed to have disappeared from the stool specimens that were taken from the youth, and a few days later, the youngster was released from the hospital.

The foregoing series of events appeared to indicate that phages might be an effective and safe way to treat at least some forms of bacterial dysentery. Nonetheless, because individuals suffering from the effects of dysentery were known, on occasion, to be able to recover without having had any form of treatment, d'Herelle felt that the issue needed to be further explored.

Following the treatment of the aforementioned youth, d'Herelle had moved to the French countryside. While there, he learned about a Salmonella outbreak among chickens.

By analyzing stool samples from affected chickens, he began to observe the way in which the disease spread. More importantly, perhaps, he also noticed that at certain points during the disease process, phages would begin to appear that were able to counter the presence of the Salmonella bacteria.

Based on his experience with soldiers as well as with chickens, d'Herelle came to the conclusion that phages often started to show up when animals – whether human or chicken – had begun to recover. This observation led him to entertain the possibility that phages might be naturally present in human beings and, if so, that presence might be able to explain why some people seemed to be able to undergo a

spontaneous form of recovery from diseases which emerged when problematic forms of bacteria were present.

If his intuition was correct, then, perhaps individuals who became ill with a bacterial disease did not have adequate amounts of the right sort of phages within them. Given such a possibility, phage therapy might be a way of providing such individuals with the sorts of phages that were needed to combat this or that bacterial-based illness.

Nearly a century after d'Herelle introduced the foregoing possibility science has shown that his idea has some merit. More specifically, researchers have established that not only are phages actively recruited within the intestines to defend against the presence of problematic forms of certain bacteria, but, as well, such phages are sometimes actively transported to different facets of the intestines where some form of bacterial disturbance has arisen.

The foregoing research gives expression to something of considerable importance. Contrary to the usual view that phages are merely engaged in "random walks" about the environment – walks which, occasionally, brings them into contact with vulnerable sorts of bacteria – research has shown there are cells within the intestine which actively engage in a form of dynamics that not only bring certain phages to those cells, but, as well, there also are processes which are capable of transporting those phages to other cells in the intestine.

The foregoing research suggests there is some sort of symbiotic relationship between various organisms and, at least, some kinds of phages. Furthermore, the same research appears to indicate that phages are present and available within an organism and, under certain circumstances, can be actively called upon for assistance.

However fatal the presence of some phages might be to certain bacteria, the aforementioned sort of symbiotic relationship does not seem to readily fit into a profile that characterizes phages as entities that invade from without, and, then, proceed to: Infect, take over the metabolic machinery of a host, replicate, and, then, escape in order to be able to randomly drift somewhere else and begin the invasion/infection process again. How do the aforementioned intestinal cells know which phages to recruit, and how are those phages recruited, and what has oversight over the transporting of phages to different locations within the intestine?

In 1920, d'Herelle headed for Saigon to study a variety of diseases. Whether the trip was voluntary or a temporary form of forced exile is not entirely clear.

d'Herelle's idea that phages might be an inherent part of a human being's natural set of defenses against certain illnesses was in direct opposition to Jules Bordet -- the director of the very Institute (Pasteur) that employed d'Herelle. In the not too distant future, Bordet would be awarded a Nobel Prize for contributing to the notion of an immune system that relied on antibodies, rather than phages, as protectors of human health.

While in Saigon and surrounding areas, d'Herelle engaged in research concerning a number of diseases. He also continued to develop his perspective that phages might have an essential role to play, both, naturally and medically, with respect to being able to help defend human beings against bacterial illnesses.

In addition, due to his commitment to the foregoing idea, he began to be quite vocal in his criticisms of the vaccine/serum industry. He believed that those products were based on a totally incorrect understanding of how the body defends itself.

The foregoing criticisms helped to generate an atmosphere of considerable awkwardness – as they probably were intended to do – because the Pasteur Institute made a lot of money through the preparation and distribution of vaccines and serums to different parts of the world … including Indochina where Saigon was located. One of the vaccines that d'Herelle singled out for special disparagement was the BCG tuberculosis vaccine, and the C in "BCG" was an allusion to the contribution that had been made by Albert Calmette during the development of the BCG vaccine, and, it just so happened that Calmette was d'Herelle's boss at the Pasteur Institute.

When d'Herelle returned from his research trip to Saigon later in 1920, he discovered – perhaps not surprisingly – that his laboratory had been turned over to someone else and his phage projects had been defunded. To add insult to injury, a number of former members of his former laboratory had been tasked by The Pasteur Institute to demonstrate that d'Herelle's bacteriophage was not a virus.

Given that phages were a thousand times smaller than bacteria and, as a result, could not be filtered out of solutions, and given that phages could be proven to have a toxic impact on bacteria, one has difficulty understanding how anyone would be able to demonstrate that phages were not viruses in the sense such entities were understood at that time. More specifically in the 1920s – and for another three decades -- being able to exhibit toxic properties as well as being able to bypass all filtering efforts gave expression to the two primary properties that established something as being a virus.

During that period, although some of the properties of viruses were known – for instance: They were considered to have toxic or poisonous properties; they were particle-like; they were smaller than bacteria, and they seemed to have proteinaceous as well as nucleic acid characteristics – nonetheless, no one actually knew what viruses were. Furthermore, no one knew how whatever they were did whatever they did.

In 1921 d'Herelle published a book. It was entitled: *Bacteriophage and Its Role in Immunity*.

Over the next five years he developed his theory of bacteriophages. Among other things, during this time, he argued that viruses must be able to attach themselves to their target in some fashion, and he also claimed that available evidence seemed to indicate that not only were viruses capable of increasing their numbers but, as well, they seemed to have the capacity to escape from their bacterial hosts and, finally, he indicated that during the escape phase of phage activity, bacteria tended to die.

As d'Herelle's scientific credibility and reputation were soaring to new heights, controversy reared its ugly head. A young scientist, André Gratia -- who had been mentored by Jules Bordet, the head of The Pasteur Institute -- had stumbled across an old 1915 edition of the Lancet journal which contained a report by Frederick Twort that made reference to a viral-like entity that seemed to be very much like the phages that d'Herelle had been talking about, and, yet, the Lancet article had been written several years before d'Herelle had released details of his own research.

Independent discovery of the same sort of entity, idea, principle, or phenomenon sometimes does happen in science. However, Bordet,

Gratia, along with the members of a clique known as the Belgian Group who were aligned with Bordet and, consequently, were opposed to d'Herelle's work, decided that the latter individual was a fraud and a plagiarist.

The foregoing group of antagonists began writing to one another in order to formulate strategies that might be able to help destroy d'Herelle's professional credibility. There was nothing very scientific in any of those exchanges, but, rather, the motives being given expression in those missives were rooted in self-serving, ego-driven, political, career-based, and financial considerations.

Rumors had been flying fast and furiously that d'Herelle, once again, was being considered for a Nobel Prize (some reports indicate that, over the years, d'Herelle's research had been forwarded a multiplicity of times for consideration by one, or another, Nobel committee). In one letter sent by Gratia to Calmette, Gratia pushed the idea that an article concerning Twort's earlier work should be published before the Nobel committee reached a decision about who should receive the Prize because Gratia and others were worried that d'Herelle's work might be given preference over the contributions that Calmette had made to the BCG vaccine.

There are individuals who have maintained that d'Herelle knew about Twort's work prior to publishing his own findings. Apparently, such a perspective is based on a letter that, somewhere along the way, a letter had been uncovered which d'Herelle allegedly had written to Twort that seemed to indicate the former individual knew about Twort's work before proceeding to publish his own research on phages.

In 2007, a French historian of science, Alain Dublanchet, introduced considerations that indicated the aforementioned letter allegedly written by d'Herelle might have been a forgery. Even if d'Herelle had been aware of Twort's research before publishing his own findings, this doesn't, in and of itself, prove that d'Herelle couldn't have independently noted the same phenomenon as Twort was discussing in his 1915 paper and, in fact, d'Herelle's independent observance of the plaque phenomenon might have been why he had taken the time to write to Twort.

Notwithstanding the foregoing considerations, whatever the similarities between the empirical observations of Twort and d'Herelle might have been – which was primarily limited to the fact that plaques or holes appeared in bacterial colonies that were exposed to certain 'filterable viruses' -- there were important differences between the two streams of research. For instance, Twort never appeared to consider the possibility – as d'Herelle had done – that the 'filterable viruses' or bacteriophages being discussed could be used as a medical treatment to counter bacterial illnesses.

Moreover, it was d'Herelle, and not Twort, who had been willing to drink a solution of phages in order to prove their safety prior to successfully treating an eleven year old youth who had been suffering from bacterial dysentery and had been admitted to a Paris hospital. In addition, based on his observation of sick French soldiers and chickens, it had been d'Herelle, and not Twort, who had noted the possibility that phages might be a natural part of the way in which human beings fought off bacterial illnesses and had written a 1921 book in defense of that idea. And, finally, it had been d'Herelle, rather than Twort, who had set up a Paris lab – Laboratoire du Baceriophage – which developed and sold a half dozen, or so, phage-based medicines intended to treat different kinds of bacterial illnesses.

Jules Bordet, André Gratia, the various members of the Belgian Group, and Albert Calmette -- who, at some point, had joined the character-assassination activities of his colleagues -- should have been ashamed of themselves. Unfortunately, just as the namesake of the Institute in which they were ensconced -- namely, Pasteur – had behaved so abysmally in conjunction with Antoine Béchamp and had been associated with an array of vaccine failures many years before, so too, the intellectual heirs of Pasteur followed in the same characterless footsteps as their predecessor had made previously.

A network of so-called scientists and researchers emerged which sought to stack-the-deck, so to speak, in a game they called "science" and that network was very active in trying to censor, discredit, and cast aspersions upon d'Herelle. If one wanted an article published or wanted a realistic chance of securing a teaching or research position, one had to curry favor with that network and take the network's side

in the d'Herelle issue quite apart from issues of empirically provable facts or the presence of rigorous critical inquiry.

Nearly eighty-five years later Dr. Marcia Angell, said: "It is simply no longer possible to believe much of the clinical research that is published, or to rely on the judgment of trusted physicians or authoritative medical guidelines. I take no pleasure in this conclusion, which I reached slowly and reluctantly over my two decades as editor of *The New England Journal of Medicine.* Apparently, the same sort of game continues in the 21st century.

Following the emergence of the controversy over who had priority of discovery concerning the issue of phages or filterable viruses, André Gratia and Frederick Twort became good friends. Certainly, Twort enjoyed the attention that was being directed toward some research which he had carried out more than a decade earlier, and during the revival of interest in his previous research, he even proffered his opinion that after having considered a number of alternative possibilities, perhaps, the virus which was causing plaques to arise in bacterial colonies was due to some sort of enzymatic action.

Whether, or not, Twort was aware of any of the underhanded machinations that were being conducted against d'Herelle is unknown. Perhaps, Gratia befriended Twort because the former saw the latter as a useful 'idiot' who might have value in the campaign that was being waged against d'Herelle.

On the other hand, Gratia not only wanted Twort's work to be acknowledged as having priority over d'Herelle's research, but, in addition, Gratia was trying to encourage people to consider Twort as having been the individual who also had proposed the idea of phage therapy.

Twort had not developed his research on 'filterable viruses' much beyond being able to show that those entities seemed to be related to the plaques or holes that formed in bacterial colonies which had been exposed to certain filtered solutions. However, little, if anything, seems to have been said by Twort with respect to the fact that the whole idea of phage therapy belonged to the discoveries and ideas of d'Herelle, and if Twort, in fact, didn't say much in this regard, then, one has to wonder why he didn't because, after all, the whole reason why his

research was experiencing a renaissance was due to the issue of priority.

In 1927, d'Herelle conducted an extensive field trial in India involving phage therapy. The trial was called the *Bacteriophage Inquiry* and was directed toward the treatment of cholera which was a persistent problem in many parts of India.

In one way or another, more than a million individuals were involved in the trial. However, there were many problems with the manner in which the trial was conducted.

Doctors who tended to the needs of rural villagers were provided with supplies of phages. The phage medicine was to be given to villagers who exhibited symptoms of cholera.

However, when the running of the field trials was turned over to a microbiologist from Yugoslavia, phages were dumped into wells from which both local villagers as well as pilgrims drew their drinking water. This procedure undermined scientific rigor because one had difficulty differentiating between people who had been exposed to the phage therapy (the experimental group) and those who had not been exposed to that therapy (the control group). As a result, one would have trouble determining whether, or not, the phage therapy was working because one had no clear-cut control group against which to compare the experimental group results.

Furthermore, for various reasons, many individuals who were serving as doctors in various rural areas did not keep meticulous records of their activities. Consequently, one was not certain who might have received some form of phage therapy but had not been recorded in the trial ledgers.

In addition, inhabitants of certain villages had been designated as members of the control group. Unfortunately, news concerning the phage therapy had created a great deal of interest as well as demand and, therefore, phage materials were being widely traded, distributed, and used almost everywhere, including villages that were supposed to be part of the control group.

Ethical issues also entered into the trial. If the phage therapy worked, then, could one morally justify assigning people to a control

group, and, in the process, render them vulnerable to a debilitating illness and, possibly, death?

The foregoing considerations often emerge in conjunction with the use of modern vaccines. However, methodologically speaking, such an ethical question tends to put the conclusion cart before the experimental horse because if one is uncertain whether, or not, a given treatment is safe and effective, then, the reason why field trials are conducted is to be able to gather the empirical data that is necessary to enable one to rigorously resolve the foregoing sort of uncertainty in one direction or another.

Although data suggested that pilgrims who had journeyed to the Ganges to fulfill certain spiritual traditions had suffered only one-eighth of the incidence of cholera as had been the case in areas removed from such religious observances, record keeping had been so hit and miss and phage therapy had been made available to so many people that interpreting the data proved to be quite difficult.

d'Herelle claimed that the large field trial had demonstrated how one could provide phage therapy at a fraction of the costs which were required to engage in mass programs for disinfecting water supplies and vaccinating people. Nonetheless, because of a failure to establish and maintain integrity with respect to the manner in which the field trial was conducted, all conclusions, financial or otherwise, concerning the significance of the data that had been collected over a period of nine years (1927 – 1936) were surrounded by a cloud of uncertainty.

In 1926, d'Herelle had travelled to Egypt to apply his phage therapy to an outbreak of bubonic plague that was taking place in that country. However, he discovered that the strain of phages which he had been able to accumulate and successfully use during his visit to the Far East were relatively ineffective against the strains of bacteria which were present in the Egyptian cases of bubonic plague.

The foregoing finding, reasserted itself again and again, in the work of many individuals who became engaged in phage research after d'Herelle passed from the scene. Unless one could find a phage that was "right" in some sense for a given bacterial infection, then, the phage therapy tended to be unsuccessful.

Despite the various controversies, phage therapy – especially the work of d'Herelle -- had captivated and intrigued researchers in many parts of the world. One such individual was George Eliava who lived in Georgia, a country that is nestled among: Russia to the north and east; Turkey and Armenia to the south; Azerbaijan to the south and east, as well as the Black Sea to the west.

The young Georgian scientist first heard about phages in conjunction when he was the head of bacteriology laboratory in Tbilisi and had read about d'Herelle's discovery of bacteriophages in the latter's 1917 article. As a result, Eliava had journeyed to Paris in 1919 to study microbiology.

After several years of such intensive study, he returned to Tbilisi. In 1923, he established the Eliava Institute which was to be dedicated to pursuing the sort of phage research and phage therapy that resonated with, and reflected, d'Herelle's approach to these subjects.

d'Herelle and Eliava became fast friends. Although Eliava eventually left the Pasteur Institute, throughout the 1920s and early-to-mid 1930s, he continued to return to Paris and d'Herelle.

When Eliava became chairman of the department of microbiology at the University of Tbilisi, he began to think about enhancing the activities of the Institute he had founded in 1923. Part of his vision involved inviting d'Herelle to become a permanent part of the Institute and, as a result, he offered d'Herelle a position, complete with a cottage for d'Herelle's family, that would allow the 'father of phage therapy' to pursue whatever research projects he liked.

However, at the time, d'Herelle was also being pursued by other institutions. For example, in 1928, he was offered, and accepted, a faculty position in Yale's School of Medicine.

Perhaps not understanding – or caring – what it meant to be a faculty member at a university, d'Herelle abandoned the Yale campus not long after being hired in order to engage in a long, financially rewarding lecture tour across the United States.

In addition, on a fairly regular basis, he would return to his phage lab in Paris in order to attend to various aspects of the production process. Despite being paid a salary that was quite high for the times (Depression had come to America), d'Herelle indicated that if the

University wanted him to be in New Haven for the entire year, then he wanted more money.

To a considerable degree, his time at Yale was characterized by a series of disagreements. However, he did establish several courses that explored various aspects of protobiology (the term that was used in America to refer to the study of bacteriophages).

When the Russian revolution started in 1917, Georgia had declared its independence from Russia. However, by the time (late 1930s) that Eliava had been able to put the finishing touches on the new buildings and labs at his Institute in Tbilisi, Georgia had been overrun by the Communists, and following a series of disputes between Eliava and the Soviet government, he was, first, arrested in 1937 and, then, later executed for allegedly conspiring with foreign agents to produce toxic entities that were meant to harm the Soviet people.

At the time that Eliava was arrested and executed, d'Herelle was getting ready to move to Georgia and take his friend up on his offer of a position at the Eliava Institute. Not knowing that his friend had been executed, d'Herelle had continued to write to Eliava.

At some point following the death of his friend, d'Herelle had decided to move to Vichy. Unfortunately, shortly after arriving in Vichy, Germany invaded and took over France, establishing a collaborationist seat of government in the very city where d'Herelle had just moved.

Due to his Canadian passport, d'Herelle was considered to be an enemy of the German government. Consequently, he was kept under almost constant house arrest, and, as a result, both his research and health declined.

He died of pancreatic cancer in 1949. Twort lasted a year longer.

Both individuals died just a few years prior to the revolution in molecular biology that was about to take place. Despite the fact that the dominant paradigm being endorsed by many researchers around the time of d'Herelle's death was rooted in, among other things, the role that antibodies allegedly played in maintaining human health, to the very end of his life, d'Herelle believed that phages were

fundamental to both preventing bacterial illnesses as well as maintaining human health.

Chapter 6: What Are Phages?

When d'Herelle died in 1949, there still was considerable uncertainty concerning the nature of phages. The revelations of Crick and Watson concerning the double helix nature of DNA didn't occur until 1953, and the genetic code that linked ribonucleic acids to amino acids did not emerge until the early 1960s.

Consequently, although more and more details were being discovered about certain aspects of 'filterable viruses,' the notion or idea of a "virus" in the 1950s was still being dominated by an understanding that had been begun to be established in the late 1800s. More specifically, viruses were conceived of as entities that were: Smaller than bacteria; particulate in nature; possessed toxic properties or potential; were capable of increasing their numbers, and contained combinations of proteinaceous and nucleic materials.

Nonetheless, none of the foregoing considerations permitted researches to understand what viruses actually were. Moreover, well past the middle of the twentieth century, the dynamics that enabled viruses to do what they seemed to be able to do – e.g., kill bacteria – continued to elude the understanding of researchers.

Many individuals consider Francis Crick, a physicist from England, and James Watson, a biologist from America, to be the individuals who discovered DNA and went on to win Nobel Prizes for that discovery. However, the duo actually helped establish that the three-dimensional character of DNA was a helical structure.

Eighty-four years before Crick and Watson published their model of the DNA molecule, a Swiss physiological chemist by the name of Friedrich Miescher, was looking for one kind of molecule, but found another item of interest, instead.

His original experimental plan was directed toward extracting proteins that were believed to be present in white blood cells (leukocytes). Once isolated, he intended to set about identifying and characterizing those leukocyte components.

During the foregoing research, he uncovered another kind of molecule that was present in the nucleus of the cells he was studying. The new molecule had properties which were dissimilar to proteins.

First, the phosphorous content of the new molecule was quite high. In addition, the new molecule did not undergo any process of proteolysis in which a protein breaks down into individual amino acids or polypeptide structures of one kind or another.

He referred to the new molecule as "nuclein." The foregoing term was subsequently replaced by another term: "nucleic acid," and, eventually, the latter term was replaced by another two word phrase: "deoxyribonucleic acid," which, eventually, was reduced to just three letters: "DNA."

Nearly a century would pass before the significance of Miescher's discovery would begin to be recognized. Prior to the advent of DNA being understood as constituting the basic building blocks which helped give expression to processes of genetics, for a long time following the discovery by Miescher, many people believed that proteins were the merchants of heredity.

Early in the twentieth century, Phoebus Levene -- a émigré from Russia who first became a physician, and, then, later became a biochemist – is the individual who contributed considerable empirical specificity to Miescher's much earlier discovery of nucleic acids. For example, in 1909, after discovering how to isolate nucleotides (the basic unit of nucleic acids which consist of a phosphate molecule, a pentose sugar, and a nitrogenous base), Levene went on to identify the five-carbon-sugar (D-ribose) that is central to RNA.

Leven required another 20 years to discover the existence of 2-deoxyribose which can be derived from the D-ribose five-carbon-sugar (which had been discovered 20 years earlier) by removing an oxygen atom. This is the basic pentose sugar at the heart of deoxyribonucleic acid (i.e., DNA).

In subsequent studies he established how the different components of nucleic acids (phosphate molecule, a pentose sugar, and a nitrogenous base) come together to form nucleic acids. In addition, he worked out how different nucleic acids join together to form chains of nucleotides.

The foregoing research took place both prior to, as well as contemporaneously with, the previously discussed work of Twort and d'Herelle. Nonetheless, through the 1920s, 1930s, and 1940s (Levene

died nine years before d'Herelle – 1949 -- and ten years prior to Twort –1950), the only connection that had been made between nucleic acids and the phages is that there seemed to be some amount of nucleic acids associated with phages.

On the basis of his work, Levene believed that nucleotides had what he referred to as a "tetranucleotide structure" in which the same sequence of four nucleotides repeated themselves. The sequence was always: G-C-T-A (guanine, cytosine, thymine, and adenine.)

The microbiologist Oswald Avery, along with a number of his colleagues at Rockefeller University, wrote a research paper in 1944. The article gave expression to data and reasoning which suggested – but did not necessarily prove -- that genes (the units of heredity) might consist of nucleic acids since the researchers were able to show that DNA, rather than proteins, could transform benign forms of Streptococcus pneumonia into toxic pathogens.

Six years later Erwin Chargaff, an Austrian biochemist, developed a new way to perform paper chromatography (a technique for separating samples consisting of organic matter into identifiable components) and, then, used that technology to show that, contrary to the aforementioned tetranucleotide model of Levene, the sequences of nucleotides in different species of life are variable and do not follow any particular set of sequences as Levene had hypothesized.

Additionally, Chargaff came up with a rule (known as the Chargaff Rule) which described certain features of nucleic acids that appeared to remain constant across species. More specifically, based on the amounts of the different kinds of nucleic acid which were present in any given sample, Chargaff observed that the amounts of adenine and thymine tended to be roughly similar to one another and, as well, the amounts of guanine and cytosine also were similar in their quantitative presences.

He also noted that the total amounts of adenine and guanine were similar to the total amounts of thymine and cytosine. Adenine and guanine are both purines consisting of two-ringed structures made of carbon and nitrogen that form the nitrogenous base of two of the four nucleic acids that are basic to life as we know it, while cytosine and thymine are both pyrimidines consisting of organic rings made of four

carbon atoms and two nitrogen atoms which form the nitrogenous base of the other two nucleic acids that are basic to life as we know it.

The foregoing arrangement gives expression to Chargaff's rule. The total number of pyrimidines and purines in nucleic acids are equal to one another.

The major contribution that Crick and Watson made was to come up with a three-dimensional model of how nucleic acids interacted with one another. Linus Pauling had developed a method for constructing three-dimensional models of DNA, and after critically reflecting on different aspects of Pauling's method, Crick and Watson made cardboard-cutouts of the basic components of the different nucleic acids and, via a process of trial and error, were trying to figure out how those molecules might fit together.

They were stymied in their efforts because their understanding of how guanine and thymine were internally configured was not correct. In other words, they didn't know how the oxygen, nitrogen, carbon, and hydrogen rings in guanine and thymine were connected to one another.

Based on a suggestion from Jerry Donahue, Crick and Watson decided to try to reconfigure the way in which guanine and thymine might be internally configured. After some false starts, they came upon a configuration in which adenine could link up with thymine and, as well, cytosine and guanine also could be coupled via hydrogen bonds.

The model they devised formed a double helix. Furthermore, their model was consistent with Chargaff's rule – in other words, not only were the numbers of adenine and thymine molecules equal to one another, but, as well, the numbers of cytosine and guanine molecules were also equal to one another.

Using his own modeling technique, Pauling had proposed one kind of three-dimensional structure for DNA. Crick and Watson had come up with another model of what the three-dimensional structure of DNA looked like, and their model was a better fit with the available data.

X-ray crystallographic work by Rosalind Franklin and Maurice Wilkins provided empirical findings that were consistent with, and, therefore, provided corroboration for the Crick-Watson helical model.

Because Franklin died of cancer in 1958 and since the Nobel Prize is not offered posthumously, Wilkins, along with Watson and Crick, were presented with the award in 1963 (as a side note, a roommate of mine was taking a class in biology with Watson when the foregoing announcement was made.)

So, scientists now knew that the stuff of genetics is a function of molecules composed of nucleic acids, nitrogenous bases, as well as phosphates. They also knew that the numbers of purine bases (adenine and guanine) were equal to the numbers of pyrimidine bases (thymine and cytosine), and, in addition, they knew that DNA had a double-stranded helical structure in which purines and pyrimidines were linked via hydrogen bonds while attached to a phosphate backbone.

Nonetheless, despite what was known by 1960, researchers still didn't know how DNA worked. In 1961, a group of individuals led by Francis Crick introduced the idea of codons – which were conceived of as consisting of various combinations of three purine and/or pyrimidine bases – as a possible way in which nucleic acids might code for genetic directions.

Following up on Crick's idea, Heinrich Matthaei and Marshall Nirenberg determined later on during 1961 that UUU (three uracil bases which takes the place of thymine in RNA) was associated with the amino acid phenylalanine. Acting somewhat like a genetic Rosetta stone, the uracil-phenylalanine connection led in turn to the discovery of a set of 64 codons (a set with 64 members, and each member of that set was a triplet that combined purines -- adenine or guanine -- and/or pyrimidines -- cytosine, thymine, or uracil -- bases) that were parts of nucleotides which served as signals for the production of 20 different amino acids as well as three stop signs (which bring protein or amino acid/peptide synthesis to an end). This work was accomplished by a group of three researchers consisting of the already mentioned Marshall Nirenberg, together with Har Gobind Khorana and Philip Leder.

Given that there are only twenty amino acids which are coded for by 61 of the 64 nucleotide codons which had been identified, this means that in the case of some – perhaps most -- amino acids there will be more than one codon which can specify a given amino acid.

This dimension of the coding system is referred to as "redundancy" or, sometimes, as "degeneracy" – although the latter term seems to be a rather strange, if not misleading, way of characterizing the situation since the notion of "degeneracy" would seem to render the notion of synonyms in any language as being signs of degeneracy rather than diversity and, possibly, nuance.

Gerald Edleman and Joseph Gally make a similar point in a 2001 article. Among other things, they indicate during: "Degeneracy and Complexity in Biological Systems," that degeneracy is not necessarily the same thing as redundancy because in degenerate systems, the same set of elements can lead to different outcomes.

Some scientists have suggested that such redundancy serves as a form of genetic protection since certain kinds of mutation or reading errors might turn out to be innocuous because the change in a given codon could still lead to the generation of the same amino acid. However true the foregoing possibility might be, another possibility is that although the same amino acid is coded for by different codons, perhaps there are subtle contextual differences among the codons that code for the same amino acid and researchers simply haven't, yet, recognized or understood what the nature of such possible contextual differences are.

For instance, a codon signal for the amino acid methionine is AUG (that is, adenine, uracil, and guanine). Methionine is also a start signal for the process of protein synthesis by mRNA (messenger-RNA), and, consequently, one could inquire about how the arrangement come about in which the nucleotide sequence AUG would indicate that protein synthesis should begin.

In addition, two questions that might be asked in relation to the foregoing considerations are the following ones. Why does the redundancy occur in some cases but not others (for example, tryptophan is the only amino acid that is specified by just one codon, namely, UGG -- uracil, guanine, guanine), and why do the codon redundancies that do exist have the relationships with particular amino acids that they do?

Some individuals might wish to argue that the redundancies are the result of some sort of random, arbitrary set of events that occurred billions of years ago. However, these same sorts of individuals have no

idea how a set of 64 nucleotide codons came to mean 20 particular amino acids (rather than hundreds of other amino acid possibilities) together with three stop signs (UAA, UAG, and UGA), and such people can do nothing but either ignore those sorts of questions altogether or just repeatedly drag out the same tried – but not necessarily true -- term "randomness" again and again which tends to make the idea of evolution nothing but a narrative that weaves together an indefinitely large series of assumptions, and this hardly seems like science at all.

Something can never actually be proven to be random. Rather, to invoke randomness might only mean that one does not understand the nature of the algorithm which led to a given set of events having the properties that it does.

To be sure, the notion of randomness certainly can be placed within a framework of mathematical rigor which can have considerable methodological and heuristic value. Nonetheless, ultimately, randomness is a philosophical issue and does not necessarily have anything of determinate value to say about what the nature of reality actually is.

Eventually, discoveries were made concerning the existence of ribosomes (a structure consisting of various proteins and a particular kind of RNA known as ribosomal RNA – rRNA) through which the translation of nucleotides into amino acids takes place with the help of tRNA or transfer RNA and mRNA (messenger RNA is actually a slightly coded version of DNA in which uracil replaces thymine with respect to the original three-part nucleotide codon sequence of DNA).

The aforementioned transfer RNA has two ends. One of those ends has a sequence of nucleotides – known as an anticodon – which binds to a particular codon in mRNA -- while the other end of tRNA binds to a specific amino acid that is coded for by the anticodon which is at the other end of the transfer tRNA.

DNA, mRNA, tRNA, and ribosomes work together to produce strings of peptides or amino acids which are coupled together to form structural or enzymatic proteins. These proteins play key roles in the metabolic pathways that generate the molecular products that are essential to life.

We are now in a position to entertain the question which constitutes the title of this chapter: "What are Phages?" The answer to that question might not be as straightforward as some individuals – known as virologists – have tried to make it seem.

In other words, since the sixties and seventies, the notion of viruses has transitioned from the original idea which first began to take shape in the late 1880s. Originally, the term "virus" was meant to refer to poisons or toxins that where smaller than bacteria and which could not be removed through the use of filters that were capable of removing all bacteria – or so it was thought -- from a given sample.

Following the research of d'Herelle, Twort, and others, the term "virus" kept its original meaning but some descriptive features were added. For instance, viruses seemed to be particulate-like in nature, and, in addition, they seemed to consist of proteinaceous and nucleic materials.

One of the many conceptual changes brought about by the molecular and genetic revolution of the 1950s, 1960s, and 1970s was the manner in which viruses drifted away from their original sense and, instead, came to be seen as a somewhat different kind of entity. More specifically, viruses came to be understood as being made of an outer protein capsid or shell – sometimes involving lipid materials or layers of one kind or another – which contained genetic materials (either DNA or RNA, but not both) and, sometimes, some ready-made proteins. Such entities appeared to have a genetic program which enabled it to: Invade, infect, and take over control of a host cell or organism, and, then, to use its control of the host cell to replicate the genetic material contained within the entity's capsid a multiple number of times and, in one way or another, release all the replicated entities from the host, often with lethal consequences for the latter life form.

As we work our way through some of the issues surrounding the idea of phages, there are at least four points to keep in mind as we engage the nuts and bolts of phage dynamics. First, we should try to remember a problem, mentioned in a previous chapter, with which the Genome Project was confronted when the bulk of that project's work had been finished (minus, among other things, such issues as the

sequencing of the Y chromosome which was completed only relatively recently … 2023).

More specifically, the Genome Project came up with different amounts of the standard genes which seem to comprise the genome of human beings. Eventually, higher calculations that had been made earlier concerning the number of genes believed to be in the human genome were whittled down several times before a figure of approximately 20,000 genes was settled on as constituting the number of genes that appeared to be clearly identified as being a standard part of human genomics -- genes that coded for one kind of protein or another.

A problem arose in conjunction with the foregoing number of protein-coding genes. More specifically, over the years, researchers had discovered the existence of more than 90,000 proteins in the human body, and, consequently, one might reasonably ask the following question: If there are 20,000 standard genes in the human genome, and each gene represents one and only one protein, then, where do the other 70,000 – or more – proteins come from that have been found to be present in human beings?

Some leads to assist addressing the foregoing question came through the field of epigenetics as well as via new discoveries that were accumulating concerning the nature of so-called junk DNA. For some time this allegedly "junk" nucleic material was believed to not actually possess any kind of functionality but, instead, was considered to be just the evolutionary debris left behind by changes that had taken place in relation to an assortment of bacterial, viral, and human cells.

However, to make a long story, much, much shorter, researchers began to discover that a great deal of such "junk" nucleic material (which actually constitutes more than 98% of all nucleic acid material in the human body) entailed various kinds of functionality. Indeed, there seemed to be epigenetic properties which were present in what has come to be referred to as non-coding genetic material rather than "junk-DNA."

Among other things, such epigenetic dynamics appeared to be capable of parsing and modulating the standard set of 20,000 genes in different ways. In the process, such dynamics were able to generate

more combinations of amino acids than were originally thought possible on the basis of the findings of the Human Genome Project.

Given the foregoing considerations, one should try to remember -- and this will be discussed shortly -- that there are numerous phages which possess many genes whose function is not understood by virologists. In fact, for the most part, unless genes can be demonstrated to have some sort of relevance to issues of gaining access to a host, replicating within a host, or exiting from said host, virologists are often not in a methodological position to be able to figure out the functionality of genes that are not involved in the aforementioned kinds of dynamics.

Consequently, one has difficulty avoiding an obvious question. If the nature of a virus is just to: Invade, infect, replicate, and escape, then, what are all the other genes doing that are present in a phage which appear to have nothing to do with what virologists consider to be the basic raison d'être or nature of viruses.

A second consideration to keep in mind when reflecting on various aspects of the discussion which follows comes in the form of another question. Namely, if a phage supposedly, has the capacity to take over control of certain aspects of the metabolic dynamics of a cell, then, why isn't it possible for a cell or organism (which is far more complex than phages are) to also be able take over control of certain aspects of a phage's genetic potential? In other words, is the relationship between phage and "host" necessarily asymmetric such that the host must always serve the directives of the phage, and, therefore, the phage can never be modulated by the directives of the host?

The foregoing question has relevance given the aforementioned capacity of epigenetic dynamics to be able to parse a given set of genetic materials in ways that transcend the surface potential of those materials. To whatever extent the epigenetic capabilities that are present in a phage are capable of modifying the metabolic pathways of a host, is there any reason to suppose that the non-coding nucleic material in, say, bacteria (which has been calculated to constitute 20% of the nucleic material in such organisms) might also be capable of modulating what goes on in conjunction with the nucleic material in phages and, in the process, parse different kinds of proteins than the genome of a given phage normally generates?

There are two further questions that arise in relation to the foregoing considerations. Irrespective of whether one is considering the epigenetic capacity of bacteria or the epigenetic capacity of phages, what is directing such parsing activity and is that activity necessarily a function of self-assembling processes?

A third consideration to keep in mind as we proceed with the current process of exploring different issues concerning the ways in which phages and bacteria interact is connected to the questions raised in the previous paragraph. In other words, rather than automatically suppose that phages are entities which invade bacteria from without, why not entertain the possibility that phages have a symbiotic relationship with the bacterial world and the ecology in which such bacteria exist?

To be sure, one dimension of the relationship between phages and bacteria can lead to death (although not always), but, nonetheless, the death of certain bacteria can serve the interests not only of other bacteria but various aspects of the surrounding ecological context as well. The process of cell apoptosis that takes place in human beings takes place on a regular basis and serves the interests of a person's body, but it is not considered to be a matter of invasion, infection, or the like, but actually is part of the body's way of detoxifying itself by removing cells that have outlived their usefulness or which are deteriorating in various ways that cannot be repaired and, therefore, need to be assisted toward a state of operational cessation, and, similarly, perhaps, the dynamics of phages are not really a process of invasion and infection but, instead, are part of a much more complex set of constructive dynamics.

Finally, we should try to keep in mind that what happens in a Petri dish is not necessarily what happens inside of a cell or bacteria. Furthermore, the sequencing methods used by virologists employ an array of algorithmic protocols involving interpolation, extrapolation, and filler-strategies which might not accurately reflect the actual properties, structural features, or even functions of a given phage, and, consequently, such methodological weaknesses might introduce considerable distortion into one's understanding of the potential, nature and character of phage dynamics.

I believe a good case can be made – and to a considerable degree the remainder of this chapter is directed toward making such a case (or, at least, beginning to do so) -- for d'Herelle's idea that phages are actually indigenous to the defense system of human beings as well as indispensible to the health of the surrounding ecology in general and although death can occur in conjunction with phage activity, ultimately, such entities are not viral in nature but might give expression to another kind of dynamic altogether. More specifically, in a sense, phages are a more complex manifestation of the processes of, for example, methylation and acetylation which are used to epigenetically modulate the way in which metabolic dynamics take place within an organism … that is, phages form a part of the modulation process through which organisms epigenetically interact with their environments.

Simply stated, phages are not viruses in either the original sense or the modern sense of the term. Although there can be toxic dimensions associated with their activities, their overall character is not one of being a parasite which exploits the resources of a given host for purposes of replication and spreading its toxicity, but, rather, phages – even when acting with extreme prejudice -- are a source of epigenetic modulating properties.

Enterobacteria phage T4 -- one of seven phages that associate with E .coli bacteria -- contains 280 genes that consist of 168,903 base pairs (involving various combinations of: adenine, guanine, cytosine, and thymine). The foregoing 280 figure is of interest, because virologists have no idea what most of those genes do.

The subset of 280 genes which virologists do know about have largely to do with issues of alleged entrance, replication, and exit, and, therefore, a very large proportion of those 280 genes have to do with something other than the dynamics of entrance, replication, and exit. The disproportionate difference between, on the one hand, the smaller subset of genes that supposedly code for the alleged raison d'être of phages – namely, to invade, infect, kill, and, then, leave a bacterial host – relative to, on the other hand, the much larger subset of genes that appear to be connected with something other than the alleged raison d'être of a phage should give one pause for thought.

Earlier in this chapter, the reader's attention had been drawn to the following consideration: The non-coding genetic material – formerly known as "junk DNA" -- that is present in many bacteria often contains as much as 20% of the total genetic material of those bacteria. Consequently, given that virologists have no idea whether, or not, the E. coli bacteria, with which the T4 phage associates, might possess the sort of non-coding genetic material that would be able to parse the aforementioned 168,903 base pairs to give rise to an unknown number of additional proteins, above and beyond the 280 proteins for which coding is already provide in the T4 phage, then, one is, again, left with a possibility about which, currently, virologists have little, if any, understanding.

The fact that virologists have no idea what many of the 280 genes which are found in the T4 phage actually code for suggests there might be much about the nature of the possible relationship between T4 phages and E. coli bacteria that is unknown and whatever the nature of that unknown dimension of interaction might be, such unknowns don't necessarily have much, if anything, to do with the alleged raison d'être of a phage – namely, to invade, infect, replicate, and exit.

Furthermore, the possibility that a bacterial host might be able to engage a phage in ways that could lead to the generation of an additional unknown number of genes (as occurs in most forms of life and in human beings leads to the generation of some 70,000 proteins beyond the standard set of 20,000 proteins that make up the human genome) raises additional questions. Of course, conceivably, there are no additional proteins that are generated through the use of non-coding genetic material, but, right now, the most important issue is that we don't know whether, or not, this happens –- or, if it does, to what extent, if any, it takes place -- and, therefore, the existence of such unknowns points to an important question – namely, do virologists know as much about the ways in which phages and bacteria interact as many virologists would like to give the rest of us the impression that they do?

The 168,903 base pairs figure concerning nucleic acids which was noted earlier is also of interest because it tends to raise another set of questions. More specifically, if a primary part of the mission of a phage is to replicate itself many times, then, one should begin to think about

where all of the components that go into comprising nucleic acids will come from in order to make mass replication possible. In other words, where will all of the: Energy, phosphates, pentose sugars, as well as nitrogenous bases (i.e., adenine, cytosine, guanine, thymine, and uracil), going to come from that will be able to generate however many sets of those 168,903 base pairs will be produced as replications of the original T4 phage.

Hijacking a host ribosome, or two, in order to be able translate the 168,903 base pairs which make up the genome of a T4 phage is one thing. Commandeering much of the anabolic metabolic wherewithal of a host so that all of the component molecules and energy that are needed to be able to construct those 168,093 base pairs is quite another thing -- especially, when the foregoing set of transactions needs to be done however many times are indicated by some unknown accountant for the replication process to be completed before exiting from a host.

Moreover, unless a phage comes equipped with its own set of mRNA molecules (messenger RNA) that are needed to interact with ribosomes in order for the base pairs in the genes of a phage to be translated into amino acid molecules or peptides, then, the host will have to supply such mRNA molecules as well. The same is true with respect to the tRNA molecules (transfer RNA) which link the nucleic acid codons (via an anticodon sequence in the tRNA) to specific amino acids which are being held at the other end of the tRNA since unless a given phage -- in this case Enterobacteria T4 -- provides such tRNA, then those molecules will have to be supplied by the host.

In addition, what about the amino acids that are introduced into the protein synthesis process by tRNA and, then, stitched together with the help of a ribosome into a polypeptide chain which is working its way to becoming a protein of one kind or another? Those amino acids are not being supplied by the phage, but, rather, must be generated by the host and, then, made available to the phage replication process.

Amino acids consist of: A carboxylic acid group ($-CO_2H$); an amine group (derived from ammonia – NH_3 – in which one, or more, of the three hydrogen atoms is replaced by a hydrocarbon group of some kind), and a side chain that is specific to each kind of amino acid (in

other words side chains are that which makes one amino acid different from another). Therefore, oxygen, nitrogen, hydrogen, carbon, and a few other constituents will be needed to produce the molecular structure for any given amino acid, and, in addition, one will need some energy as well as various modalities of enzymes to put the foregoing set of molecules together in one form of combinatorics rather than another to generate different kinds of amino acids.

The production of any given amino acid gives expression to a metabolic pathway. This pathway provides the algorithmic steps that are needed to end up with a specific kind of amino acid.

In other words, carbon, hydrogen, oxygen, nitrogen, and a few other constituents are brought together in a series of steps using enzymes and/or energy that give rise to a particular amino acid. Given the foregoing considerations, one might ask: What has regulatory oversight concerning the foregoing process, and where do the basic components or molecular resources come from that will be drawn upon by a given metabolic pathway?

In a T4 phage, 280 proteins will be needed to be constructed or synthesized in order to generate just one replication of that phage type. Depending on how many such replications are being ordered by a phages' unknown replication accountant, then, the number of molecular components that make up the amino acids which constitute those 280 proteins will be a multiple of whatever is needed to make x number of replications of the T4 phage.

While one could suppose that there might be some sort of a pantry capacity present in a given bacterium in which a certain number of the 20 amino acids that make up any given protein are floating about in the cytoplasm of that bacterium, one might also suppose that much of that pantry supply is needed for a bacterium's on-going life cycle. Consequently, in one way or another, that pantry supply of ready-made amino acids is likely to be quickly exhausted by some combination of the needs of the bacterium and the needs of the phage that is seeking to replicate itself, which, as will touched upon shortly, brings up the supply-chain issue.

There is also the problem of figuring out how a phage not only gains access to such pantry amino acids but is able, as well, to gain access to the right kinds of amino acids in a timely fashion. The notion

of just-in-time delivery is far more essential and critical to biological dynamics than it is to economic dynamics.

Notwithstanding the foregoing considerations, problems, issues, and questions, sooner or later, the cytoplasmic pantry supply of ready-made amino acids is likely to become exhausted, and, as a result, something is going to have kick start a variety of metabolic pathways involving carbon, hydrogen, oxygen, nitrogen, additional molecular components as needed, enzymes, plus energy so that the requisite amino acids will be produced to meet the needs of both the host's life-cycle dynamics along with the phage replication process (the aforementioned supply chain issue). What will do the kick-starting?

Will this be done via the genome of the phage? If so, how is this accomplished?

How many genes would be necessary to generate the set of enzymes that would be necessary to run the sort of metabolic pathways which would be capable of producing amino acids from a set of molecular resources involving carbon, hydrogen, oxygen, nitrogen, and various other basic constituent resources that are present in amino acids? How will those newly minted amino acids find their way to the ribosomal factories that supposedly have been hijacked by a phage?

Moreover, how many genes would be necessary to also establish a set of metabolic pathways that will bring together the component molecules that will be needed to give rise to phosphates, pentose sugars, nitrogenous bases such as adenine, cytosine, guanine, thymine, and uracil, as well as the enzymes that are needed to give expression to nucleic acids, and, consequently, one might also wonder if phages contain the requisite number of genes to accomplish such an array of tasks? Furthermore, do any of the genes in a phage genome code for the enzymes that are needed to bring together the foregoing constituent components in ways that can establish functional metabolic pathways which can turn phosphates, pentose sugars, and nitrogenous bases into one of the five kinds of nucleic acids that are used to create nucleotides that constitute the nucleic material that makes up the phage genomes which are being replicated?

The foregoing questions do not surround just the production of one copy of a phage. Those same questions are multiplied for as many

replication cycles as a phage undergoes before it "decides" to hightail it out of Dodge and seek the additional resources of another host.

If one assumes that phages – especially phages with rather limited genomes or numbers of genes (to be discussed relatively shortly) – could not possibly establish the number of metabolic pathways that would be needed to produce not only the basic molecular components that constitute: On the one hand, the amine groups, carboxylic groups, and side chains that form amino acids, but as well, on the other hand, the phosphates, pentose sugars, and nitrogenous bases that form nucleic acids, then, one is left with only one other possibility – namely, that the host cell is looking after all of the foregoing metabolic dynamics – which leads to the question of why would a host subject itself to such a state of servitude to meet the needs of an uninvited guest that only seeks to exploit such a host?

One possible answer to the foregoing question is that a phage somehow induces the host to undertake all of the foregoing metabolic processes on behalf of the phage. Given such a possibility, one might well ask: What exactly is the nature of this induction process?

Bringing together basic components such as carbon, hydrogen, oxygen, nitrogen, along with a few other kinds of molecular resources to form, in the case of amino acids: Amine groups, carboxylic groups, as well as various sorts of molecular side chains, and, in the case of nucleic acid: Phosphates, pentose sugars, and nitrogenous bases encompasses a complex set of interlocking pathways. Furthermore, once the foregoing components, groups, complexes, and the like have been produced, they still have to be fashioned into specific amino acids and specific nucleic acids.

The production of the materials from which amino acids and nucleic acids are made, as well as the generation of functional amino acids and nucleic acids all require an array of enzymatic and energetic assistance which is carried out in a specific order. There are no free lunches here.

The foregoing set of dynamics are sufficiently complex that there is not just one part of a host's genome which can be hijacked that would enable a phage to commander a sufficient amount of the metabolic machinery of a host to be able to take over the sort of interlocking set of metabolic pathways that were being alluded to

earlier. Consequently, if there are a number of dimensions of the genetic wherewithal of a host that would have to be simultaneously and/or sequentially activated, how does a phage manage such a juggling act, and while I'm not an expert on phages or bacteria, I do have a sufficient degree of familiarity with various aspects of molecular biology, genetics, and virology to know that I have not come across anything that would account, even remotely, how such a metabolic juggling dynamic could be accomplished by phages.

I have seen plenty of references which indicate that phages take over the metabolic machinery of their hosts. However, I have never seen an account which explains step-by-step how the foregoing take-over is accomplished.

In my conceptual and hermeneutical journeys through libraries, books, articles, videos, and personal conversations with knowledgeable parties, there does not appear to be anything which indicates how phages induce their hosts to run the metabolic pathways that are needed to produce the components that go into amino acids and nucleic acids or which indicates how phages induce their hosts to generate specific amino acids or nucleic acids. As a result, there are a host of origin questions that begin bubbling to the surface concerning where the basic constituent components come from that make up amino acids and nucleic acids, as well as origin questions concerning where the specific amino acids and nucleic acids come from that are used in the replication process of any given phage.

Enterobacteria phage Qβ has 277 fewer genes than the Enterobacteria T4 phage discussed previously, and it consists of 4,215 nucleotides of RNA arranged linearly in a single-strand. Thus, the entire lytic cycle (entrance, replication, and destructive exit) – with more than a little help from its friendly host – is conducted by just three genes.

One of those three genes is a replicase protein or enzyme which is used during the process of replicating the RNA which constitutes the genome of the Qβ phage. A second gene codes for a multi-tasking protein that helps orchestrate the absorption process that supposedly enables the phage to gain entry to a bacterial host, as well as plays a role in the exit event that induces a bacteria to lyse to burst open.

The third gene of the Qβ phage produces the capsid shell that encompasses the RNA genome package within. The capsid of this phage is constructed from: (a) 180 copies of a single, structural protein, along with (b) the previously mentioned multi-tasking protein that is involved in the accessing of, and exiting from, a given host.

Since there are only three genes in this phage, one wonders what is playing the part of the accountant that has the regulatory oversight to be able to generate precisely 180 copies of that protein with each replication cycle. Of course, one might suppose there is no "accountant" that is participating in the foregoing construction process and, instead, one might propose that copies of the foregoing single structural protein will just continue to be generated and used as necessary.

However, if the latter possibility is what actually takes place, I am having a little trouble envisioning certain aspects of that process. For example, why would all the structural proteins being produced just hover about waiting for their turn to brought into one, or another, assembly dynamic rather than becoming caught up in an array of galvanic, magnetic and/or structured-water currents, as well as other kinds of currents set in motion by various kinds of cytoplasmic activity that are likely to be present, and, as a result, be induced to drift away from a given replication assembly center?

My understanding of the capsid construction process is that the 180 structural proteins plus one, or more, multi-tasking proteins come together in a process of self-assembly. My understanding concerning the foregoing process is that such a dynamic has been observed to occur in a laboratory setting.

However, what happens in a Petri dish (in vitro, outside of an organism or cell) is not necessarily what takes place in vivo (or within a living organism or cell). Consequently, the former lab setting might not provide an accurate reflection of what takes place within a living organism or cell.

Notwithstanding the foregoing considerations, the far more serious issue has to do with the aforementioned supply-chain problem. In a laboratory, lab technicians supply whatever is needed for, say, a capsid assembly process to be able to take place, but when a phage is present in a living bacterium, then, what is supplying the phage with

the amino acid materials that it needs to be able to generate 180 structural proteins for each capsid shell that is replicated.

More specifically, for each Qβ phage which is replicated, there will be 180 carboxyl groups, amine groups, and molecular side chains that constitute this, or that, amino acid. In addition, there will be some number of carboxyl groups, amine groups, and molecular side chains that will be present in the multi-taxing protein that forms a part of the capsid shell.

Together (that is, both the 180 structural proteins and one, or more copies of the multi-tasking protein) will be used in the construction of the phage capsid, then, that molecular material will have to come from somewhere. Given that this phage only has three genes, the foregoing array of molecular component parts must be coming from somewhere other than the Qβ phage.

Moreover, once the component parts of amino acids have been brought together, they will have to be assembled into working or functional amino acids. Energy and enzymes will be needed to take the foregoing set of molecular components through a metabolic pathway that is capable of forging a specific kind of amino acid, and, once again, the three-gene phage is not capable of underwriting such metabolic dynamics.

In addition, the phosphates, pentose sugars, and nitrogenous bases which constitute the component parts of the RNA's 4,215 nucleotides will all have to be generated. Furthermore, once those component parts emerge from this or that preliminary metabolic pathway that has been dedicated to producing such molecular components, then, they will have to be brought together to form specific nucleic acids involving the right combination and numbers of nucleotides that are required by the replicase enzyme in order for the Qβ genome to be replicated.

In other words, just as the three-gene Qβ phage does not have the capacity to supply the molecular components from which amino acids are formed, the genome of that same Qβ phage cannot supply the molecular components from which nucleic acids are formed. Similarly, just as the three-gene Qβ phage cannot provide the necessary metabolic pathway that can bring the three molecular components of nucleic acids together which will give rise to functional nucleic acids,

so too, the Qβ phage does not have the capacity to bring together the three molecular components that will give rise to functional amino acids.

Furthermore, there is a supply chain problem associated with the set of tRNAs which will link a series of specific codons of RNA with a series of specific amino acids. The three-gene Qβ phage does not have the capacity to either produce the molecular components that make up any given tRNA, nor does it have the capacity to be able to bring those molecular component parts together to form the set of tRNAs which will be used to help create the specific sequence of amino acids that will form the 180 capsid structural proteins as well as the multi-tasking protein that, together, form the capsid shell.

There is another logistical problem associated with cytoplasmic pantry supplies of amino acids and nucleic acids. More specifically, phages are often much smaller than bacteria and, consequently, one can't help but wonder about whether, or not, there is any sort of epigenetic regulatory dynamics that exercise oversight with respect to the way in which cytoplasmic pantry amino acids and cytoplasmic pantry nucleic acids are induced to make the transition from: Being just pantry resources floating about the cytoplasm, to: Becoming active parts of the phage replication processes that are taking place somewhere within the host. In short, one wonders how pantry amino acids and nucleic acids find their way to the space where phages are conducting their replication activities

So, once whatever pantry provisions which might have been floating about the cytoplasm of a given Enterobacteria are used up by the replication process, then the three molecular components (carboxyl groups, amine groups, and a side chain) that go into the composition of amino acids and the three molecular components (phosphates, pentose sugars, and nitrogenous bases) that make up nucleic acids will have to be generated anew. Similarly, those component parts will have to be brought together by various enzymes to form functional amino acids and nucleic acids.

What arranges for all of the foregoing molecular components, as well as for the amino acids and nucleic acids which are made from those components, to be made? Although, currently, we don't know if there is some way for the 280 genes of the Enterobacteria T4 phage to

help in yet-to-be-determined ways with respect to resolving the supply-chain issue in conjunction with the source of the basic components that make up amino acids and nucleic acids, as well as in conjunction with the source of the dynamics that bring those components together to form functional amino acids and nucleic acids, nevertheless, in the case of the three-gene Enterobacteria Qβ phage there are simply no degrees of freedom which allow one to speculate about the possibility that those three genes are capable of resolving the aforementioned supply chain problems on their own, nor are they capable of inducing the genome of the host bacteria to solve such supply-chain problems with respect to the phage replication process.

If -- since the three-gene Enterobacteria Qβ phage doesn't have any of the right genes – this phage is incapable of taking over the metabolic machinery of the bacterial host in order to be able to resolve the previously discussed supply-chain problems that arise in conjunction with the process of phage replication, and if the Qβ phage is also unable (again, because it doesn't possess the necessary genes) to induce its bacterial host to solve the supply-chain problems which confront the Qβ phage replication process, then, why would the bacterial host solve those supply-chain problems for a phage whose alleged raison d'être is to exploit that host's resources and, then, to terminate that host?

A bacterium wouldn't need any elaborate defenses to counter the activities of the Enterobacteria Qβ phage. All a bacterium would have to do is to not produce the resources the phage needs to be able to complete its replication process.

There is nothing a Qβ phage could do to stop or modulate such a maneuver. Yet, apparently, this doesn't take place, and, consequently, this leads to the following question: What is going on during the interaction between the host Enterobacteria and its associated Qβ phage?

Prior to running out of whatever amino acids and nucleic acids might be circulating about the host's cytoplasm (the cytoplasmic pantry supply-chain issue), how does the Qβ phage signal the host concerning the amino acids and nucleic acids it needs and the order in which it needs them? Are we to suppose that random drift will provide the phage with what it molecular components it requires for the

process of replication, and if random drift is what brings needed molecular components to the phage replication space, then why should one assume that the molecular components that have found their way from the surrounding cytoplasm to the replication space will be able to maintain their location while awaiting to become part of the replication process and not be subject to the same sorts of cytoplasmic forces that are bringing molecular components to the replication space and, therefore, induce such "waiting or idling" components to drift away before being used in the replication process?

The cytoplasmic pantry supply-chain side of things is one logistical problem. Another logistical problem emerges when the cytoplasmic pantry supply of amino acids and nucleic acids is largely depleted.

More specifically, how does the Qβ phage signal the host concerning the amino acid and nucleic acid components that it needs for either decoding its genome or for the replication dynamic when the cytoplasmic pantry is largely spent? After all, if the ribosomes that supposedly have been hijacked by the phage are busily running through the pantry supply (however those pantry supplies get to the staging area), and, then, all of a sudden the pantry supplies run out, what tells the host to produce more of what the phage needs in the way of both the components that go into the making of amino acids and nucleic acids, as well as the bringing together of those molecular components for the generation or synthesis of specific amino acids and nucleic acids themselves which, then, can be delivered to the phage genome decoding space and/or replication space in a just-in-time manner of effective supply-chain dynamics?

If the phage does not signal the host genome in some fashion to inform the latter of what is needed for replication, then, how is the host bacterium able to assess what the resource needs of the phage's replication process are? How – and why -- does the host supply those resources to the phage replication process in a timely fashion?

When a bacterium operates its own life-cycle, it is the epigenetic regulatory dynamic which is present in the bacterium which interprets the information it is receiving from the internal as well as the external environment. As a result of that epigenetic system's assessment of the way in which the organism is functioning as it engages the surrounding, local environment, the bacterium's genome is directed to

synthesize whatever is needed in the order that those molecular components are needed, and those molecular products flow, through one means or another, to the metabolic pathways that require their presence for further disposition.

Life is a set of interlocking metabolic pathways that cybernetically feed back into one another in a constant sequence of modulations that give expression to adaptive dynamics (whether in the form of physical movement or shifting biochemical pathways). However, the Qβ phage is not part of that set of interlocking metabolic pathways, and, so, the question arises, how do things get done (whether during the pantry stage of supply-chain logistics or during the post-pantry stage of supply-chain logistics) when something – in this case, a Qβ phage – is not part of such a set of cybernetically linked metabolic pathways of its supposed host?

The foregoing issues stand out clearly in the case of the three-gene Qβ phage. There is no place to conceptually hide by trying to obfuscate the foregoing problems by alluding to the possible functions of, say, the 277 other genes in the Enterobacteria T4 phage, most of which have unknown functions, and, therefore, such ignorance is used to provide some possible breathing space for explaining (maybe) how the T4 phage might be able to take over a host and, thereby, insinuate its way into the aforementioned set of cybernetically linked metabolic pathways of its host.

Nonetheless, until one actually knows what the functions are of all of the 280 genes of the Enterobacteria T4 phage, one is just whistling past a cemetery filled with the decomposing corpses of who knows what kind of evidential and logistical problems. The uncertainty which surrounds the series of logistical, supply-chain problems that have been outlined in the previous discussion of both the Enterobacteria T4 phage, as well as the Enterobacteria Qβ phage, is why researchers might whistle pass a cemetery filled with bodies of virological ignorance.

The foregoing problems, issues, and questions are not limited to just the two phages that have been discussed previously. By 2021, some 14,000-plus phage genomes had been completely sequenced, and, very likely, another 4-5,000 phage genomes (and possibly more) have been sequenced since 2021, including hundreds of so-called

jumbo phages which have genomes that are much bigger (of the order of 200 kilobytes) than the Enterobacteria even-phages (T2, T4, T6) – which had been considered to be among the largest phages in existence until the jumbo phages began to be discovered.

No matter what the size of a phage genome might be, the same problems, questions, and issues remain. On the one hand, if the number of genes in a phage is relatively small, then, one has no way to explain how the logistics of the previously outlined supply-chain issues can be resolved in a plausible fashion in which a phage of relatively few genes will be able to take over control of the complex, cybernetically intertwined metabolic machinery of a bacterial host so that all of the component molecules (carboxyl groups, amine groups, and side chains in the case of amino acids, and phosphates, pentose sugars, and nitrogenous bases in the case of nucleic acids plus an assortment of other molecules) will be generated through appropriate anabolic pathways, and, then, these end-products will be fed into other sets of anabolic pathways that will produce functional amino acids and nucleic acids that will be delivered to the place where a phage is replicating.

On the other hand, given the technological limits of modern science, if the number of genes in a given phage is large, unfortunately, the state of current empirical methodology is unable to determine the function of most of the genes that are present in phages with hundreds of genes. Such gene-functionality research succeeds mostly by focusing on trying to identify genes that have to do with: Gaining access to a host, replicating within a host, or exiting a host by means of a methodological technique that removes, one at a time, the contribution of different genes to see how such modulating dynamics affect the capacity of a given phage to be able to synthesize proteins that are able to gain access to, replicate within, and exit a given host, and once one has identified all of the genes that are critical to identifying the genes that are involved in processes of accessing, replicating, and exiting, one still has a large number of genes whose function is unknown.

If one likes, one can assume that the capabilities of such a large number of genes with unknown functions will – sooner or later – be discovered to account for all of the supply-chain issues that have been discussed previously. Perhaps, this might be done either through

processes that allow a phage to directly take over all necessary aspects of metabolic functioning, or through methods which enable a phage to induce a host's cybernetically interconnected set of metabolic pathways to serve the needs of a whatever phage is present within such a host.

However, until the foregoing kinds of discoveries are made and confirmed, then, however one supposes multi-gene phages might interact with a given host such suppositions are nothing more than speculations and unproven hypotheses. Furthermore, even if the foregoing sorts of discoveries were forthcoming, this kind of new-found knowledge and understanding would still leave unanswered how such phages came into existence in the first place, and whether, or not, the emergence of those entities was purely the result of an indefinitely large number of assumed random events of a highly implausible, but felicitous, sort, or whether, perhaps, phages might have been the creation of bacteria themselves for purposes of modulating bacterial population dynamics in a variety of ways, with at least one of those ways leading to the termination of different bacteria, just as, for a variety of reasons, the process of apoptosis leads to the elimination of cells in many organisms, including human beings.

If the foregoing possibility were to give expression to how phages came into existence, then, perhaps, phages should not necessarily be considered to be viruses which constitute entities that invade bacteria from without, and, then, just proceed to make a multiplicity of copies prior to exiting, and in the process killing, its hosts. Rather, phages might be generated by bacteria for purposes of serving, in a variety of ways (some of which are to be explored shortly), the interests of a colony of bacteria and/or the greater ecology in which such bacteria exist, and, therefore, conceivably, the operational character and dynamics of phages might extend beyond the notion of a virus, or said in another way, apoptotic properties or capabilities might only be one dimension of a phage, and, consequently, to refer to phages as viruses is to ignore other functional roles that phages might play within their ecosystem.

While many phages have elaborate and/or ingenious capacities for gaining access to, or exiting, various bacteria, the genes underlying those capabilities would only need to be expressed if phages were

released into the wild so-to-speak and were required to go about their various dimensions of functionality between bacteria rather than within a given bacterium. For instance, in those instances in which bacteria die during the exit of phages, the death of certain bacteria might be the means through which phages are released into a given environmental setting so that various bacterial and/or ecological functions might be served, and when this occurs, then, such phages will need a way to gain access to other bacteria, but until this sort of juncture arrives, the capabilities which enable a phage to access bacteria are a genomic potential that, depending on circumstances, does not necessarily have to be expressed.

Just as many organisms have genomic potentials which are not always expressed, so it is with phages. Phages are not alive in the sense of possessing the genetic wherewithal to give expression to cybernetic systems of interlocking anabolic and metabolic pathways that -- given appropriate conditions of nutrition and environmental conditions –- produce the molecular components which are capable of helping an organism to resist the pull of entropy while that organism engages in the dynamics of a life-cycle.

Nonetheless, as is the case with living organisms, depending on circumstances, the genes of a phage might, or might not, be expressed. Then, the question becomes, does the phage have control over whether its genes get expressed, or is this under the control of the host, or is it, possibly, a function of both genomes?

Some phages are referred to as temperate phages. Virologists describe such phages as entities that have the capacity to move in either of two directions – namely, either: (a) to proceed toward a lytic state in which the host is ruptured and replicated phages are released into the local environment, or (b) to enter into a state of lysogeny in which the genome of a phage remains inside of the host with the lytic genes of the phage in a repressed or inactive condition.

Most phages that exist in a state of lysogeny are believed by virologists to become integrated into the genome of its host. However, there are some phages -- such as Enterobacteria phage N15 which has 61 genes made from 46,375 base pairs – which remain somewhat independent from the host genome.

The term “somewhat independent” is used in the foregoing paragraph because while the genome of Enterobacteria phage N15 does not become integrated with the genome of its host, nevertheless, that phage does interact with plasmids that are present within the cytoplasm of bacteria. Plasmids have their own set of genes that are of variable length (running anywhere from: A thousand base pairs, up to several hundreds of thousands of base pairs), and, in addition, plasmid genes have the capacity to make an array of contributions to bacterial life.

The genome of the Enterobacteria N15 phage exists as a linear double-stranded molecule. Under “normal” circumstances, replicating a linear double-stranded molecule of DNA from end to end requires that a relatively complex set of special conditions need to be satisfied. While most phages and bacteria avoid the problems which surround satisfying those sorts of special conditions by engaging in a dynamic that circularizes its DNA before undergoing the process of replication, the Enterobacteria N15 phage possesses its own inimitable style of a mitosis-like dynamic.

During this dynamic the N15 phage produces a daughter copy of itself. The phage, then, proceeds to arrange those two copies in a manner which ensures that one of the two copies of the phage’s genome will end up in each of the two cells that are generated when the host undergoes its own process of mitosis and generates two copies of a bacterium’s genome, one for each daughter cell.

In order to be able to accomplish the foregoing form of mitosis, the Enterobacteria N15 phage needs to borrow, steal, or use genetic material from one of the bacterial plasmids that resides in the cytoplasm. How the N15 phage knows which plasmid to steal/borrow from and how that process of stealing or borrowing takes place raises a separate set of issues.

The bottom line is that, in one way or another, the N15 phage is dependent on assistance from genetic material belonging to the host. Irrespective of whether a phage depends on the genetic capabilities of a plasmid rather than on the genetic capabilities of a bacterial genome, the N15, like all phages, is not an independent agent.

To some degree, phages are like plasmids in the sense that they both are separated from the main genomic material in a given

bacterium, and, yet, plasmids, as well as phages, have their own set of genetic materials which can encode for different numbers of genes. In addition, both plasmids as well as certain kinds of phages have the capacity to contribute useful services to the bacterium in which they reside.

For instance, although from a human perspective, the following considerations do not constitute welcome news, nonetheless, from a bacterium's side of things, a different story is told in which plasmids, sometimes, provide bacteria with, among other things, a certain amount of resistance to antibiotics. Similarly, under some circumstances, phages are able to transfer genes to bacterial hosts that enhance the capacities of those bacteria in different ways, such as when certain corynephages donate a gene that gives expression (when activated) to a form of bacteria which is capable of generating the diphtheria toxin (DT) to which human beings are vulnerable, and it is this latter susceptibility that helps lead to some of the symptoms which are associated with diphtheria.

Conceivably, plasmids might originally even have been a function of phage dynamics. In other words, just as phages sometimes transfer single genes to bacteria, so too perhaps, some phages (using some of their previously noted genes of unknown functionality) might be able to arrange for the transfer of a set of genes to bacteria that are either capable, like the Enterobacteria N15 phage, of engaging in mitosis-like forms of division that supply a dividing bacterium with several copies of itself to be apportioned to each bacterial daughter cell that arises during bacterial mitosis.

Furthermore, while conceivable possibilities are currently being entertained, one might consider the possibility that prophages do not necessarily become integrated into the genome of a host bacterium but such prophages could, themselves, be genetic expressions of a set of genes which are already present in bacteria. Consequently, discovering genetic traces or sequences of prophages in a given bacterium's genome might not necessarily mean that a prophage, at some point, had become integrated into a given bacterial genome over time, but, rather, the presence of phage-related genetic sequences in the genome of bacteria could indicate that those prophages might owe their very

origin to a bacterial genome having given expression to the set of genes that constitute the genome of such phages.

Whether, or not, the foregoing scenario is correct, to propose that phages might originate from the genomes of bacteria rather than to propose that phages invade bacteria and, then, become integrated with host genomes over time, seems like a much simpler account of how phages might have come into existence than to suppose that phages, somehow, come into being as the result of an incredible sequence of fortuitous, random mutations and, then, subsequently, through a similarly incredible sequence of fortuitous events, became integrated into the genome of a given kind of bacteria. If one were to follow 'Ockham's razor' at this point -- which advises that one should not multiply assumptions beyond necessity -- then, perhaps, the bacterial origin of phages is a simpler possibility to entertain than is an alternative account which has phages emerging in accordance with a thesis that is rooted in a very complex, improbable, and, quite likely, unknowable set of chance events.

The foregoing perspective resonates somewhat with Lynn Margulis' theory of endosymbiosis. In other words, on the one hand, one might suppose that given how approximately 40% of the thousand, or so, genes that give expression to mitochondria appear to have a bacterial origin, Lynn felt that mitochondria might have originated as a set of genes which were given expression by some form of bacterial life, and, subsequently, this (possibly encapsulated or membrane-bound) set of genes had been cast adrift and, over time, developed an integrated and symbiotic relationship with some form of life. Similarly, on the other hand, perhaps prophages – if not all phages – also might constitute various forms of bacterial cast-offs of different kinds that develop complex relationships with various kinds of bacterial life forms.

Irrespective of whether, or not, the endosymbiotic theory of mitochondria is true, if researchers are willing to seriously entertain Margulis' theory concerning the possible bacterial origins of mitochondria, then, the idea that phages – even jumbo phages – might constitute the genetic expression of bacteria is not necessarily all that far a stretch of the imagination. Indeed, to suppose that phages arise from bacteria seems to be less of a conceptual bridge too far than does

the idea that mitochondria arose from bacterial because although 40% of the thousand genes that give expression to mitochondrial capabilities, nonetheless, there is still another 60% of a mitochondrial genetic underpinnings that have to be accounted for in some other way.

For instance, conceivably, before dying, some predecessor bacterium might have generated a capsid package containing aspects of the bacterium's genetic potential to serve as sort of a partial or semi-backup system for, at least, some of its capabilities, including the capacity for an apoptosis-like process in the form of lytic dynamics. When a lytic, apoptotic-like, self-destruct mechanism was activated by the bacterium, a phage was "born" or released which is naturally attracted, inclined, or drawn toward bacteria that are either exactly like, or, in some cases, perhaps relatively similar to its progenitor, and, if necessary, is capable of interacting with such progenitor-like entities in order to be able to replicate itself.

The pleiomorphic perspective which was introduced and briefly described during the first several chapters of the present book indicates that bacteria are capable of changing their morphology and functionality in response to changing environmental (whether internal or external). Béchamp, Enderlein, Rife, and Naessens – among others – have provided more than 170 years worth of evidence in support of a pleiomorphic perspective which maps out a domain of life that is populated by a microbial set of dynamics which is quite different from the monomorphic theory of Pasteur that claims organisms such as bacteria cannot change their morphology or functionality.

Some bacteria produce spores, and this is a simple example of how such bacteria can change their morphology and functionality in response to changing environmental conditions. However, Gaston Naessens worked out a much more complex pleiomorphic life cycle for entities known as somatids – which he considered to be more basic to life than cells – that encompass 16-17 different possibilities including, among others: Spore forms, bacterial forms, microbial forms, yeast forms, and mycelial forms which have different morphologies and functions.

Some of the foregoing forms are incapable of being filtered out, and, therefore, have a size that is comparable to so-called viruses and,

therefore, can be mistaken for viral-like entities in the modern sense. For instance, Virginia Livingston-Wheeler, a medical doctor and scientific researcher, maintained, on the basis of her own experimental and clinical work, that a species of bacteria, which she labeled Progenitor -- or P. -- cryptocides (hidden killer) was a major cause of cancer.

Under "normal" circumstances, P. cryptocides has the capacity to repair certain kinds of damage in cells. When not needed, the microorganism remains dormant.

Nonetheless, on occasion, when the biological terrain of a human being has become destabilized as the result of poor nutrition, exposure to environmental poisons, genetic breakdowns, or some other kind of trauma, then the aforementioned bacterial form is induced to proliferate. During that period of proliferation, copious amounts of the choriogonadotropin hormone are released, and the presence of substantial amounts of this hormone – which supposedly is present in all cancerous tumors -- enables a cancerous dynamic to become established.

According to Dr. Livingston-Wheeler, P. cryptocides bacteria are small enough to be able to pass through a Seitz filter. Although, usually speaking, such filters are able to differentiate between entities which are viral-like in size (nano-scale – billionths of a meter) and bacteria (which, for the most part, are measured in micron-based units, that is – millionths of a meter), and, as a result, the latter organisms are, supposedly, too large to evade the filtering process, nevertheless, in the case of P. cryptocides, such entities are too small to be trapped by a Seitz filter.

In 1911, Peyton Rous was able to induce sarcoma cancers in healthy Plymouth Rock chickens by injecting them with a cell-free extract which had been taken from a chicken tumor. Subsequently, the aforementioned cell-free extract that had been injected into healthy chickens and which, allegedly, contained something that was believed to be the reason why cancer emerged in the healthy chickens which were being injected with that extract was referred to as a chicken sarcoma virus, and some 55 years later, Rous received a Nobel Prize for his observations.

In 1931, Royal Rife began looking for the entity which he believed caused cancer. Because the entity for which he was looking was not filterable (that is, it was able to by-pass efforts to be filtered out of a solution), it was referred to as a virus in the original sense of that term – that is, it was a toxin of some kind that, unlike bacteria, was not filterable.

Through a rather complex methodology that had been discovered quite by accident, Rife was eventually able to induce the entity he believed caused cancer to assume a form that could be seen with his Universal microscope. The length of the object was one-fifteenth of a micron, while its width was one-twentieth of a micron.

At the time of his discovery, standard light microscopy technology was incapable of enabling a person to see something that small. In fact, such limitations would continue to plague standard light microscopy for at least another 50-60 years or so.

Rife demonstrated that the cancer-causing entity had four forms. One form caused carcinomas, and this was the smallest of the four forms and was labeled "BX."

Another manifestation of that same entity was labeled "BY." This form caused sarcomas and was larger than BX.

A third form of the foregoing entity that was present in cancer patients was referred to as a "monococcoid form". It could be found in blood monocytes, and if appropriately stained, this form could be seen with the kinds of standard microscopes that have been used in research for a hundred years, and, therefore, this form was larger than the "BX" and "BY" forms of the cancer-causing entity.

A fourth modality of the foregoing entity also existed. These were referred to as crytomyces pleomorphia fungi.

With his Universal microscope, Rife was able to observe these different forms change into one another. Any of the non-BX forms of the cancer-causing organism could be turned into its BX form at any time, and within 36 hours, a tumor would appear in whatever animal received the BX entity, and once such a tumor appears, a researcher could recover the BX entity from that tumor.

Rife further indicated that if one were to take the crytomyces pleomorphia fungi of the foregoing microorganism and place it in an

appropriate medium, then, a further modality of the organism would emerge. This was an organism that had the qualities of an E. coli bacterial form.

All of the foregoing changes involving BX, BY, monococcoid, crytomyces pleomorphia fungi, and the E. coli forms of the same microorganism were induced by changing the nature of the environmental conditions to which the microorganism was exposed. As those environmental conditions, changed, then different morphological and functional forms of that same microorganism would become manifest.

In short, Rife had provided additional evidence that microorganisms were pleiomorphic in character. One and the same microorganism changed its morphological and functional properties according to the environmental conditions to which it was exposed.

Since phages as well as some forms of microorganisms are capable of evading the filtering process, and since both Dr. Livingston-Wheeler and Royal Rife – each in their own manner -- had provided considerable experimental and clinical evidence indicating that a bacteria which was viral-like in size played a role in the onset of cancer, one cannot necessarily be sure that just because something has by-passed the filtering process, this necessarily means that one is dealing with a "virus". This is especially the case if – as was pointed out in Chapter 3 and 4 of the present book -- such alleged viral-like entities have not been demonstrated to have been: (a) Properly isolated, purified, and sequenced without the aid of cytopathic culture studies that are devoid of any experimental control groups, and (b) without computer programs that use arbitrary sets of algorithms to interpolate and extrapolate their way to what a computational rendering of a given entity's genomic sequence supposedly looks like.

Gaston Naessens pursued research independently of, as well as to some extent after, both Rife and Livingston-Wheeler had made their major breakthroughs in the 1930s and 1940s respectively, and part of Naessens' research led him to invent a microscope – known as the Somatoscope, which was more powerful than even Rife's ingenious Universal microscope and had been demonstrated to be able to enlarge objects some 30,000 times with a resolution of 150 angstroms or 15 nanometers. Electron microscopes are capable of enlarging

objects 400,000 times, with a resolution of 30 to 50 angstroms, which covers a range of between 3 and 5 nanometers.

One of the major differences between the Somatoscope and electron microscopes is that the former is capable of observing the processes of on-going life unfold down to the level of 15 nanometers, whereas whatever is observed through an Electron microscope is dead and, therefore, incapable of showing the nature of life lived. A second major difference between the Somatoscope and an electron microscope is that the images taken by the latter are often befuddled with different kinds of methodological artifacts which are caused by the dyes, temperatures, and energies to which objects being observed are exposed and, as a result, the methodological process which is used to make an image can distort the properties of what is being imaged.

Naessens was of the opinion that somatids (and their on-going life dynamics could be observed through the Somatoscope) were microzyma-like (Béchamp) or endobiont-like (Enderlein) entities that were more fundamental to life than cells were and out of which cellular life arose. In addition, he considered somatids to be some sort of precursors to nucleic acid activity, and, as well, he also maintained that every kind of tissue or cell had somatids which were peculiar to that kind of tissue.

Given that Naessens had provided a diagram of the 16-17 stages that gave expression to the pleiomorphic changes which took place during the life-cycle of a somatid (see page 6 of Christopher Bird's book: *The Persecution and Trial of Gaston Naessens* to observe the diagram being discussed), and given that Naessens maintained that each kind of tissue and cell was rooted in a form of somatid which was unique to that modality of tissue or cell, then, one might logically conclude that the pleiomorphic stages depicted in the aforementioned diagram give expression to different kinds of spores, bacterial forms, microbial forms, yeast forms, mycelial forms, and so on which, to some degree, would vary in morphology and function as one went from the somatids that governed one type of tissue, cell, or organism to the somatids that governed other types of tissues, cells and organisms.

The foregoing considerations could mean there are different kinds of prophages and phages which are associated with each of the 16-17 stages of a somatid cycle for a given kind of bacterial organism. In view

of the large number of genes in even the relatively few prophages and phages which have been identified and observed to have functions that have not, yet, been established by virologists, the ways in which prophages and phages might contribute to changes in the morphology and functioning of the pleiomorphic life-cycles of different kinds of somatids is a rather intriguing issue.

To whatever extent the foregoing symbiotic interactions between phages and bacterial or other microbial forms of the somatid life-cycle are present, then, this would constitute additional reasons why referring to phages as viruses might be problematic. In other words, given the many ways in which phages might interact with bacteria, then, to refer to phages as viruses could constitute a source of considerable distortion in one's understanding of phage dynamics because phages and prophages give expression to so many phenomena beyond the issues of filterability and toxicity.

During the previous chapter, mention was made of particular clinical observation by d'Herelle's. More specifically, he noted that as people began to recover from a bacterial-related illness, phages which had a countervailing action with respect to such illnesses would began to show up in stool samples of patients. According to d'Herelle, the foregoing phenomenon indicated that phages had an endogenous role to play in helping a person's biological terrain return to a condition of health, and, as a result, he always searched through patient stool samples in order to try to find precisely those phages that often showed up together with the bacterial forms which such phages had the capacity to counter.

In other words, phages don't necessarily: Drift about without; run into a target of opportunity (i.e., a bacterium); invade that organism; infect it with a replication process; and, then, exit, killing the host in the process. Indeed, certain bacteria, themselves, might be the source of phages that are produced by the activation of a set of phage-related genes already present in particular forms of bacteria, and, then, such phages are released into a given terrain in order to counter the presence of a form of bacteria that has been induced to go rogue and is spewing some sort of toxin as a defense or as the metabolic by-product of its own poisoned or pathological state

Again, let us look at things through the lenses of Ockham's razor. On the one hand, one might suppose that phages are generated by certain bacteria as a way of trying to help bring a biological terrain back to health which has been destabilized in some way (e.g., nutritional issues, genetic issues, and/or environmental poisons) and, as a result, has led to the emergence of problematic forms of bacterial dynamics. Or, on the other hand, one might suppose that phages have acquired their multi-gene genomes through a series of random events, and, then, busy themselves with random forms of drifting until such phages, quite randomly, bump into a bacterium that such phages, by chance, just happen to have the ability to enter, infect, and, then, exit those bacteria.

Estimates have been made that there are 10^{30} bacterial organisms in the world. Additional estimates indicate that there are 10^{31} phages in the world.

What are the chances that a single phage which possesses one or more specialized capsid proteins which enable that phage to gain access to a particular form of bacteria will be able to randomly bump into precisely the kind of bacteria for which it has the necessary access proteins? Of course, trying to make such calculations is muddied by all kinds of methodological issues (such as: How does one determine how many phages and bacteria of the foregoing sorts exist in a given volume, and what forces might impede the likelihood of those two kinds of entities interacting with one another?).

One can view the interaction between bacteria and phages as one that is governed by an incredible series of random, chance events that govern their respective origins and subsequent behavior. Alternatively, one can view their interaction as a set of ready-made, endogenous dynamics which are functionally dependent on the way that changes to the ecological terrain in which they reside serve to induce their respective epigenetic forms of activity to become manifested.

Phage dynamics might not consist of a process in which targets of opportunity are randomly targeted. Instead those dynamics might involve processes that seek to re-stabilize a destabilized, toxic, or poisoned biological terrain which has induced certain aspects of a

pleiomorphic life style to become active and, in the process, give rise to added forms of bacterial toxicity.

If the foregoing scenario is correct, then, this is one more indication that phages are not viruses in any sense except, perhaps, in the original sense of the term in which they are capable of bypassing processes of filtration, and, as well, phages are capable of countering the presence of certain dimensions of bacterial-related toxicity. On the basis of the two foregoing properties, phages have the capacity to manifest toxic properties when they have been assembled through a given bacterium's, or group of bacteria's, genetic potential that had been epigenetically activated as a result of changing conditions in the ecological terrain in which both bacteria and phages exist.

Nonetheless, phages don't infect and poison bacteria. Rather, bacteria provide phages with resources (and some of these resources will be discussed shortly) that, among other things, enable the latter to dismantle bacteria, just like antibiotics dismantle the cell walls of various bacteria by preventing those organisms from being able to synthesize, for example, peptidoglycan which plays a role in bacterial cell wall dynamics.

Unlike the activities of antibiotics, however, the activities of phages tends to be quite specific. Antibiotics are capable of dismantling the cell walls of bacteria that are not part of any pathological process, and, as a result, good bacteria, along with problematic bacteria, can both be affected adversely, whereas phages tend to restrict their activities to only those bacteria for which such phages have an affinity.

However, phage-caused termination of various bacteria is no more a matter of an infective disease than are apoptotic dynamics in human beings. Both kinds of dynamics give expression to activities that have the capacity to help return stability or normal forms of functioning to the life cycle of somatids.

Bacteria are capable of providing various kinds of vitamins –- e.g., vitamin K as well as different modalities of B-vitamins – to the human body in the form of micronutrients that play important roles leading to the synthesis of different enzymes. Similarly, phages appear to have the capacity to make a variety of contributions in the form of genes, or

sets of genes, that, under appropriate circumstances, can play important roles in helping bacteria to maintain health.

Naessens maintained that health tended to prevail in a given biological terrain when the somatid cycles in such a terrain were able to maintain stable operations within the first several stages of a given organism's or cell's somatid cycle. When biological terrain becomes destabilized in one way or another, the somatid life cycle begins to transition into other dimensions of its life cycle.

Under certain circumstances, phages can assist a destabilized somatid cycle to return to its healthy forms of manifestation. Phages do so by countering the activities of bacteria that have been induced by changes in the surrounding biological terrain to enter into rogue behavior.

One might say that somatids are to the body what the spirit is to the soul. In other words, if somatids are permitted to function properly, then, the body is healthy, and, similarly, if the spirit is permitted to function properly, then, the soul is healthy.

One could state the foregoing perspective in a slightly different manner as well. If the body is healthy, then, somatid life-cycle operations take place in a stabilized terrain, and if the soul is healthy, then, activities of the spirit are able to take place within a stable environment.

Another way of characterizing somatids is that they are like the black-boxes of the body. More specifically, in ways that are currently unknown, somatids transduce signals that, among other things, help the body's bioelectric field to operate properly, and, in this sense, somatids epigenetically mediate between, on the one hand, signals or various forms of energy that arrive from outside of the body and, on the other hand, the interlocking set of anabolic and catabolic metabolic pathways taking place within the body that help to sustain life (Some of these issues are explored a little more deeply in the book: *Follow the What: -- An Introduction*).

According to virologists, temperate phages – i.e., prophages – which are in a condition of dormancy (that is, they are not actively seeking to exit the host) will contribute to the defense of the host by blocking other phages from becoming active in that host. If such

phages are truly dormant, then, one wonders not only how such a dormant phage is, in some way, able to sense the presence of another phage, but, as well, is able to block the new kid on the block from taking up residency in the host.

Let us suppose, for the moment, that temperate phages are able, somehow, to accomplish the foregoing two actions. What has regulatory oversight concerning those activities?

Does that regulatory oversight come from the temperate phage or does it come from the host, or, does it come from some combination of the two possible sources of regulatory oversight? In either case, how does the process of activation work?

On could ask similar questions in conjunction with those instances in which a temperate phage leaves the condition of dormancy and enters into a lytic modality which leads to the release of certain kinds of enzymes that are able, in one way or another, to punch holes through a bacterium's cell wall and associated structures. In other words, what has epigenetic or operational control here: Is it the phage, or is it the host, or is it some combination of the two (phage and host) that leads to a transition away from dormancy and toward lytic activity?

If one frames phage activity through the lenses of virology, then, even if one is not able to explain how or why the functional status of the phage changes, nonetheless, the tendency of such a framing process is to suppose that the phage is somehow responsible for such a transition in activity status? Yet, how would one know that this is the case?

Can one necessarily rule out the possibility that the bacterium is making arrangements to initiate processes that will lead to its own demise due to failing health or irreparable forms of damage that exist in the bacterium or because the ecological situation has deteriorated and is no longer capable of sustaining a given population size of such bacteria? Can one assume that a dormant phage has the active wherewithal to be able to assess changing conditions within and/or without the host and, as a result, activate its exit or escape plan?

According to Naessens (and Béchamp maintained that the same was true with respect to microzymas), somatids will live on even after

the cell or organism in which it is ensconced dies. Perhaps, the somatid is transducing signals or forms of energy coming from without the cell or organism, as well as from within that cell or organism, and, then, on the basis of some sort of black-box assessment process, issues a set of epigenetic directives that will activate the lytic dimension of a temperate phage's lysogenic capabilities.

When a temperate phage first gains access to a host, there are two paths open to it. The phage can immediately set in motion the set of steps that will lead to replication and lysis of the host cell, or it can enter a state of dormancy.

Virologists point out that the "genetic switch" governing the foregoing dynamic has been studied in considerable detail. However, what is still unknown is what induces a phage to turn that switch on or off.

Does the phage, somehow (randomly or otherwise), activate one pathway or the other of its own accord. Does the host exercise regulatory oversight and turn that switch on or off? Do the somatids within the bacterium determine how the temperate phage will proceed? Does some complex dynamic encompassing the foregoing three possibilities take place?

Some people like to engage the foregoing issues through evolutionary lenses in which phages somehow make strategic assessments based on some sort of computational calculus concerning how their long term prospects of survival might be affected by turning the aforementioned genetic switch on or off in a given set of circumstances. No one has demonstrated how any of the foregoing dynamics can be demonstrated to be correct.

Lysogeny has been shown to be a real phenomenon. Empirical evidence exists indicating that temperate phages can exist in either one of two states – namely, dormant or lytic.

Nevertheless, notwithstanding the foregoing factual findings, no one really knows how it works. No one really knows how regulatory control concerning the aforementioned genetic switch is exercised.

What is known is that there is a condition – that is, lysogeny – which gives expression to at least one possibility in which phage and bacteria are not battling one another but are engaged in a relationship

of mutual benefit. This state of things is not viral in any sense other than that phages are not filterable.

However, as was discussed earlier in conjunction with the research of both Royal Rife and Virginia Livingston Wheeler, since there are bacterial forms which are not filterable as well, then, the size issue is not always capable of differentiating between bacterial and so-called viral entities. Furthermore, when a prophage is dormant and constructively contributing to the health of its host, there is nothing of a toxic nature that is taking place, and, consequently, one can't help but feel that the term "virus" is rather arbitrary because the definitional goal-posts concerning the nature of viruses often are being moved in one direction or another.

Enterobacteria phage Ff consists of ten genes made from 6,407 single stranded DNA nucleotides. Of the relatively limited number of phages (14,000 to 20,000) that have been identified to date, the Ff phage gives expression to what virologists believe constitutes a very small percentage of phages, but when one places those 14,000 – 20,000 phages in the context of 10^{31} phages which have been estimated to exist, then not only should a certain amount of prudence be exercised with respect to making claims about how rare a given kind of phage is, but, as well, one might consider the possibility that even if rare, when one has 10^{31} phages to work with, what is relatively rare still might be able to give expression to a substantial number of those kinds of phages when all things are considered.

Why bother with the foregoing considerations? The Enterobacteria Ff phage is of interest because it does not kill its E. coli host when the former makes its escape from its host, and, therefore, this phage, while, possibly, relatively, rare, nonetheless, exists.

Its existence raises a question. More specifically, in what sense can the Ff phage be considered a virus since it has no toxic dimensions to its modus operandi?

Virologists might try to address or counter the foregoing question with something along the lines that while this phage might not kill its host, nonetheless, it has the capacity to siphon off significant resources from the host during the process of replication. Consequently, in that sense, a phage could be considered be akin to a vampire-like parasite that could generate certain kinds of problems for the host.

While under laboratory conditions, the Ff phage might have the capacity to withdraw a considerable amount of resources from its host during the replication process, what actually takes place in the wild rather than in a Petri dish? Virologists claim that the Ff phage is capable of generating up to a thousand copies in a given round of replication, but what is the evidence that this is actually what invariably happens in non-lab circumstances?

For example, the Ff phage has only 10 genes. How does an entity with so few genes take control of the set of complex, interlocking metabolic pathways of an E. coli bacterium in a manner which will ensure that any pantry molecules (such as amino acids and nucleic acids) that might be present in the bacterium's cytoplasm will be able to find their way to, or be delivered to, the replication space connected to the genome of the Ff phage? In addition, once the cytoplasmic pantry supply of necessary molecules has been exhausted, how does a phage with ten genes induce its host to set about, first, making the component molecules that comprise amino acids (i.e., carboxyl groups, amino groups, and appropriate side chains) as well as nucleic acids (i.e., phosphates, pentose sugars, and nitrogenous bases), and, then, bring those component parts together to form the particular amino acids and nucleic acids that are needed by the Ff replication process?

How does the Ff phage genome signal the bacterial host concerning the replication needs of the phage? If one subtracts the genes that are needed to put together the access and exit mechanisms from those ten genes (and one should keep in mind that five of the aforementioned genes are dedicated to providing proteins from which the phage's capsid is constructed), one is not going to have many genes left for being able to signal, induce, or take control of the host's metabolic capabilities.

Furthermore, if the Ff phage genome is not able to signal the bacterial host concerning the replication needs of the phage, then, what is the nature of the regulatory oversight which is given expression through the epigenetic dynamics of the host that will move the host to supply the interloper with what it needs by activating the appropriate anabolic and catabolic pathways that will underwrite the phage's replication activities? How does the host become aware of such needs, and what induces the host to respond to those needs?

Can one call the Ff phage a parasite if the host supplies, unasked, what is needed? Sounds more like a Good Samaritan scenario.

What is the actual nature of the relationship between the Ff phage and its E. coli host because none of it seems very viral like? Can one call the entry of the Ff phage into the E. coli host an infection? If, without any genomic trickery on the part of the phage, the host supplies what is needed for phage replication, then, what is the nature of the infection?

There appears to be no element of toxicity present. Moreover, there appears to be no element of infection present (and one should keep in mind that many elements are able to gain entry to the interior of a bacterium and modulate the bacterium's functional dynamics without those elements being labeled infectious).

The Ff phage has too few genes to plausibly speak about phage-initiated processes that induce a host to either comply with the replication needs of the phage or which enable the Ff phage to be able to take control of the host's metabolic dynamics. So, in what sense is the Ff phage viral.

Although one might be able to generate as many as one thousand Ff progeny in a laboratory setting, we don't necessarily know what happens in the wild. Consequently, one can't even claim that what is generated at any given point is viral in the sense of a production process that is running wild, and even if such amounts were to be released in the wild, can we necessarily claim that we know what induces the host to co-operate with such a process or that we necessarily know what value, if any, the release of such copies has to the ecological environment into which they are being released?

Perhaps, one could be justified in referring to the Ff phage as some sort of opportunist, but, nevertheless, it doesn't seem to really display any of the defining qualities which tend to play central roles in the idea of a virus – namely, infectivity and toxicity? Once again, definitional goal posts seem to be on the move.

Interestingly, most phages that interact with Archaea organisms do not exercise the process of lysis but escape – to whatever extent they do – through dynamics which are not well understood. Archaea life forms (their physical properties and genomic characteristics are

different in certain ways from those of bacteria and eukaryotes) are often able to exist in extreme environments involving -- relatively speaking -- very high and low temperatures, or highly acidic or alkalinic conditions, or environments in which high concentrations of radiation or salt are present, and so on, and, consequently, one wonders how phages that interact with Archaea organisms are able to survive in such harsh conditions whenever they do exit such organisms in a non-lethal manner.

Archaea forms of life usually have one or more proteins which have the capacity to mitigate or dissipate whatever form of extreme conditions that might exist in the environments in which those organisms reside. Conceivably, some of these means of protection might have been shared with phages, and, if so, this doesn't seem to resonate with the notion that bacteria and Archaea are engaged in a Red Queen sort of arms race with phages.

The Red Queen hypothesis was originally introduced in 1973 by Leigh Van Valen. Originally, the idea was intended to address various co-evolutionary issues involving extinction dynamics on a macroevolutionary level.

The foregoing term is based on a line found in Lewis Carroll's *Through the Looking Glass* in which the Red Queen tells Alice that one, in effect, has to run as hard as one can just to remain in the same spot. Similarly, in evolution, different populations seem to have to busy themselves with making all manner of evolutionary changes just to keep up with, and, therefore, be able to maintain their own chances of survival, in relation to other populations.

Valen's hypothesis has since been expanded to encompass an array of possibilities concerning different kinds of dynamics (e.g., issues of diversity, systems of mating, and biological defenses) that require one species to attempt to co-evolve with other species in order to resist the onslaught of extinction. For instance, bacterial and Archaea life forms supposedly are engaged in never-ending battles with their phage antagonists wherein each side of the alleged battle has to scramble to come up with the sort of evolutionary changes that will enable a given side to be able to counter whatever changes have taken place by the other side of the supposed battle.

For example, allegedly, access routes into a host are a contentious issue. Supposedly, hosts keep changing their entrance pass codes in order to prevent phages from being able to gain access to the host's interior, and, in response, allegedly phages are constantly seeking to upgrade their decryption protocols concerning the changing host pass code protections.

If one views the foregoing issues through the lenses of modern virology, then phages are 'preoccupied' with the need to develop ways to counter the defenses that are constantly being introduced by bacterial and Archaea forms of life in order to be able to counter whatever changes in accessing, replicating, and exiting are being introduced by phages. The foregoing perspective is based on the presumption that phages, on the one hand, and bacterial and Archaea life forms, on the other hand, are inherently antagonistic to one another.

One problem with the foregoing considerations has to do with phages as an evolutionary entity. For instance, how did they come into existence?

What is being alluded to in the foregoing question is not a request for some possible theory concerning the origins of phages. What is being asked for is evidence-based proof that phages originated in one way rather than another and, in some way, independently of bacterial or Archaea evolutionary dynamics and, yet, just by chance, were able, via random processes, to develop capabilities that are sufficiently compatible with the properties of a given host that such phages are able to gain access to, infect, take over control of the host, replicate, and exit

Another question which might be raised in conjunction with phages has to do with the nature of the evolutionary dynamics that, allegedly, take place after phages have, in some way, come into existence. Can one really suppose that a relatively closed system like a phage is able to undergo the necessary set of fortuitous mutations again and again, or is able to undergo the necessary set of fortuitous reading errors again and again to be able, repeatedly, to, for example, generate intricately conceived new mechanisms for gaining access to whatever changes have transpired in relevant aspects of particular bacterial or Archaea life-forms?

Again, the foregoing question is not asking for someone to provide some sort of theory which provides a narrative that purports to explain such events. What is being requested is actual empirical proof that phages are able to continuously operate in an evolutionary manner that allows them to keep up with whatever changes might be taking place in bacterial and Archaea life forms.

What seems to be a simpler version of things – although there are epistemic gaps in this possibility as well – is that phages are provided with whatever new capabilities they need by the bacterial and Archaea life forms with which they have a relationship. After all, virologists maintain that bacterial and Archaea life forms are engaged in an array of metabolic and epigenetic dynamics that lend support to the activities of gene-deficient phages which, thereby, make possible the process of, say, phage replication. Moreover, many hosts accomplish the foregoing metabolic activities despite the fact that phages have not been shown to have the genetic wherewithal to either induce hosts to do so or to enable phages to be able to take over control of the complexities of the host's metabolic dynamics either with respect to: (a) The production of the components for amino acids and nucleic acids, or (b) the steps that are necessary to bring the foregoing components together to form functional amino acids and nucleic acids of the needed varieties. Consequently, would one's credulity be strained all that much if bacterial and Archaea forms of life were also able to provide updates to phages so that the latter entities would be able to continue to have access to the cytoplasmic interior of the former life forms?

As has been discussed previously in this chapter, the relationship between, on the one hand, phages and, on the other hand, bacterial and Archaea life forms seems far too complicated to be reduced to a dynamic of invasion, infection, replication, and lethal exit. There are too many exceptions to this definitional characterization to reduce such a relationship to being viral in nature, and there are too many unforced ways in which hosts genetically assist phages to go about their business while occupying space and resources in the host for that relationship to be reduced to being viral in nature, and there are far too many unanswered questions concerning the functions of the genes in phages that currently are unknown but which have nothing to do

with a phage's capacity to gain access to, replicate, and exit the host for that relationship to be reduced to being viral in nature.

Providing phages with new passwords, so to speak, to accommodate whatever changes have been transpiring in bacterial and Archaea forms of life rather than accounting for such accommodations via a litany of randomly fortuitous events seems to be the simplest solution to the foregoing issues – although, to be sure, just because one perspective is simpler than the other doesn't necessarily make the simpler account correct or true. However, there are many reasons – and quite a few of those reasons have been discussed previously in this chapter – to indicate that bacterial and Archaea life forms, considered as a whole, are advantaged in different ways by the presence of phages, and therefore, providing phages with new access codes to enable the latter entities to have continued access to changing conditions would be, as virologists might say, a good evolutionary strategy if bacterial and Archaea life forms wish to continue to benefit in various ways from the presence of phages.

Yes, along the way, phages will cause the death of a certain number of bacterial or Archaea life forms. However, until one understands how such deaths fit into the capacity of bacterial and Archaea life forms as well as phages to sustain a stable, healthy set of conditions for somatid functioning, one can't necessarily claim that the essential nature of a phage is to invade, infect, replicate, and mount a lethal exit.

Furthermore, if the foregoing sorts of protective dynamics were not shared with phages by bacterial and Archaea life forms, then, one is confronted with questions such as: What does enable phages to exist in, for example, extreme environments, and how did phages acquire these sorts of protective capabilities independently of the Archaea?

The notion of co-evolution doesn't explain any of the foregoing possibilities. Co-evolution is nothing more than a conceptually and empirically-challenged lazy person's attempt to account for the existence of a given state of affairs without actually having to provide the step-by-step dynamics of such a process. It is a term that alludes to a possibility for which it never provides the evidence that is needed to demonstrate the reality of such a possibility.

Furthermore, the idea of evolutionary pressure does not account for the foregoing Red Queen phenomena. Like the word "co-evolution," the term "evolutionary pressure" is a conceptually and empirically challenged lazy person's attempt to account for the presence of a given phenomenon without having to actually explain, in a rigorously empirical fashion, the dynamics of how the existence of 'need' (pressure) in a phage leads to the emergence of precisely what is needed by that phage.

The perspective which is being given expression through this chapter could be extended indefinitely with additional examples. Every aspect of a phage's replication process depends on its host to provide key enzymes and components that are necessary for the synthesis of various structural or enzymatic enzymes that make capsid scaffolding projects possible, or which play important roles in the construction of phage tails, or which lend logistical and regulatory support to the foregoing processes.

If one cannot show that hosts are invariably co-opted by phages in an array of ways that enable phages to take over virtual control of the metabolic machinery of a host – and virology really has not demonstrated that the foregoing is the case except in very limited ways (exceptions which amount more to modulating dynamics rather than to leveraged control) – then virology has a sizable problem. More specifically, if the relationship between phages and hosts is one of, respectively, viral predator and hapless victim, then, how does one account for all of the unforced and unleveraged assistance that hosts supply to phages?

There have been a variety of examples presented during this chapter which establish a proof of concept in which the relationship between phages and bacterial/Archaea life forms has been shown to operate in numerous ways that transcend the narrow confines of alleged viral activities. Consequently, to refer to that relationship as being viral in nature appears to obfuscate many dimensions of that relationship which appear to be non-viral in nature, and, therefore, one wonders why one facet (namely, the viral one) of such a relationship should be permitted to color and dominate, if not fundamentally distort, everything else which takes place during phage and bacterial/Archaea interaction.

The Archaeal virus His 1 has 35 genes consisting of a total of 14,462 base pairs of double-stranded DNA. The Enterobacteria P4 phage possesses 14 genes made from a total of 11,623 base pairs of double-stranded DNA. The φX174 coliphage has 11 genes drawn from a total of 5,386 nucleotides consisting of circular, single-stranded DNA. The Enterobacteria PRD1 phage gives expression to 31 genes drawn from a total of 14,927 linear, double-stranded DNA base pairs. The Pseudomonas φ6 phage consists of three, four-gene segments, consisting of anywhere between 2,948 base pairs to 6,374 base pairs of linear, double-stranded DNA molecules. The PM2 virus has 22 genes made from a total of 10,079 base pairs of circular, double-stranded DNA components. The Bacillus phage φ29 possesses 27 genes consisting of a total of 19,282 base pairs of linear, double-stranded DNA. The STIV (Sulfolobus turreted icosahedral virus) phage has 36 genes made from a total of 17,663 base pairs of circular, double-stranded DNA. The Enterobacteria P4 phage contains 14 genes consisting of a total of 11,623 base pairs of linear, double-stranded DNA.

The foregoing phages contain between 12 and 36 genes. If, in each case, one subtracts the genes that are needed for construction of the capsid and the tail, then, one is going to have very few genes left over to draw upon to explain how such phages are able to take over the metabolic machinery of the host so that a phage can, on demand, generate components such as carboxyl groups, and amine groups, along with relevant side chains that are needed to generate functional amino acids, or can, on demand, generate components such as phosphates, pentose sugars, and nitrogenous bases (e.g., adenine, cytosine, guanine, thymine, and uracil), that are essential to the generation of nucleic acids, and, as well, can, on demand, use the foregoing components to synthesize, respectively, the amino acids and nucleic acids which are needed for the replication process.

In addition, given so limited a number of genes, one also must try to figure out a way to account for the presence of the mRNA and tRNA molecules that are essential to the aforementioned processes of synthesis. Finally, one should not forget the logistical and regulatory dynamics that are required to ensure that all components, processes of synthesis, and just-in-time delivery are carried out in the right order,

at the right time, in the right amounts, and delivered to the right place, and, again, one has difficulty understanding how phages with so few genes will be able to accomplish such regulatory and logistical tasks.

Do the foregoing sorts of explanatory challenges change all that much if one considers phages with a large number of genes? For example, the case of the Enterobacteria T4 phage which has 280 genes containing a total of 168,903 base pairs of linear, double-stranded DNA already has been discussed previously in this chapter, and to that T4 phage, one might any number of additional exemplars.

For example, the Caulobacter φCbK phage possesses 338 genes made from 215,710 base pairs of linear double-stranded DNA. There is also the SPP1 bacteriophage which weighs in at 280 genes, drawn from 44,010 base pairs of linear, double-stranded DNA.

Very little, if anything, is known concerning the functions of many of the genes in those phages. Unless one can demonstrate that the unknown functions of such genes are capable of accounting for how the huge number of components such as: Carboxyl groups, amine groups, side chains, phosphates, pentose sugars, nitrogenous bases, mRNA, and tRNA are generated, or unless the function of such genes can be use to account for how the foregoing components are synthesized into functional units of amino acids and nucleic acids, or unless the unknown functions of such genes turn out to be able to explain how a given phage is able to take control of the logistical and regulatory dynamics associated with replication, then, one is really at an impasse with respect to understanding the full potential of these large phages.

Similar challenges arise in conjunction with phages that have intermediate-sized genomes. For example, the Enterobacteria λ phage has 74 genes, consisting of a total of 48,502 base pairs of linear, double-stranded DNA, while the Enterobacteria HK97 phage possesses 62 genes consisting of 39,732 base pairs of linear double-stranded DNA, and the Enterobacteria T7 phage has 60 genes drawn from 39,937 base pairs of linear, double-stranded DNA.

In each of the foregoing cases, once one subtracts the genes that are involved in the construction of capsids and tail mechanisms, as well as the phage genes that code for proteins which can be shown to be critical to the phage replication process, one is left with a number of

genes of unknown function. Unless one can show that those genes are capable of taking control of a variety of metabolic pathways in the host that will enable the phage to regulate the production of both the components that go into the making of amino acids and nucleic acids as well as be able to synthesize those components into functional amino acids and nucleic acids, then, irrespective of what function those genes might have -- and which are currently unknown – then, one really hasn't solved a mystery of significant import that lies at the heart of virology – namely, to whatever extent a given phage is not able to induce or force the genome of a host to do the bidding of such a phage, then, one has to come up with an explanation for why a host does what it does in support of phage replication if the host has not been induced or commandeered to do so by a phage.

Whatever facets of the foregoing considerations which cannot be explained in empirically verifiable ways alludes to dimensions of the relationship between, on the one hand, phages, and, on the other hand, bacterial and Archaea life forms that do not fit into a viral paradigm. This is the case irrespective of whether one is reflecting on the original sense of what a virus is (i.e., a filterable entity that has toxic properties) or one is engaging the idea of a virus in the more modern sense in which such an entity is considered to be capable of engaging, over time, in continuous Red Queen dynamics with its intended host, and once the secrets of gaining entrance to a host have been acquired, the virus proceeds to infect that host – by taking control of the host's metabolic machinery – and, thereby, force the host to produce all the molecular components and undertake all the processes of synthesis, as well as have oversight over all relevant logistical and regulatory dynamics which make the replication of a phage possible.

There are many aspects of the interaction between, on the one hand, phages, and, on the other hand, bacterial and Archaea life forms which appear to have nothing to do with toxicity, infection, or death – three properties that are the defining features of what a virus supposedly entails. Moreover, there are many facets of a phage's capacity to induce the death of bacterial and, sometimes, Archaea life forms which need to be understood in terms of population genetics and ecological dynamics before one can conclude that phages are

parasitic entities that exploit the resources of the life forms that it engages and does so solely to generate replicated copies of itself.

For example, what is the relationship among phages, somatids, pleiomorphic bacteria and Archaea in the context of the surrounding ecological terrain? There have been many self-serving zealots within science and medicine that were fighting, in ethically challenged ways, to protect their profits, modes of control, and paradigms in order to render invisible the research of such scientists as: Béchamp, Enderlein, Rife, and Naessens – as well as many others.

Just to name four such campaigns of suppression, one can point to the demise of Rife's Universal microscope as well as the Somatoscope of Naessens, both of which modern technology is still trying to catch up with, and, in addition, one should critically reflect on why so much of modern science and medicine refuses to engage in research concerning either the empirically-verified pleiomorphic properties of many microbial life forms or to follow up on the proven existence of entities more fundamental than cells – for example, somatids and/or microzymas -- which appear to have the capacity to modulate and regulate life in essential ways.

Whether one refers to this deeper dimension of life in terms of microzymas as Béchamp did, or endobionts as Enderlein did, or somatids as Naessens did, one is talking about something that can be ignored only at one's own epistemological peril. To whatever extent biology and medicine do not attempt to determine how somatids, pleiomorphic organisms, and phages interact within any given ecological context, then whatever understanding is present in that kind of a negligent approach to science and medicine will be incomplete in fundamental ways.

Such an exercise in willful blindness gives expression to toxic forms of "knowledge." Not only does the foregoing sort of willful blindness poison the integrity of scientific exploration and research, but, as well, it injects critical lacunae into the practice of medicine that -- according to a number of studies carried out by Harvard Pilgrim and Johns Hopkins -- cannot but lead to making so-called healthcare -- the third leading cause of death in America, and from the perspective of a more recent study ('Burden of Serious Harms From Diagnostic Error In The USA' by David E. Newman-Toker et. al.), indicates that the

clinical data involving such "healthcare" might actually provide the evidence to show that medicine is the leading cause of death in America.

After all, if one does not understand how life actually works, then, pursing an ethic which supposedly emphasizes that one should, first, do no harm, becomes difficult to accomplish. Consequently, failing to take into account, or seek to replicate, as well as follow up on the research of such individuals as Béchamp, Enderlein, Rife, and Naessens, would seem to be a good way of not being able to understand how pleiomorphism, somatids, bacteria, and phages might be connected to issues of healthcare.

When d'Herelle engaged with his family to come up with a word for the phenomena that he had been studying in the lab and in the field, the idea of "bacteriophage" was settled on. The filterable entity with toxic properties for bacteria was an eater (phage) of bacteria.

However, phages do not actually eat bacteria. If, or when, the latter organisms die at a certain point in the replication cycle of those phages, the cause of death is lysis rather than having been eaten, and not to put too fine a point on the matter, the residues of the lysis process are actually consumed by a variety of bacteria.

Death is just one dimension of the ways in which phages interact with bacterial and Archaea life forms. Moreover, phages – especially in the case of Archaea – don't necessarily kill their hosts.

In addition, genes can be swapped during such interactive dynamics. Moreover, sometimes, phages help protect or lend support to bacteria/Archaea in certain circumstances.

Perhaps the time has arrived to consider changing the name of the entities that engage bacterial and Archaea life forms in, among other possibilities, in the foregoing manner. More specifically, the common theme which links the different modalities through which phages and bacterial/Archaea forms of life interact with one another – including death -- involves the dynamics of modulation.

Just as processes such as methylation and acetylation modulate the way in which the genome of an organism is epigenetically parsed, so too, the dynamics of phages also modulate, and are modulated by, the life cycles of bacterial and Archaea life forms. In acknowledgement

of the foregoing theme of modulation, one might refer to such entities as "n-nano-mods" (n-nanomods) where the first "n" stands for "natural" and which differentiates them from the "s-nano-mods" (snanomods) or synthetic-nano-mods that are used in synthetic biology (This issue will be further discussed in a subsequent chapter).

So, to answer the question that forms the title of this chapter -– namely, "What are Phages?" –- a person might say that phages are modalities of genetic potential that are used for purposes of regulation, modulation, communication, stabilization, and termination. However, a more accurate way of referring to those phenomena might be to use the term: "n-nanomods."

The interaction between phages and bacterial and Archaea life forms is just part of the ebb and flow of population biology which seeks to establish various kinds of ecological stability. Temporary forms of destabilization are followed by dynamics involving, among other considerations, the interaction of phages and bacterial/Archaea forms of life which seek to re-establish ecological equilibrium.

Only human beings have the capacity to push social ecology into long-term destabilization and dystopian conditions through bad choices and toxic forms of understanding and knowledge. Fortunately, there are an array of symbiotic forces which are present in ecologies and which, sooner or later, collectively work their way toward establishing stability and equilibrium through, among other things, various kinds of adjustments in population biology.

Phages -- or, preferably (at least for me), n-nanomods -- are part of the set of orchestral forces which address such issues of destabilization. This is the case irrespective of whether this is in conjunction with the ecological terrain in general or the biological terrain of a given organism.

Chapter 7: Gain of Function, a Limited Hangout

In the summer of 2020, I was invited by an internet radio program host to talk about the COVID-19 issue. The concerns which I sought to explore during the interview had to do with, on the other hand, the manner in which the American constitution had been shredded in so many different ways during the governmental response (on the federal, state, and local levels) to a health condition that as far as matters of lethality were concerned had been characterized by various epidemiologists and other medical researchers as being not all that different from bouts of seasonal flu, and, on the other hand, during the aforementioned interview, I also was interested in broaching the subject that, perhaps, the real problem entailed by the official medical response to COVID-19 was, to a considerable degree, iatrogenic in nature due to mistakes that appeared to have been made with respect to diagnosis as well as the problematic use of respirators in conjunction with treating an array of patients who had been diagnosed as suffering from COVID-19.

By training, I am neither a constitutional lawyer nor a medical doctor. However, I have slept in a Best Western Motel which, according to the ads, should make me capable of all manner of wondrous deeds.

Notwithstanding the constructive impact that the foregoing sorts of sleeping accommodations might have on my capabilities, both constitutional lawyers and medical doctors often seem to suppose that because someone is not a lawyer or a doctor, then, such an individual couldn't possibly develop a defensible understanding concerning the Constitution of the United States or acquire some degree of facility with biological issues. However, over six-plus decades, I have not only watched a plethora of technical videos and read what seems like a googleplex of books and articles concerning constitutional law as well as scientific treatises focusing on medicine, biochemistry, molecular biology, cell physiology, neurochemistry, virology, evolution, and epigenetics, but I also have taken the time to critically reflect on and, then, write a number of books dealing with constitutional, medical, and scientific issues.

I also have worked in several hospitals. Consequently, I have some insight into how such facilities and medical personnel operate.

If someone has a problem with my desire to offer an informed opinion with respect to constitutional, medical, or scientific topics, then, they should at least read what I have written and prepare an appropriate sort of putative rebuttal to what is being said in such materials before concluding that what follows is of little, or no, value (e.g., please read: *Observations Concerning My Encounter with COVID-19?* as well as *Follow The What?: An Introduction*).

Before engaging in the 2020 internet radio interview which was mentioned at the beginning of this chapter, I already was familiar with a whole set of controversies surrounding the idea that HIV causes AIDS (and, the connection with COVID-19 will become apparent shortly). For example, I knew about the research work of Peter Duesberg, Kary Mullis, Perth Group, and Jon Rappoport -- all of whom indicated that there was no reliable evidence capable of demonstrating that HIV caused AIDS. I also understood that the ELISA and Western Blot diagnostic tests were problematic because so-called HIV-related antibodies have been shown to be quite promiscuous in the way they interact with an array of some 90 other substances (including samples from pregnant women) and, therefore, such positive, surrogate marker, diagnostic tests are not proof of, nor necessarily even a strong indicator that, HIV is present.

If one cannot prove that HIV exists, and if one cannot show that a serological test for the alleged presence of HIV is reliable to a high degree of confidence, then, what has one actually got? The answer is: not much.

The foregoing considerations are relevant to the COVID-19 controversies. Before engaging in the aforementioned internet radio interview, I was aware that medical doctors such as: Andy Kaufman, Tom Cowan, Mark Bailey, and Sam Bailey, as well as molecular biologists such as Stefan Lanka, and biological researchers like Mike Stone, had shown there is no reliable, definitive proof that the alleged SARS-CoV-2 virus actually exists.

If SARS-CoV-2 cannot be proven to exist, then, the PCR protocol is useless as a diagnostic test. There are at least two reasons for making such a claim.

First, according to Kary Mullis -- the chemist who invented the PCR procedure and won a Nobel Prize for doing so -- the PCR protocol

cannot be used as a diagnostic test and, in fact, he indicated that the idea of treating the PCR protocol as a quantitative technique is oxymoronic. Secondly, if the so-called SARS-CoV-2 virus does not exist, then, using the PCR protocol is pointless, and this contention is quite independent of the issue concerning the number of cycles of the protocol that are to be run because no matter how few or how many cycles are run, as long as one has no unique molecular sequence for which to search via the PCR protocol – and a non-existent molecule has no such unique molecular sequence – then, the PCR protocol cannot possibly detect the presence of a non-existent entity.

In concert with the foregoing considerations I proceeded to make a number of points concerning (a) constitutional law, (b) diagnostic issues, and (c) medical treatment during my time on the aforementioned internet radio program. With respect to those three points, the two which are most relevant to the ensuing discussion have to do with diagnostic issues and medical treatment.

Recently (July 17, 2023), an article appeared in the British Medical Journal. The title of the article is: "*Burden of Serious Harms from Diagnostic Error in the USA*" by David E. Newman-Token and ten other individuals.

I had been aware of previous research (e.g., , Dr. Barbara Starfield, Johns Hopkins University, *Journal of Patient Safety*) indicating that anywhere from 250,000 to 450,000, or so, individuals die every year as a result of surgical and medication mistakes that are made by the healthcare system. These iatrogenic errors are not necessarily intentional, but, intentional or not, a substantial number of people are dying every year at the hands of the healthcare system.

If the findings of the previously noted 2023 BMJ are correct, then one must add another approximately 371,000 deaths per year due, to diagnostic error to the earlier figures of 250,000 to 450,000 deaths per year. This would mean that each and every year, some 800,000 people will die because of iatrogenic problems, and as a result, medical error might not be the third-leading cause of death as various earlier studies have noted, but, iatrogenic factors could be the number one cause of death in the United States.

The foregoing BMJ article does go on to indicate that if one adds the number of people who die as a result of diagnostic and other forms

of medical error to the number of people who are permanently disabled as a result of such issues, and, then, compares that total with the number of annual client or patient visits that take place each year (roughly 1 billion), there is less than 0.1% risk of encountering a problematic diagnosis. However, if one limits one's focus to people who seek healthcare for a life-or limb-threatening malady, then, such individuals have a roughly 11% chance that the actual nature of their health problem will be misdiagnosed, and a 4% chance that they will either die or become permanently disabled as a result of possible diagnostic errors.

Because there have been a lot of moving goalposts associated with the collection of data in relation to COVID-19, one has difficulty finding even relatively clean data concerning this issue. Nevertheless, irrespective of whatever data one might consider, there is one consideration that remains constant – namely, if SARS-CoV-2 does not exist and if the PCR test is useless, then, every diagnosis of COVID-19 which led to someone being put on a respirator or treated with toxic anti-virals such as remdesivir (which became the hospital standard of care in October, 2020) and which, subsequently, led to death or some form of permanent disability, then those actions give expression to diagnostic error.

Moreover, one should not forget about the manner in which COVID-19 diagnoses were financially incentivized to the tune of hundreds of thousands of dollars thanks to the CARES Act which was passed on March 27, 2020. Eventually, this Act induced many hospitals to change the way they coded various forms of diagnostic protocols, treatments, and medication procedures for purposes of billing in order to be able to take advantage of the financial incentives that were present in the CARES Act.

If SARS-CoV-2 cannot be proven to exist, and if PCR is useless as a diagnostic test, then, the federal government financially encouraged the healthcare system to rush to judgment and commit diagnostic errors. In addition, people were being treated for an alleged viral illness that had not been proven to exist and for which a PCR procedure was irrelevant, and as a result the healthcare system was making money hand over fist for perpetrating a diagnostic fraud on the people that came to that system seeking medical assistance.

The foregoing considerations resonate with another form of possible fraudulent behavior. This activity has to do with the gain of function issue.

Chapter 3 and Chapter 4 of the present book spent a fair amount of time outlining why the claims of those who postulate that viruses which supposedly attack, for example, human beings exist cannot back-up their claims. To reduce this problem to its most basic formulation, virologists are unable to show that their culture studies demonstrate the existence of this or that virus if one also runs a control group in which the elements to which the sample in that control group are exposed are the same as the elements to which the experimental group are exposed.

More specifically, the only difference between the experimental group and the control group has to do with the origin of the samples which each will be subjected to the same set of components. In the experimental group, the sample is drawn from an ill organism, whereas in the control group, the sample is drawn from a healthy organism.

When one runs both of the foregoing samples through a culture study involving a monkey kidney cell (plus other ingredients, including antibiotics) one finds that the cytopathic (death) event happens to both the experimental sample as well as the control sample. If a virus were the cause of the cytopathic event in the sample from the ill organism, then, such an event would not also be taking place in conjunction with the healthy sample.

The fact that the aforementioned cytopathic event takes place in relation to both the sample from a healthy organism as well the sample from an ill organism indicates that what is killing the monkey kidney cell is not the presence of a virus. Rather, the monkey cells which accompany both the experimental and the control samples are dying as a result of the ingredients (some of which are toxic to monkey kidney cells) and conditions (near-starvation diet) that are present in each of the cultures.

If one can't isolate viruses – and the foregoing culture studies demonstrates that viruses have not been isolated – then one is not in a position to be able to sequence the genes of such alleged viruses. However, notwithstanding the fact that viruses have not been isolated

or purified, virologists, nonetheless, are inclined to proceed with a set of procedures which supposedly are intended to lead to being able to identify the nucleic sequences of the putative genes in an alleged virus.

The methods used by virologists to eliminate non-viral DNA or RNA from their sequencing project are flawed. More specifically, if one contends that a virus exists in a given sample and if one wishes to sequence that virus, then when one takes a sample, one must try to eliminate everything which is non-viral in character from that sample.

The sample with which one starts is likely to contain different kinds of cellular remnants from a human being, as well as a certain amount of bacterial and phage debris which has been caught up in that sample. All DNA and RNA are made from the same basic components irrespective of from where such nucleic acids come (e.g., human beings, bacteria, phages), and, therefore, when one is attempting to remove non-viral DNA or RNA from a given sample, one is faced with a substantial problem – namely, how does one determine the origin of the DNA and RNA which one has managed to isolate from non-nucleic acid materials in a given sample?

Libraries of different sequences of DNA and RNA have been developed, and while DNA and RNA might arise from the same set of components (phosphates, pentose sugars, and nitrogenous bases), perhaps – or so the theory goes – one can differentiate viral from non-viral sequences by trying to match sequences from the sample with library entries, and on the basis of such comparisons, one might be able to identify sample sequences that seem to exhibit a close or similar set of nucleotides, and, then, by entering various sequences into a program, one can use algorithms to interpolate and extrapolate relationships among such sequences, as well as add a few filler sequences to bridge gaps in the information that has been gathered.

The problem with all of the foregoing considerations is that no one has ever been able to properly isolate and purify viruses that supposedly infect human beings or other organisms such as birds, pigs, bats, and so on. Consequently, the library of DNA and RNA sequences that are being used as a frame of reference for purposes of sample comparison have all been arbitrarily constructed or invented, and, as a result, one really has no reliable way to differentiate between

non-viral and viral nucleic acids even if one were to suppose that the latter sorts of entities existed.

In addition, computer programs which are used to piece together the bits and pieces of alleged viral remnants also are completely arbitrary in the way they function. In other words, those programs use interpolative and extrapolative guesses concerning a set of separate sequences that have been found in a sample to assemble a single, alleged genome based on, among other things, guidance from library sequences that have highly suspect provenances.

In essence, virologists are seeking to sequence entities that they have been unable to demonstrate even exist. As a result, virologists are engaged in a process of reifying their ideas about viruses by inventing the existence and sequence of those entities.

Chapter 5 and Chapter 6 of the current work introduced additional material which helped to establish why phages – which, according to virological theory, attack bacterial and Archaea life forms -- are not necessarily essentially viral in character. Instead, phages – or 'n-nanomods' often give expression to a much broader set of properties which, depending on circumstances, might involve processes of modulation, communication, regulation, stabilization, and not just termination.

Finally, Chapters 1 and 2 provided an introduction to the research of Béchamp, Enderlein, Rife, and Naessens which offers a different way of looking at certain aspects of biological functioning. The difference being alluded to is especially prominent when considered in relation to, on the one hand, a pleiomorphic versus a monomorphic approach to microbiology, and, on the other hand, when considered in relation to the notion that, for example, a black-box of sorts (in the form of microzymas, endobionts, and/or somatids) exists in, and is more fundamental than, cells are and, in fact, might very well engage in epigenetically modulating, as well as possibly exercising regulatory oversight over, cellular activity.

In short, Chapters 1-6 sought to develop several perspectives. One such perspective indicates that viruses – whether in the sense of entities that supposedly attack human beings or in the sense of entities that supposedly attack bacteria – do not exist, while two other perspectives give expression to pleiomorphism and the activities of

microzymas/endobionts/somatids that engage issues of health and illness in a manner that is very different from much of modern medicine which is based on a monomorphic theory of microbiology in which viruses and bacteria regularly seek to attack organisms such as human beings.

If we key in on the first of the three perspectives noted above -- i.e., viruses do not exist -- then, what is one to make of the so-called gain of function controversy that has emerged in conjunction with the COVID-19 issue? In other words, if viruses do not exist, then, what, if anything, does gain-of-function research actually entail, or, alternatively, given the premise that viruses do not exist, then, is the notion of "gain-of-function" even intelligible, and if not intelligible as viral research, then, what might be going on?

In 2015, an article appeared in *Nature Medicine* entitled: "A SARS-like Cluster of Circulating Bat Coronaviruses Shows Potential for Human Emergence." The research on which the article was based had been led by Vineet D. Menachery, but Ralph Baric also was a participant in the project.

Two of the contributors to the article were employed by the Wuhan Institute of Virology and worked in the Key Laboratory of Special Pathogens and Biosafety. Their names are: Xing-Yi Ge (considered to be one of the foremost gain-of-function scientists in China) and Zhengli-Li Shi (sometimes referred to as "Bat Woman").

The foregoing paper provided information suggesting that there was some danger of a cross-species transmission taking place in the near future that involved a SARS-CoV type of virus. More specifically, that article outlined how samples drawn from Chinese horseshoe bat populations had been discovered to possess a SARS-like virus which had the capacity to: (1) attach to ACE2 receptors in human beings; (2) effectively replicate in human airway cells (in vitro – i.e., in the lab), as well as (3) access and generate pathology in the lungs of mice (in vivo – animal experiments).

Some people have cited the foregoing paper as part of the evidence which shows that scientists at the University of North Carolina in Chapel Hill had been working with, among others, researchers at the Wuhan Institute. An additional suggestion

concerning the article is that such a collaboration involved gain-of-function research.

The working relationship between scientists at the University of North Carolina can be proven because, after all, the names of scientists from both the University of North Carolina as well as the Wuhan Institute are affixed to the aforementioned article. However, the second claim concerning gain-of-function research is not as straight-forward and tends to be constructed upon much more shaky foundations.

SARS-CoV viruses have never been properly isolated or purified. Therefore, such viruses have not, yet, been shown to actually exist.

Consequently, when researchers at the University of North Carolina and the Wuhan Institute of virology maintain that a SARS-like virus has been found to be circulating in the Chinese horseshoe bat population, how can something be SARS-like if the SARS-CoV virus has never been proven to exist unless, of course, one were to suppose that the virus which allegedly is circulating in the Chinese horseshoe bat population is like the putative SARS-CoV virus in as much as neither has actually been proven to exist.

Both the alleged SARS-CoV virus as well as the alleged SARS-like SHC014 virus that, supposedly, had been circulating in Chinese horseshoe bat populations give expression to genetic sequences which have been invented as a function of interpolative and extrapolative algorithmic computations that have been used to analyze, and piece together, sets of nucleotide sequences which cannot be proven to have come from a virus. How does one engage in gain-of-function research with an alleged virus -- as well as with something that is allegedly similar to such a putative virus -- that cannot be proven to exist?

There is definitely something going on with respect to the foregoing kind of “research” that has the smell of fishiness about it. After all, the researchers are all talking about entities that have never been proven to exist and which are associated with invented genetic sequences that are based on the arbitrary computations of a set of questionable processes of interpolation and extrapolation that operate within a software program.

However, whatever is, or isn't, taking place in various research laboratories, would seem to have, little, or nothing, to do with gain-of-function. Indeed, one has difficulty understanding how one introduces a gain-of-function to a non-existent entity, although, obviously, anything that one might introduce in such circumstances would constitute a gain-of-function, because when something which is functional is added to something that does not exist (and, therefore has no functionality), then, in a sense, there has been a gain of function, but this sort of gain does not involved altering, in some manner, the degree to which such a non-existent virus is lethal or does not involve seeking to enhance the extent to which such a non-existent virus is transmissible.

As a more general statement of the perspective concerning the possible dangers of alleged SARS-CoV viruses and their presumed near-companions, the aforementioned article raises the possibility that not just a SARS-like virus might jump from bats to human beings, but any number of viruses might make the zoonotic jump from some species of birds, bats, or mammals to human beings. Unfortunately, no one seems very clear about how such zoonotic jumps are actually made, and, naturally, given what has been said previously in this book, one should not find this state of affairs all that strange because in order to provide an account of how purported zoonotic jumps take place from one species to another, one would have to have an actual existing virus with which to work.

If one were trying to determine how one might induce illness in one species by using materials that either caused illness in another species or contain molecules that were derived from another species and were considered toxic to, for example, human beings in some way, then, perhaps, this might bear some very slight resemblance to gain-of-function research. Moreover, one can't necessarily rule out the possibility that this kind of research is taking place (there will be more on this in the next chapter), but the foregoing sort of research does not appear to constitute gain-of-function research in the currently, frequently understood sense of that term in which a researcher manipulates the genetic sequence of a virus in a manner that enhances the lethality of that virus and/or renders such viral lethality or pathology to be more transmissible to human beings.

The alleged existence of coronaviruses has been "known" for some time. For the most part, virologists consider such purported viruses to be relatively benign and are supposedly connected with, among other things, the common cold – entities which are, allegedly, capable of inducing a certain amount of unpleasantness but are not considered to be lethal, except, perhaps, in rare circumstances.

However, in 2002-2004, a purported variation on the coronavirus emerged in the form of what was referred to as a 'SARS-CoV-1strain' of virus. The foregoing strain was said to be highly lethal – in fact, SARS-COV-1 is considered to be more lethal than the SARS-CoV-2 strain – but, apparently, the so-called 2002-2004 outbreak had been contained without resorting to mRNA injections (which makes one wonder why public health officials felt that the less dangerous SARS-CoV-2 ought to be engaged far more stringently than had been the case with respect to the supposedly more lethal SARS-CoV-1 coronavirus strain).

Once again, however, one is confronted with something of a 'riddle, within a mystery that is wrapped within an enigma' (cf. Churchill). This time, the puzzle concerns viruses and not Russia.

In what sense can one say that something that does not exist also exists? Viruses have existence in the realm of ideas, theories, and hypotheses, but their ontological existence has not, yet, been established.

One cannot say that since viruses can be thought of, therefore, they must exist. To date, their existence as a protein-capsid which encapsulates a genome of single-stranded or double-stranded DNA or RNA nucleotides which are capable of infecting, taking control of, replicating, and being able to terminate a host is purely conceptual.

Nonetheless, there is a substantial mystery present in this state of affairs. Why would so many people act as if they had found something when no such discovery has actually been proven to have taken place, and, then, why would so many individuals go about inventing genetic sequences to give expression to entities that haven't been shown to exist?

Of course, once one takes into consideration the fact that there are all manner of pressures involving: Careers, prestige, fame, substantial amounts of money, consulting gigs, patents, high standards of living,

and having the chance to be saviors of humanity that have become entangled with the idea of viruses, then, why someone might avoid engaging in a great deal of critical reflection concerning the foundations of a conceptual enterprise that plays a central role in all of the foregoing considerations, then, things become a little less mysterious. The likelihood that the above scenario might govern how people often tend to proceed in life is enhanced when one considers social psychological experiments such as how Solomon Asch's 1950s perception experiment demonstrated that a fairly substantial number of people would identify one line as being longer than another, not because that line was longer (since it clearly wasn't longer), but, rather, because other people -- who were confederates in the experiment -- had given their "answers" (their answers were scripted) concerning the longer length of the line before the subject of the experiment was required to identify such a line as being longer, or, how, Stanley Milgram demonstrated in the early sixties that two-thirds, or more, of many groups were prepared -- without being coerced, threatened, or bribed -- to give a long series of what they believed were painful, potentially lethal, shocks to another individual who suffered a heart condition because those subjects had ceded their agency to someone (a person the subjects believed was a scientist) whom they considered to be trustworthy and who had told the experimental subjects that while the shocks might be painful, nonetheless, those electrical jolts were not dangerous to a person's health even when there were markers on the control panel which suggested otherwise.

When reputable professors (perhaps Nobel Prize winners) at prestigious universities tell a student that culture studies prove the existence of viruses, when this is not the case, or when the foregoing kinds of professors tell students to trust in the so-called science of viral genetic sequencing when such a "science" is nothing but a questionable, unreliable form of methodology, then, one is not surprised to see students cede their agency to the opinions and ideas of their virology or medical teachers because the former individuals are anxious to succeed as well as to be well-thought by the teaching staff, and those students want to be mentored by the ones who "know," and, therefore, such students might be quite willing to cede

their agency to people they believe they can trust but, perhaps, ought not to.

The enigma arises when one takes steps to demonstrate to people who believe in the tenets of virology that: (a) viruses which supposedly attack and infect human beings have not actually been properly isolated and proven to exist, or that (b) the genetic sequences being cobbled together through various kinds of computer software programs begin at no beginning and work toward no end because the entity that is having its putative genome analytically sequenced doesn't actually exist and that the algorithmic computations used for such an allegedly powerful technological innovation generate nothing more than a sequence of fabrications. When confronted with the foregoing kinds of evidence, most virologists will deny that what they are being shown or told is true, and insist, instead, that viruses have been: Isolated, purified, shown to exist, and, in addition, the sequencing of such viruses has the capacity to accurately reflect, to a considerable degree, the genomic character of any given virus.

Such individuals suffer from severe cases of cognitive dissonance. On the one hand, they believe they are scientists (with all this entails concerning issues of objectivity, impartiality, empirical evidence, critical thinking, replication, as well as methodological rigor), and, on the other hand, there is considerable evidence (different aspects of that evidence have been touched upon in the first six chapters of this book) which indicate that while those individuals might be called "scientists", nevertheless, their day-to-day actions in the laboratory or field suggest otherwise because they do not seem to be able to rationally process some fairly simple, straightforward facts which can be demonstrated to be true.

Given the foregoing conflict, a person has three choices. (a) A person can deny demonstrable evidence and, as a result, become ever more tightly tethered to a false paradigm, or (b) an individual can look at the evidence which runs contrary to the very foundations of virology, reflect on that evidence, and exercise sufficient integrity to admit that one was wrong as the individual goes about trying to become extricated from the distorting forces that are present in the sort of toxic "knowledge" which glues virology together, or (c) a person can continue to allow oneself to be torn apart by contradictory

perspectives which, as long as they continue to conflict with each other, will never permit the individual to resolve fundamental issues of biology, life, health, and illness.

Most virologists opt for some version of either (a) or (c) above. Both options tend to suggest the presence of various forms of either educational abuse and/or various elements of institutional as well as societal techniques of mind-control, but, in addition, each of the foregoing options also indicates that individuals caught up in the foregoing sorts of cognitive dissonance have, somewhere along the line, ceded their own sovereignty or agency to those dynamics and, as a result, have become their own captors.

Once a person drinks the virological Kool-Aid which has been dosed with all manner of toxic knowledge, then that person's life is likely to be consumed with chasing various epistemological ghosts and will-'o-the-wisps. Like looking at tea leaves in the bottom of a cup, they will become lost in computer-generated algorithmically-driven libraries of RNA and DNA sequences which, like the aforementioned tea leaves, will be assumed to have meaning and, as a result, be used to create models of viral dynamics that will be the subject of journal articles, conference talks, grant proposals, public talks, congressional testimony, and university lectures that are intended to induce others to drink from the same draught of toxic-knowledge-laced Kool-Aid.

Many individuals consider the Wuhan Institute to be at the epicenter of Chinese military involvement in bio-warfare research. Consequently, the fact that scientists from the University of North Carolina, Harvard, and the FDA's National Center for Toxicological Research were collaborating with scientists from the Wuhan Institute was, as the Joaquin Phoenix character in *Gladiator* kept saying, vexing to them.

What should have been much more vexing to those who were concerned about the aforementioned sort of collaboration is the extent to which such scientists and their colleagues around the world have been part of a conceptual paradigm that has spread, viral-like, around the world and lethally infected so much of education, medicine, research, law, the media, and politics. Whatever scientists in America were collaborating on with members of the militarily-controlled Wuhan Institute, billions of dollars were being spent in the United

States to lend support to and evangelize a paradigm of toxic knowledge involving virology.

The aforementioned 2015 article by Menachery and others was preceded by another University of North Carolina project, spearheaded by Ralph Baric, involving a grant of $10 million from the National Institute of Health. The foregoing project was dedicated to investigating not only the manner in which various viral pathogens operated and, in the process, caused different kinds of acute and chronic illnesses, but, as well, that NIH-funded project was committed to finding ways to alter those kinds of viruses in order to be able to develop vaccines to counter such alleged pathogens.

The foregoing research was a follow-up to 2008 research which had been conducted by Ralph Baric in relation to the alleged generation of coronavirus clones that could be used in the development of, among other things, vaccines. That research also was being funded by the National Institute of Health.

Toward the end of 2008, Baric and his research team announced that they had been able to synthesize a SARS-like virus from bats which they claimed had been shown to be able to infect epithelial cells, in vitro, from the lungs of human beings as well as mice, in vivo. Whatever Ralph Baric might have been doing in 2013 and 2008, he could not have been studying, respectively, viruses that purportedly caused various kinds of acute and chronic diseases, nor could he have been cloning coronavirus genes, nor could he have been synthesizing a SARS-like virus from bats.

While the Baric research team might have been working with samples which they believed contained a coronavirus and while they might have been trying to clone whatever they believed was contained in such samples, and while they might have synthesized something that they believed to be SARS-like, nevertheless, they were working with something other than viruses. This is because, as indicated previously, no one has proven that SARS-CoV-1 or SARS-CoV-2 or SARS-like viruses actually exist because none of those entities have been properly isolated, purified, subjected to experiments which contain control groups, or been sequenced in a manner that was not the invented product of software programs which used arbitrary algorithms to construct RNA and DNA sequences, and consequently,

whatever kinds of vaccines might be developed in conjunction with such fabricated, and, therefore, toxic knowledge, is likely to be toxic as well (See: Chapter 12: De-Stabilizing Vectors of Toxicity in *Follow the What? - An Introduction*).

In 2004, the World Health Organization announced it was concerned with the safety of bio-labs in different parts of the world but tended to focus on various problems that were taking place in conjunction with bio-labs in China. While officials at WHO were uncertain how many labs world-wide were storing and working with SARS-CoV strains, they noted there had been four cases in which SARS had shown up in individuals since July 5, 2003 which could be linked, in some way, to what were said to be some form of leaks from Chinese labs.

In 2011 the American government prepared a review concerning various lab leaks that had occurred between 2003 and 2009. The review indicated there had been 395 events in the United States in which pathogens of some kind were said to have leaked from both the United States Army Medical Research Institute located in Fort Detrick, Maryland as well as various labs operated by the CDC.

Whatever was being leaked from Chinese and American labs might have been toxic. Nevertheless, the presence of toxicity does not prove that what had been leaking were viruses – especially given that viruses capable of infecting human beings have never been properly isolated, purified, or sequenced.

In March of 2014, Martin Furmanski, a medical doctor as well as a medical historian, had an article published in the *Bulletin of the Atomic Scientists*. In the article, Dr. Furmanski expressed his concern about the capacity of human beings to engage in the sort of gain-of-function research that might give rise to entities that were able to cause the very diseases that those countermeasures were supposed to resolve, and, as such, referred to the possibility of lab leaks as being a form of self-fulfilling prophecy.

For instance, he indicated that between 1963 and 1978, there had been only four cases of smallpox in England which were related to individuals who had been travelling in areas where smallpox outbreaks had been endemic. None of those four individuals died. However, during the same fifteen year period, there had been 80 cases

of smallpox involving three deaths that could be traced to leaks which had taken place at several accredited small pox laboratories in England.

Interestingly, Dr. Furmanski doesn't seem to have considered one possibility. More specifically, is it possible that the four cases of smallpox that were diagnosed in individuals who had been travelling in foreign countries where smallpox had been epidemic were the victims – as were the individuals in the regions where smallpox was epidemic – of small pox vaccines which might have spread the disease rather than contained it because there have been many recorded instances (see, for example, *Dissolving Illusions* by Dr. Suzanne Humphries and Roman Bystrianyk) in which the receiving of vaccinations have been strongly implicated as being the cause of various smallpox outbreaks.

Whatever might have been present in the 80 cases of smallpox that could be traced to several labs, and whatever might be present in the vaccines which are used to counter that disease (but often end up causing that very illness), nevertheless, such a 'something which is present' has never been shown to be a virus on the basis of the isolation and sequencing techniques that are used in virology. Smallpox is a real disease, but the claim that this illness is caused by a virus is a narrative and not an empirically verifiable fact.

Dr. Furmanski's article also discusses Venezuelan Equine Encephalitis which, supposedly, is due to a virus that is transmitted by mosquitoes. He points out that between 1938 and 1972, the vaccine used to combat that disease has been implicated as having caused more cases of the illnesses than occur naturally.

Once again, one might point out that while Venezuelan Equine Encephalitis is a real disease, no one has proven that this illness is caused by a virus. This is because in order to make that sort of a claim, one would have had to have been able to demonstrate that what was being called a VEE virus had been properly isolated, purified, and sequenced, and this has not, yet, been done.

What causes Venezuelan Equine Encephalitis is unknown. However, one has difficulty not being intrigued by the possibility that, once again, as was the case with smallpox, whatever the ingredients are that are present in the VEE vaccine, one or more of those

components appear to be capable of inducing symptoms of that disease just as the smallpox vaccine is capable of inducing the symptoms of smallpox.

The Furmanski article goes on to make reference to the 2003 SARs outbreak which was alleged to have caused 8,000 infections and 774 deaths in 29 countries. During this aspect of this paper's discussion, he introduces the notion of "super-spreaders" who are purported to have the capacity to infect eight or more other individuals.

The SARS outbreak was said to have caused 8,000 infections. However – as noted previously -- SARS-CoV-1 has never been properly isolated, purified, or sequenced, and, therefore, such a virus has never been demonstrated to exist. So, what was the nature of the diagnostic tool that produced a positive result in those 8,000 cases, and how reliable can such a diagnostic tool be considered to be if the SARS-CoV-1 virus has never been demonstrated to exist independently of such a test?

The letters: SARS, are short for: Severe Acute Respiratory Syndrome. Something is causing its symptoms, but not necessarily a virus.

Furthermore, how can someone be the super-spreader of a virus (according to the article, 5% of the patients with SARS fall into this category) which has not been shown to exist? Whatever the super-spreader phenomenon entails, no one has demonstrated that it involves the SARS-CoV-1virus.

Dr. Furmanski goes on to discuss six instances of what appear to be some form of lab leakage involving SARS. Four of the leaks were supposedly traced to a lab in Beijing as well as one leak each was reported in conjunction with labs in Taiwan and Singapore.

If no one has properly isolated, purified, and sequenced the SARS-CoV-1 virus, then, what exactly is leaking from the foregoing three labs that, supposedly, in causing illness? Moreover, if the SARS-CoV-1 virus has not been demonstrated to exist, then, what is the nature of the entity which, allegedly, is being traced to those labs?

There is a certain resonance between, on the one hand, vaccines that appear to be linked to the onset of certain kinds of illness which cannot be shown to have been caused by a specific virus (such as is

said to be the case with smallpox and Venezuelan Equine Encephalitis) since such viruses have not been demonstrated to exist, and, on the other hand, lab leaks that are said to have caused illnesses and, in some cases, supposedly have led to the deaths of various individuals. What is causing illnesses linked to vaccines and lab leaks if one cannot demonstrate that such diseases are caused by one virus or another?

The viral narrative put forth by individuals such as Ralph Baric, Martin Furmanski, and Vineet Menachery takes one in a particular direction and orients one's understanding in a certain way concerning the relationship between viruses and diseases. Unfortunately, actual evidence seems to draw one in a very different non-viral orientation and direction.

To be sure, the aforementioned article by Dr. Furmanski does seem to raise the possibility (and I don't believe this is his intention) that whatever is going on with diseases linked to lab leaks and diseases linked to the giving of vaccines might be connected in some way. The problem with such a possibility is that whatever the precise nature of the apparent connection might be between lab leaks, vaccines, and illnesses is, currently, shrouded in mystery.

Dr. Furmanski does not include measles, polio, and COVID-19 in his list of self-fulfilling prophecies in which so-called vaccines that were meant to counter specific diseases have actually been shown to cause those diseases. However, he could have done so because there is data to support their inclusion in his notion of self-fulfilling vaccine prophecies, and, so, once again, one would like to know what is present in such jabs that would induce the very disease they are suppose to protect an individual against.

Of course, since Dr. Furmanski's article was published in 2014, he was writing at a time in which SARS-CoV-1 had no prescribed antidote for whatever was causing SARS and he also was writing at a time which was prior to the decision to use mRNA therapeutics in an attempt to counter the alleged existence of SARS-CoV-2. Had his article been written in 2021-2022, then, he would have been able to access data indicating that not only did the mRNA treatments fail to prevent people from becoming ill, but the treatment could be tied to considerable evidence indicating that the treatment might be causing the very disease it, supposedly, was meant to counter.

Once more, the same kind of question arises in conjunction with measles, polio, and COVID-19 as bubbled to the surface in relation to smallpox and Venezuelan Equine Encephalitis. Since no viruses have been properly isolated, purified, and sequenced in conjunction with those diseases or have been shown to cause those diseases, then, what is present in the alleged therapeutic countermeasures which appear to be inducing the very illnesses they are supposed to protect one against?

On January 29, Steven Carl Quay released a 193-page monograph entitled: "A Bayesian Analysis of SARS-CoV-2." The basic thrust of that work was directed toward demonstrating that SARS-CoV-2 did not arise through a process of natural zoonosis (this term refers to diseases that are believed to be transmissible from vertebrate animals to human beings), but, instead, SARS-CoV-2 had been derived through some sort of technological laboratory process.

Stated in more quantitative terms, Dr. Quay maintained that the likelihood of SARS-CoV-2 having a natural zoonotic origin was 00.2 %. On the other hand, the likelihood that such an entity was the product of some sort of process of technological enhancement in a laboratory was 99.8 %.

Presumably, Dr. Quay's Bayesian analysis was done in exemplary fashion. Nevertheless, one might note that there is exactly 0% chance that SARS-CoV-2 had a natural zoonotic origin because such a virus has never been proven to exist.

If such a virus has never been proven to exist, then, the alleged sequence for that entity has been invented through a software program of some kind rather than giving expression to the actual sequential characteristics of an entity in the real world that has been proven to exist. Furthermore, such a purported virus cannot be shown to have a sequence of nucleotides which is other than totally dependent on the way a software program computes sequences on the basis of algorithms that interpret sets of nucleotides of questionable provenance through arbitrary processes of interpolation, extrapolation, and gap-filling techniques.

The data set on which the Bayesian analysis has been performed is a fabricated one. Such an analysis can be done with considerable competence, but whatever conclusions are drawn using that form of

analysis are based on a data set that is relatively worthless because it can be shown to be both arbitrary and fabricated.

There might be nothing wrong with the Bayesian analysis being conducted. What is wrong is the assumption that the foregoing analysis is being performed in conjunction with data that can be methodologically justified, and this is not the case.

Another way in which the issue concerning whether, or not, SARS-CoV-2 arises through natural zoonotic processes or possesses characteristics indicating it is the result of some sort of gain-of-function dynamic has to do with discussions concerning the properties of the spike protein that are said to be responsible for the alleged pathogenicity of SARS-CoV-2. More specifically, some people (For example, see:"Furin Cleavage Site Is Key to SARS-CoV-2 Pathogenesis" by Bryan Johnson, et. al.) have argued that there is a stretch of eight amino acids in a furin (a serine protease or proteolytic enzyme) cleavage site of the spike protein which has properties that have induced some people to argue that the SARS-CoV-2 virus has been subjected to some form of gain-of-function process because the changes in nucleic coding that would be necessary to produce such a sequence of amino acids (a sequence which has not been encountered in other SARS-CoV entities) would require that a highly unlikely set of events would have had to have occurred within an evolutionary time-frame that is far too limited for such a series of transitions to have been likely to have taken place.

There are other individuals (for example, take a look at Robert F. Garry's short note/letter "SARS-COV-2 Furin Cleavage Site Was Not Engineered"). Garry offers a number of reasons why the furin cleavage site which some people believe is unusual and unlikely is not necessarily all that strange.

Irrespective of whether one believes that the furin cleavage site is highly unlikely or believes, alternatively, that such a site is not suspicious, nevertheless, both beliefs fail to grasp the real issues. More specifically, if the SARSCoV-2 virus has never been properly isolated, purified, and sequenced, then, the whole furin cleavage site issue is nothing more than a problem that can never be resolved because the methodology which has led to the purported existence of such a furin cleavage site is flawed in essential ways – ways that have been

outlined in Chapters 3 and 4 of the present book and also have been summarized earlier in the current chapter.

In fact, some might wish to consider the possibility that just as the data set which gives expression to the alleged nucleotide sequences of SARS-CoV-2 can be shown to be arbitrary and invented, so, too, any discussion that seeks to discover what might be meant by the existence of different components (such as a sequence of eight amino acids in a furin cleavage site) that are part of such an arbitrary and invented data set will tend to be irrelevant to both science and medicine. This sort of disagreement is akin to trying to establish how many angels exist on the head of a pin … in other words, this is a useless exercise.

Just as virologists are capable of constructing sequences for non-existent viruses, so too, some individual -- with far too much money at her, his, or their disposal and far too little integrity at their disposal as well -- might be capable of constructing sequences which would contain elements (such as a furin cleavage site) that are intended to raise suspicions in the minds of people who believe that the libraries of constructed sequences give expression to actual viruses. After all, if a person can construct sequences for a non-existent virus, then, one could also construct a non-existent virus that has elements (such as a furin cleavage site) which would seem to be highly unlikely when compared to existing library sequences and, therefore, would constitute "evidence" that a given virus is likely to have undergone gain of function technology.

If someone were of an appropriately twisted mind-set, then, engaging in the foregoing sort of fabrication exercise would be like salting a mine to make it appear that "gold" was present in a mineshaft when such was not the case. Since both the "original viral sequence" and the "gain of function exemplar" are nothing more than constructs, a suitably motivated person could make the "evidence" look any way such an individual wanted to if one's intention was to induce other people to become suspicious about the origins of the entity in which such a possible anomalous sequence had been discovered if the latter individuals who were being enticed with such a possibility were people who already had bought into the idea that the original set of

nucleotide sequences in which the possible anomaly is found gave expression to an actual virus rather than to an invented entity.

Given the foregoing considerations, some people might wish to entertain the possibility that the entire edifice of virology is nothing more than a limited hangout. A limited hangout is a narrative that has been created to appear as if it were a plausible story-line that is, thereby, capable of consuming people's time, money, and resources while diverting the attention away from something that is deeper and might be much closer to the truth of what is transpiring.

When one reflects on the basic methodology of virology (as was done in Chapters 3 and 4 of this book), one comes to understand that it doesn't appear to be capable of holding up under critical scrutiny. In other words, such methodology does not seem to be capable of sustaining the narrative edifice which has been built with, and through, its array of methodologies, and, therefore, one begins to consider other possibilities which might lie beyond the limited hangout that, knowingly or unknowingly, has been constructed in virology which appears to have the effect – whether intended or not -- of preventing people from looking more deeply into various phenomena.

Chapter 8: Dark Machinations -- Proof of Concept

"Proof of concept" is a term often used in product development – especially in conjunction with software -- in which one provides some sort of indication, code, test, mock-up, or trial which establishes that a given idea is worthwhile pursuing, committing resources to, and backing financially. To some extent, a proof of concept seeks to offer enough evidence to justify moving on to the construction of a prototype.

The present chapter will explore five data points (from many more that might have been chosen) that plot a slope, of sorts, for a proof of concept line of demarcation which demonstrates how groups of people – in, say, the form of individuals, corporations, and government agencies – are quite prepared to terrorize, abuse, exploit, experiment on, manipulate, drug, incapacitate, control, and kill whomever they like, including the citizens of their own countries as well as the citizens of other countries, in order to acquire control of whatever they wish to control. A prototype concerning the foregoing sort of proof of concept will be put forward in Chapter 10.

Very early in his book: *The Sleeper Agent: The Rise of Lyme Disease, Chronic Illness and the Great Imitator Antigens of Biological Warfare*, A. W. Finnegan distinguishes between what are known as "tactical bioweapons" and "strategic bioweapons". The term: 'tactical bioweapons' refers to materials that have the capacity to kill people relatively quickly and, such materials frequently are considered to give expression to the notion of: 'weapons of mass destruction,' whereas 'strategic weapons' are designed to act more slowly, less lethally, and are harder to detect in order to cause long-term problems involving medical care, economic productivity, financial resources, as well as emotional trauma -- all of which are intended to exhaust, and, therefore weaken and render more pliable or compliant whatever populace such weapons are directed toward.

Strategic bioweapons are sometimes referred to as "mystery diseases." This is because no one seems to be able to figure out the etiology of these kinds of diseases or why they tend to be so resistant to treatment, and, therefore, are chronic in nature.

Although the aforementioned book by A.W. Finnegan covers the work and interests of many individuals, the person of most interest to that author is Erich Traub. Traub played a key role in the development of German bioweapon programs during the Second World War before being invited by the American government to help advance its own bioweapons program following that conflict.

At the heart of Traub's expertise was the notion of "immune tolerance." This is a methodological technique which induces a biological system to suppress its own tendencies to try to counter the presence of a certain kind of pathogen or antigen, and, as a result, such an entity has been enabled to go about its business of creating chronic disease issues without interference from the organism that is being exploited.

Even more diabolically, when immune tolerance has been established through introducing the right kind of toxicity into a person's biological processes, there are no markers which indicate that some sort of disease process is present. For example, usually speaking, when illness emerges in a person's body, there often are certain markers involving, for instance, inflammation, antibody production, or blood abnormalities which tend to show up and provide a basis for diagnosing the nature of the illness that is present.

However, in the case of the phenomenon of immune tolerance toxicity, there are no such markers. In other words, according to all the available tests, a person appears to be healthy, and, yet, nonetheless, the individual is severely ill as well as incapacitated in one way or another.

When activated, the foregoing toxins are able to undermine all manner of metabolic functioning. Thus, one, or more, aspects of endocrine functioning, cardiovascular dynamics, lymphatic processes, detoxification, and so on, can all be undermined through the introduction of the right kind of 'immune tolerance' toxicity.

Furthermore, oftentimes, when the induced phenomenon of immune tolerance toxicity is present in a human being, the suppression of the body's defenses that takes place by means of such a technique might be incapable of preventing the underlying toxic cause of the illness from crossing the blood-brain barrier. If this happens,

toxicity becomes neurotropic – that is, directed toward undermining and interfering with neuronal functioning.

Thus, when toxic elements have been enabled to enter into the brain of an individual via the technique of immune tolerance, such elements are capable of causing different kinds of neurodegenerative diseases. In other words, many different facets within the central nervous system can be adversely affected, and, subsequently, immune tolerance toxicity can either lead to some sort of neurological difficulties and/or the on-set of various kinds of mental disorder.

Immune tolerance toxins can be quiescent within a person's biological system until activated by some sort of on-going dynamic. This latter dynamic could be due to the sudden onset of stress or as a result of change in diet or some other environmental issue which induces an individual's body to adapt in a way that leads to the activation of such a toxic agent.

Traub began to explore the issue of immune tolerance toxicity by studying an illness that was known as Lymphocytic Choriomeningitis Virus (LCM). The foregoing research, however, had started prior to the time when molecular biology had begun to revolutionize biology in the late 1940s and early 1950s, and, therefore, referring to such an illness in viral terms only meant that whatever the nature of the toxicity might be which was present in a given sample that was claimed to contain the LCM causative agent, such a toxin was filterable (i.e., could not be filtered out of a given sample) and, therefore, this tended to mean that whatever the nature of the toxicity might be, it was supposedly smaller than any known species of bacteria.

On the basis of arguments that were presented in the first four chapters of the present book, viruses in the modern sense of the term (i.e., genetic materials encapsulated by a protein capsid which are allegedly capable of infecting an organism and initiating a cycle of replication that causes the death of the cell infected) cannot be shown to exist. Furthermore, given that phages (on the basis of the information contained in Chapters 5 and 6) appear to be something other than viruses (e.g., 'n-nanomods' which have properties that do not necessarily fit into a viral-like category in the foregoing sense), then, in the light of the foregoing considerations, a question does arise in the context of the bioweapons research of Erich Traub.

More specifically, what exactly was Traub doing? If viruses do not exist, then, how was he introducing immune tolerance toxicity into biological organisms in a manner that could lead to chronic diseases that were resistant to being detected or being treated?

I'm not a bioweapons practitioner and, therefore, have no knowledge of the tricks of the trade that might be used to bring about the toxic, devastating capabilities of a given kind of bioweapon. Nonetheless, a couple of guesses do come to mind.

For example, just as one can use different species of dogs to alter and shape the set of properties which one wants to see in a given population of dogs, so too, one can alter the shape of a given species of bacteria by fooling around with population genetics as well as by inducing bacteria to exchange certain kinds of genes (via the process of conjugation) that, among other things, could affect the sort of toxicity one gets in poisons that are produced by various bacteria either as a form of defense or as a by-product of bacterial metabolism. In addition, Traub might have known about the pleiomorphic research of individuals such as Béchamp, Enderlein, as well as others during Traub's era who had not followed Pasteur's notion of monomorphism, and, consequently, that sort of perspective might have enabled him to acquire an understanding of how bacteria could be induced to change their morphology and functionality (e.g., toxicity) merely by making changes to the environment in which such bacteria existed.

Furthermore, another consideration might have to do with plasmids. Plasmids are small packets of cellular, extrachromosomal DNA (ecDNA) found in bacteria and Archaea which are capable of replicating independently of the main set DNA chromosomes in a given bacterium or Archaea organism.

To be sure, given the lack of knowledge available during Traub's research during the Second World War concerning molecular biology, he would not have understood the molecular dynamics of plasmids. Nevertheless, without knowing how plasmid dynamics actually work, he, still, might have become skilled in finding ways to induce changes in plasmid dynamics, whether through fooling around with population dynamics or, perhaps, in some other fashion.

Finally, many biological toxins come in the form of proteins. Traub might have happened upon a class of toxic proteins that were

generated by various forms of life (bacteria, shellfish, fungi, plants, cone snails, spiders, snakes, reptiles, and so on) which had the capacity to induce immune tolerance toxicity and, therefore, gave rise to pathological conditions that left no known biological markers and, yet, which were capable of persisting in the body because the means of detoxification through which such toxins might be eliminated from a person's system had been disabled in some sense.

As a result, those toxins are able to persist and continue to wreak havoc over time. Alternatively, those toxins might have served to undermine critical systems involving an individual's capacity to detoxify toxins, so that even if the presence of such a pathological catalyst eventually dissipated, whatever damage already had taken place was enough to create chronic health problems that left behind no tell-tale signs of illness.

In the mid-1920s, Traub attended university and studied modern languages, including English and French. After completing those studies, he became gainfully employed as an interpreter.

At some point in the late 1920s, he served as an interpreter for an American virologist who, as many American scientists and doctors did during those years, was studying in Europe. The scientist came to feel that Traub had an aptitude for virology, and, as a result, recommended that the young man pursue further studies.

Traub went back to school. He focused on veterinary medicine.

In the early 1930s, he was accepted into a fellowship program at the Rockefeller Institute in the United States which involved the study of animal diseases The American scientist for whom he had served as an interpreter a decade before worked at the facility.

During the third year of the foregoing fellowship, Traub discovered a toxin related to Lymphocytic Choriomeningitis. The discovery was made following the injection of a protein into the brains of mice, and this process induced a pathological condition that was chronic in nature.

Soon, thereafter, a cluster of illnesses involving similar symptoms appeared among other mice in the colony. According to the author of *The Sleeper Agent*, a virus subsequently was isolated and identified as

the aforementioned LCM virus that had been isolated a year earlier in Maryland.

There are several considerations which one might like to keep in mind with respect to the foregoing claims. First, by referring to the cause of LCM as a virus, this only meant that a toxin of some kind still seemed to be present despite having undergone a rigorous filtration process.

Although non-filterable entities were referred to as viruses at that time (1935) in order to distinguish them from bacteria which could be removed through filtration -- or so biologists believed -- nonetheless, such viruses could not be seen but were only presumed to exist because what remained in the filtered liquid could be shown to possess toxic properties. However, one couldn't necessarily claim that the reason why the other mice in the colony got sick following the injection of a protein into the brain of one, or more, of the mice in that colony was due to the presence of some sort of contagious entity in the filtered material since whatever the toxin or poison might have been, it could have contaminated the general environment of the mice colony as a result of waste materials and various liquids that were being released into the environment or transmitted to other members of the mice colony by the mice that were ill.

Illnesses due to poisons occur in clusters which have many of the same characteristics as illnesses which might be contagious in nature. Nonetheless, the method of transmission in each case is quite different.

Furthermore, Traub had no means of identifying the nature of the toxin that he had discovered except in terms of its symptoms which matched those that had been observed previously in another lab and which had been diagnosed as being a case, or cases, of Lymphocytic Choriomeningitis. Traub actually had isolated the aforementioned toxin only in the sense that something toxic could be shown to be present in a given sample, but he did not know with what he was dealing except as a set of symptoms.

Lymphocytic Choriomeningitis (LCM) appeared to have two forms. One form tended to be lethal and shared certain similarities with poliomyelitis, while the other form led to a chronic condition that resonated somewhat with Lyme disease.

No one knew why one form of LCM was lethal in nature while the other form was chronic in nature. No one knew whether one form could transform into the other. No one knew why the injection of a foreign protein into the brain of a mouse was capable of inducing several kinds of pathologies to surface and subsequently be transmitted to other mice.

On the one hand, if one approached the foregoing situation through the monomorphic lenses of Pasteur's theoretical framework, there seemed to be several different microorganisms present. On the other hand, if one engaged the forgoing issue from the perspective of pleiomorphism, then, conceivably, one might be encountering just one organism that has the capacity to assume different morphological and functional forms according to the environmental conditions to which it is being exposed, and an important element in the latter sorts of environmental conditions concerned the health, or lack thereof, of the individual who was being exposed to such a toxin.

Later on in 1935, Traub was part of a group which discovered a form of encephalitis that was more potent than Western Equine Encephalomyelitis. Since this illness was encountered on the east coast, it was referred to as Eastern Equine Encephalomyelitis.

Traub ran a number of experiments involving EEE. For example, he took a sample that contained the toxin and kept running it through a pigeon population until the potency of the toxin could not be further diminished, and, then, he took material from the brains of pigeons, and, injected that material into the brains of lambs.

The foregoing was followed up by a succession of procedures which injected material from the brain of one animal to the brain of another animal. When he had completed the foregoing set of transfers, the material being injected had gone from the brains of pigeons, to the brains of lambs, and, then, horses.

Some of the horses involved in his experiments died. When he took material from the horses and injected it into guinea pigs, there was still toxicity present in the injections, but he maintained that whatever was actively toxic in the guinea pig was not the same as what had been injected into it because a different kind of toxicity seemed to have emerged in the case of the guinea pig.

When the foregoing experiments are viewed from the perspective of monomorphism, what is going on seems perplexing because one has to account for the origin of what appear to be new forms of microorganisms showing up at different stages of the experiment. However, when viewed from the perspective of pleiomorphism, one could hypothesize that whatever toxic agents are surfacing during different stages might just constitute different morphological and functional forms of the same underlying microorganism as a result of being exposed to changing environmental conditions.

The foregoing sorts of experimental manipulations became the life-blood of Traub's professional career. He had a keen interest in, and developed considerable expertise with respect to, being able to manipulate toxins (which were referred to as viruses – that is, filterable toxins) that could be induced to arise within organisms (human and otherwise) and, then, transmitted to other organisms through various vectors such as insects and mosquitoes.

The toxicity of his samples was capable of generating chronic, debilitating conditions in various facets of an organism's central nervous system. Moreover, while the pathological characteristics of those conditions became progressively worse over time, the causative nature of that sort of debilitating degeneration tended to elude detection because of the phenomenon of immune tolerance in which an organism's ability to defend against such maladies was suppressed in some unknown manner.

Traub, however, knew how to bring about such a condition. Moreover, he learned how to do so by coming to understand the complex nature of the relationship among vector, host, toxin, and the environment in which changing environmental conditions alter the way in which vector, host, and toxin interact with one another.

Along the way, Traub discovered the existence of mycoplasmas. These microorganisms lacked a cell wall.

From the perspective of monomorphism, mycoplasmas are merely another kind of microorganism. From the perspective of pleiomorphism, mycoplasmas could be conceived as constituting a different morphological and functional expression of a given microorganism that, depending on the environmental conditions to which that organism is exposed, will manifest differently.

Whatever mycoplasmas are, Traub was able to begin working with them. Among other things, he had noted that such entities had arisen in conjunction with his studies of Lymphocytic Choriomeningitis.

In 1937, Erich Traub was promoted to being an associate at the Rockefeller Institute. However, soon thereafter, he returned to Germany as the world began sliding toward war.

Shortly after returning to Germany, he wrote a post-doctoral research paper concerning different facets of immunity. Among the topics discussed in his paper, there was one aspect which described his observations with respect the manner in which diseases arising via blood-sucking organisms were able to activate or induce symptoms associated with the disease for which a vaccine had been given.

For instance, he noted that when African Horse Sickness is transmitted to an organism through a blood-sucking insect, whatever is being transmitted to the recipient organism contains elements which are capable of suppressing immunity dynamics. Due to this sort of suppression dynamics, toxic elements that were present in a previously administered vaccine were re-activated and gave rise to symptoms associated with those toxic elements in the vaccine, and this was reminiscent of what previously had occurred in the United States when Traub had injected mice with a certain foreign protein that, in turn, had enabled another disease process to be activated because a suppression of an organism's biological defenses had taken place prior to the onset of the second disease.

Traub later discovered that one of the most important components of the immune tolerance phenomenon had to do with the presence of a lipid protein which rendered certain aspects of a body's defenses dysfunctional, and, consequently, most of the pathogenic entities with which Traub worked possessed lipid proteins of one kind or another that were capable of suppressing the activity of certain aspects of an organism's defense system. These latter features were known as 'toll-like receptors.'

There are, at least, ten editions of these toll receptors. They often join together with one another in various combinations, or ligands, some of which (e.g., TLR2/TRL1 and TLR2/TRL6) appear to be vulnerable to becoming stimulated by the aforementioned lipid

proteins in ways that lead to dysfunctional dynamics and the, subsequent, suppression of biological defenses.

In experiments which Traub conducted with mice, he discovered that when the biological defenses of a mother had been compromised via the immune tolerance phenomenon, the offspring of those mothers initially would exhibit no indications that any sort of illness was present, but, later on in their lives, those offspring would develop various kinds of neurodegenerative diseases.

Subsequently, a form of the foregoing lipid protein known as Pam-3-Cys (P3C) was synthesized and used as an adjuvant. P3C is capable of inducing dynamics similar to the original destructive lipid protein, and, therefore, the presence of P3C brought about the same kind of dysfunctional, suppressive dynamics as the lipid protein had been able to do through a process that stimulated vulnerable pairs or ligands of toll-like receptors in ways that led to immune tolerance and the suppression of various aspects of biological defenses.

Some disease agents – for example, the Borrelia burgdoferi spirochete (a spiral-shaped, double-membrane, Gram negative bacteria) which is similar to the causal agent for Lyme disease -– are capable of dispersing an array of the foregoing sorts of problematic lipid proteins which are referred to as "blebs." Traub was using these kinds of agents to create a complex of potential illnesses that could be transmitted by ticks and adapted, as needed, to whatever peculiarities that might be present in the biological terrain of a given host.

In addition to the important role played by the aforementioned lipid protein with respect to the emergence of the immune tolerance phenomenon, another key to Traub's experimental research was the technique of serial passage which he employed. Through this process, a given kind of toxicity would be passed through a sequence of animals and, as a result, the character of the toxicity with which one began could be modulated in different directions or even rendered more complex by adding additional dimensions of toxicity which were capable of giving rise to a complex of symptoms when activated.

In addition, he was able to expand the range of organisms (ticks, insects, mosquitoes, etc.) which could be used as vectors for transmitting different modalities of toxicity that involved the phenomenon of immune tolerance through which the natural

biological defenses of an organism could be suppressed. The foregoing process opened the door to various kinds of chronic, debilitating diseases being able to become established in ways that were devoid of detectable markers (e.g., inflammation, antibody production, and so on) which were capable of indicating that a disease process was present.

Moreover, through the technique of serial passage, a variety of toxic properties could be accumulated and brought together to manifest themselves in ways which made diagnosis extremely difficult. In other words, by developing forms of toxicity that were capable of inducing symptoms associated with a variety of diseases, a doctor would be led in different directions concerning the cause of the symptoms which were being observed, and, therefore, proposing a course of treatment became a complicated and confusing process because a doctor never seemed to be dealing with just one disease.

Such dynamics came to be known as 'stealth diseases'. They induced symptoms which were characteristic of a variety of diseases, and, thereby, made them difficult, if not impossible, to diagnose, and, as well, they left no biological markers indicating that any sort of disease process was present even as an organism became chronically debilitated.

During the Second World War, all of Traub's research for Germany had the quality of offering plausible deniability with respect to the actual purpose of that research. More specifically, on the surface, the work of Traub and his colleagues could be described as being directed toward studying various kinds of animal diseases in an attempt to find cures and treatments, but, in reality, that research also had the dual-use property of being involved in constructing biological weapons to be used against human beings as well as other animals that might play a role in supporting someone's war effort.

By 1943, a plethora of biological experiments were being conducted on human subjects in different parts of Germany. Most of the preparatory work had been conducted by Traub and his colleagues at Insel Riems, an island (like Plum Island in the United States) that was dedicated to dual-purpose research involving various kinds of animal diseases.

At the end of the war, Insel Riems came under control of the Soviets. The researchers – including Traub – who worked on the island, as well as documentation concerning years of their experiments, along with their collection of equipment, toxins and vectors all came under Russian control.

Three years later -- with the assistance of British intelligence -- Traub, his family, and several colleagues were spirited away from Russian oversight and control. During those three years, Traub had been carrying out research on behalf of the Russians.

Consequently, when he escaped, there were questions about his current loyalties as well as his war-time activities. Was his relationship with Russia willing or resistant, and what had been the nature of his interaction with Nazi Germany?

At some point amidst all of the foregoing questions, Traub became an officer in the United Nations Food and Agriculture Organization. Despite unanswered questions, the foregoing position provided him with a degree of diplomatic immunity which enabled him to travel to, among other places, America.

As a result of Operation Paperclip –- the U.S. government program which corralled scientists who had been serving the war efforts of Germany and induced those individuals to start serving the interests of certain dimensions of American covert biological programs -- Traub was enabled to do work for the U.S. Navy in 1949. His expertise was supplied to the Naval Medical Research Institute in Maryland where he had been given various kinds of authority to oversee research involving virology and bacteriology.

An official at the Institute mentioned that one of the reasons for the Traub's employment had to do with the latter's knowledge of Lymphocytic Choriomeningitis. LCM had played a key role in Traub's discovery of the aforementioned immune tolerance phenomenon which was central to his development of stealth, mystery diseases that exhibited chronic symptoms reminiscent of a variety of diseases and did so in ways that left no biological markers indicating that a disease process was present.

Interestingly, prior to the time when the Russian virologist M.P. Chumakov teamed up with Albert Sabin to work on developing an oral

polio vaccine, Chumakov had taken several trips to Insel Riems in 1947 to inquire about the dynamics of Choriomeningitis and its capacity to suppress an organism's defenses while both generating no tell-tale signs of illness and, yet, simultaneously being able to induce or activate chronic, debilitating diseases to manifest themselves.

After the Sabine oral vaccine was released, it was found to contain Simian Virus 40. This latter entity had toxic properties very similar to those of Choriomeningitis and, therefore, gave expression to some degree of the immune tolerance phenomenon.

Such toxic properties and immune tolerance dynamics could be smuggled into a vaccine through the animal tissues which are used during the vaccine manufacturing process. Naturally, given Chumakov's previously noted interest in the immune tolerance phenomenon associated with Choriomeningitis and given the role he played in helping Sabine to develop the oral polio vaccine, this leads one to wonder whether the presence of SV40 in that vaccine was accidental or intentional.

At one point in A.W. Finnegan's book, *The Sleeper Agent*, there is a brief discussion about the notion of a "double pathogen." The remarks concerning this issue follow a few comments about how certain species of spirochetes have special plasmids associated with some of their exterior, cell wall proteins.

Some theorists have posited the possibility that such plasmids might contain prophages (see Chapter 6) of one kind or another. If so, then, under certain circumstances, such entities might contribute certain constructive capabilities to the spirochetes via genetic material which is present in the prophage.

Perhaps, the truly diabolical character of man-made stealth diseases can be concretely illustrated by means of the aforementioned notion of a 'double pathogen' and the way in which the special plasmids mentioned in the previous paragraph are used to realize the potential of such double pathogens. More specifically, disease complexes can be constructed in which, for example, the bacteria that is associated with plague can be manipulated to harbor within it another kind of chronic, debilitating disease.

Let us suppose that a person becomes ill with plague and, then, is treated with antibiotics. In the case of a double pathogen, the administering of the antibiotic does two things.

The first thing which happens – if everything goes well – is that the bacterial pathogen which is considered to be responsible for the presence of illness is deactivated by the use of an antibiotic. However, the pathogenic complex has been devised in such a way that while the administering of the antibiotic clears the plague bacteria, that same antibiotic will simultaneously trigger or activate a second pathogen which has been arranged by the bio-weapons people – such as Traub -- to be present in the plasmids mentioned earlier.

The Finnegan book talks about the notion of a double pathogen. However, in principle – and Finnegan does touch upon this possibility -- if a researcher were sufficiently clever (and deranged), such a person might put together a pathogenic complex that contained more than two forms of toxicity that could be activated via different environmental conditions, and, such constructed protagonists would merely await the right set of conditions in order to be able to surface, creating the potential for a series of chronic, debilitating diseases.

Traub used his experience at Insel Riems, the island off Germany where he had conducted much of his dual-purpose research for the Nazis, to help Americans set up their own relatively isolated set of research facilities on Plum Island, located off an eastern part of Long Island. Like Insel Riems, Plum Island had dual-purpose uses, and one of those dual-purpose uses might have had a great deal to do with the emergence of, among other mystery illnesses, Lyme disease.

At a certain point, Traub was tricked into disclosing that he had been acting as an agent for Russia while working with the Americans. Despite such a confession, Traub did not encounter any consequences for his treachery.

The reason that Traub was able to escape punishment is because he had a “Get-Out-Of-Jail-Free-Card.” He had been the individual who had created biological and bacteriological weapons for the U.S. government that had been used against both Korea and China during Eisenhower’s presidency, and, consequently, in order to prevent such activities from being revealed during the course of a public trial, Traub had been permitted to return to Germany without incident.

Interestingly, Donald Maclean, who was another Soviet double agent, had helped British Intelligence to arrange the escape of Traub, his family and several associates from Russian-controlled Insel Riems. Moreover, Maclean not only had encouraged Americans to include Traub in their Operation Paperclip program, but, as well, Maclean had been able to acquire a certain amount of oversight responsibilities with respect to Traub's Plum Island research as a result of having been a broker, of sorts, with respect to agreements that had been reached concerning the way in which the United States, Britain, and Canada would share top-secret data involving biological, chemical, and nuclear developments, testing, and research following the war.

Much more could be written – and has, by individuals such as John Loftus and A.W. Finnegan – concerning the covert biological research that Erich Traub and others performed on behalf of the United States and other countries. Enough has been said, however, to indicate that governments – Germany, Russia, and the United States – were using Traub's research to further their dual-purpose programs in which stealth, mystery diseases – like Lyme disease -- could be created and transmitted by an array of vectors (such as ticks) that would be capable of generating illnesses that were: Chronic, difficult to diagnose, treatment resistant, and could be used, and were used, in conjunction with both non-citizens and citizens of those governments.

Sidney Gottlieb retired from work in the early 1970s, following many years of service to the U.S. government. He was just 54 years old.

With the exception of a relatively few individuals, no one in government knew of his existence or understood what his job entailed. The general public was even more oblivious to his existence or the nature of his work, and, yet, he was engaged in activities which when they became known would horrify many Americans.

By training, he was a chemist. However, for several decades, he relentlessly pursued his obsession with mind control, and, in the process, became one of America's foremost experts on poisons (both natural and synthetic), as well as participated in covert assassination plots involving such people as the Congo's Patrice Lumumba that had been ordered by Eisenhower) and Cuba's Fidel Castro (ordered by both Eisenhower and Kennedy).

He also engaged in the brutal torture of an unknown -- but considerable -- number of people, as well as arranged for the disposal of hundreds of those individuals when their continued existence became an inconvenience. In addition, he not only organized an elaborate mind control program – known as MK-ULTRA -- in which, among other things, hundreds of Americans, Canadians, and other nationalities would be experimented on without the informed consent of those individuals, but he also might have played a key part in bringing about the death of a government employee – Frank Olson – whose conscience was inclining him toward becoming a whistleblower concerning a slew of dastardly deeds that were being done in the name of Americans.

Before finding his "calling," Gottlieb spent most of the 1940s engaged in various kinds of research for the Department of Agriculture, the Food and Drug Administration, the National Research Council, and the University of Maryland. Due to a severely deformed club foot and a severe stutter, Gottlieb was not able to enlist during the Second World War.

Before sketching a few more details concerning the life of Sidney Gottlieb, a small amount of historical background should be provided. This will help to establish an appropriate set of contextual lenses through which to view different facets of Gottlieb's professional life.

Although biological warfare had been prohibited by the 1925 Geneva Protocol, President Roosevelt had been presented with a report concerning the intensive bio-warfare research that was being conducted by both the Japanese and the Germans, and, as a result, Roosevelt authorized the establishment of a program -– the War Research Service -- which would explore the issue of bio-warfare. Gottlieb's mentor at the University of Wisconsin had been an individual by the name of Ira Baldwin and, during the war, Baldwin was recruited by the U.S. government to head up a biological weapons program in conjunction with the Army's Chemical Warfare Service.

One of the first orders of business was to find a suitable location in which various kinds of experiments could be pursued in relative isolation and obscurity. After considering and rejecting a number of possibilities, a decision was made to move into, and transform, an abandoned, thousand-acre, National Guard air base at Detrick Field

just outside of a small town in Maryland to serve as the headquarters for the Army's Biological Warfare Laboratories.

In 1944, Roosevelt was approached by William Donovan ("Wild Bill") who was the head of the Office of Strategic Services, an organization that preceded the advent of the CIA. Donovan proposed a plan that would enable the United States to grant immunity to various spies and agents from Germany in order to be able to gain access to various kinds of information possessed by such individuals.

Roosevelt rejected Donovan's proposal. However, after Roosevelt died in early 1945, the Office of Strategic Services began to engage in a series of quid pro quo arrangements in which immunity and a certain amount of money would be given in exchange for information about, as well as access to, various aspects of German espionage activity that was still taking place. In addition, the American Army had established a newly minted covert program – known as the Joint Intelligence Objectives Agency – which was searching for German scientists who might be willing to work for the United States.

The foregoing set of practices was officially baptized by Harry Truman in September of 1946. The program was known as "Operation Paperclip."

Although Truman had stipulated that the people who were to be recruited through Operation Paperclip could not be either members of the Nazi Party or enthusiastic supports of Nazi policies, nevertheless, in practice, Truman's conditions were often ignored. In fact, whenever an attractive scientific candidate emerged whose past might have been tarnished by Nazi connections, SS affiliation, medical experiments, and/or various kinds of concentration camp horrors, the historical records were suitably altered to transform individuals with dubious pasts into "acceptable," morally upstanding candidates who were prepared to provide America with all manner of expertise, experience, and knowledge concerning an array of technical topics.

Some officials objected to the foregoing process of whitewashing the past of individuals who might have supported and participated in an array of questionable deeds. However, when the supporters of the aforementioned program began talking in terms of national security, military interests, and keeping such people out of the hands of the Soviets, further moral objections tended to be suppressed.

Similar sorts of quid pro quo arrangements were made with members of the Japanese Unit 731, led by Shiro Ishii, which had engaged in an array of experimental atrocities against thousands of Korean, Chinese, and Mongolian individuals, along with some Americans in, among other places, Manchuria. However, unlike Germans who possessed a tainted past but were, nonetheless, invited to America, Japanese perpetrators of atrocities were provided with accommodations outside of the United States in various locations in East Asia where they assisted the American Government to engage in the sorts of human experimentation that, supposedly, couldn't take place in the United States.

The corruption of the soul is often a contagious process. When Americans began to make deals with German and Japanese researchers in order to gain access to whatever those researchers allegedly knew, a degenerative disease affecting intellect and character began to spread across America.

Although Americans were among those who were supposedly on the winning side of the Second World War, one can make a very strong case that America actually lost that war. This is because while the American military might have prevailed on the battlefield (with more than a little – usually unacknowledged -- help from the Russian and Chinese people), nevertheless, through the foregoing sorts of quid pro quo deals that had been made with certain German and Japanese scientists, the corrupt values, knowledge and understanding of the latter individuals came to undermine various dimensions of American life and, thereby, prepared the way for the work of individuals such as Sidney Gottlieb.

As a result, America's national security was not enhanced. In fact, it began to rot, as if it were subject to some terrible form of flesh-eating disease.

What should always have been the priority of Americans and government officials – namely, constitutional security and individual sovereignty – was becoming increasingly suppressed and oppressed at the altar of a notion – national security -- which was effectively meaningless and useless when largely divorced from constitutional security in the form of, for example, fulfillment of the guarantee of republican government that is given expression through Article IV,

section 4, of the Constitution, and the idea of national security was relatively meaningless and empty in the absence of a commitment to realizing the promise of individual sovereignty that is given expression through, among dimensions of the Constitution, the First, Ninth, and Tenth Amendments. Instead, the proponents and advocates of a Leviathan-like, Frankenstein-like conception of national security which was devoid of fundamental and essential principles concerning constitutional security and individual sovereignty was allowed to run wild in the streets, leading to all manner of collateral damage and dysfunctional governance.

Truman disbanded the Office of Strategic Services in 1945. He believed that supporting a clandestine intelligence program in a time of peace seemed oxymoronic.

Two years later he was induced, by the self-serving whisperings of, among others, Allen Dulles, to sign the National Security Act into law which, among other things, led to the emergence of the Central Intelligence Agency. During a 1964 article that appeared in the St. Paul Minnesota Dispatch, Truman criticized the covert operations which, more and more, were dominating the Agency's activities and indicated that he had never intended that the CIA should be used in the way it had been.

Truman once famously said that: "The buck stops here" – meaning at the desk of the President. Obviously, he was wrong because there were people in the CIA who had become a law unto themselves.

During his presidential farewell speech, Eisenhower had warned against the machinations of the military-industrial complex which he maintained was undermining the sovereignty of Americans. Yet, during his presidency, Eisenhower had: Ordered the assassination of Patrice Lumumba and Fidel Castro; supported and provided resources for a series of covert operations known as "Gladio" which engaged in years of terror attacks, assassinations, election-tampering activities, and destabilization strategies with respect to different countries in post-war Europe; taken over the Vietnam War from the French, and in the process blocked the reunification of Vietnam and, thereby, reneged on the provisions of the 1941-1942 Atlantic Charter which, among other things, stipulated how, supposedly, the allies acknowledged that people in any given country had a right to political self-determination;

arranged for the overthrow of two democratically-elected governments in Iran and Guatemala -- a process of interference which led to the torture, imprisonment, as well as deaths of tens of thousands of citizens in those two countries, and, finally, Eisenhower also sought to cover up the use of high tech U-2 planes by the United States (as good a combination of the military-industrial complex as one is likely to see) being used to spy on the Soviets (Sidney Gottlieb actually developed and provided the self-destruct poison that U-2 pilots carried with them and could ingest in the event of capture such as occurred with Francis Gary Powers in 1960 who chose not to take the poison).

Apparently, there were forces in play during the presidencies of both Truman and Eisenhower that were beyond their control. Those forces, in part, gave expression to the notion of national security which was being used to defend the idea that Americans were prepared to get into bed with individuals who had been willing and able to commit all manner of atrocities in the name of some nebulous, corrupt form of national security which was far more interested in controlling the lives of individuals in all manner of arbitrary ways rather than actually securing the sovereignty of those individuals in even the simplest of ways.

The issue of national security (at the expense of constitutional security and individual sovereignty) began to rear its ugly head as the CIA and various military leaders became distraught and disturbed by a piece of political theater which had taken place in 1949 Hungary. Jozsef Mindszenty, a Cardinal in the Roman Catholic Church, had been placed on trial for attempting to destabilize and overthrow the Hungarian government.

What was most concerning to the intelligence agency and military leaders concerned the demeanor of Cardinal Mindszenty during the trial. He seemed dazed, dissociated from reality, and mechanical is his speech as well as in his behavior when he confessed to crimes that seemed unlikely to have been committed by him.

The Cardinal appeared to be operating under some form of mind control. If this were the case, then, the implications were nightmarish in scope because, among other things, his behavior appeared to indicate that the Soviets had discovered a methodology through which

a person with such knowledge would be able to manipulate and shape the manner in which other people thought, felt, believed, and behaved.

One of the ways that the United States responded to the foregoing event was through the activities of a military unit known as Chemical Corps. This unit created the Special Operations Division at Dietrich Field, and the group of scientists working in that division would be responsible for conducting secret chemical research that sought to develop specialized weapons for future covert operations.

In 1950, the foregoing group of scientists at Camp Detrick became involved with a project titled 'Sea Spray,' which was a covert operation tasked with the job of testing whether coastal cities might be vulnerable to biological weapons that were released from the sea. This project involved the aerosolized dispersal of a species of bacteria known as *Serratia marcescens* in order to determine whether, or not, such aerosolized biologics would be able to be widely dispersed via the coastal mists in and around San Francisco.

One of the reasons that the aforementioned bacterial species was chosen was because it had a reddish tint which made it relatively easy to track. Another reason for the choice of this bacterial form of life was because it was considered to be harmless to living organisms.

After the bacteria had been released, traces of the organism were found to be present not only throughout the city of San Francisco but were also found in eight additional cities, including Berkeley and Oakland. Notwithstanding the success surrounding the researcher's ability to spread their experimental agent well beyond the boundaries of San Francisco, nevertheless, there was a troubling, unintended set of consequences associated with the field experiment.

More specifically, within a couple of weeks following the experimental trial, at least eleven individuals showed up at area hospitals exhibiting urinary tract maladies. A symptom shared in common by all eleven cases was the presence of red drops, the very color of the bacterial species that was being used to track the spread of the organism.

One of those patients recently had undergone prostate surgery. That individual died.

None of the foregoing individuals had given their consent to be experimented on by the American government. Furthermore, apparently, the government scientists didn't know as much as they thought they did, because not only did their "harmless" experimental bacterial vector spread further than they had anticipated and caused illness, but, under the right set of circumstances, their experimental agent proved to have an unanticipated, but lethal, potential.

Officials from the CIA who had sent observers to the San Francisco experimental field trial wanted to shift the focus of the foregoing kinds of research. As a result, the Agency authorized a program known as "Bluebird."

The goal of Bluebird scientists was to discover methods and techniques that would enhance the ability of interrogators to control the behavior of, as well as extract information from, human beings. Furthermore, Bluebird research would be conducted in conjunction with people who had not necessarily given informed consent to becoming the object of whatever experiments might be run.

In late 1950, the CIA was provided with a new director by the name of Walter B. Smith. Shortly after assuming his new position, he hired Allen Dulles who had played an important role in the OSS which, just a few years earlier, had been disbanded by Truman.

Dulles was given responsibility for overseeing all covert operations. Furthermore, because he had a long-standing interest in the dynamics of mind-control, he decided to take advantage of his governmental position and use it to organize an in-depth exploration into that phenomenon.

To further such research, Dulles established a secret facility (known as Haus Waldorf and Villa Schuster) near a small German town located north of Frankfort in west-central Germany. The "research" facility would engage in enhanced forms of interrogation involving not only physical modalities of torture but would also employ experimental forms of mind-control that involved techniques of hypnosis, electroshock technology, various pharmacological agents, as well as whatever other possibilities might be dreamed up by the creative imaginations of the members of the Bluebird teams that would be sent to the West German "black" site.

Since the foregoing sorts of experimentation took place outside of the United States, the CIA officials who controlled the West German facility apparently believed that what went on in that facility would be beyond U.S. legal jurisdiction. However, one wonders how the government scientists, doctors, and CIA operatives who worked for the Bluebird experimental program in West Germany would have considered themselves to be exempt from the provisions of Article IV, section 4 of the Constitution which guarantees that members of the federal government will conduct themselves in accordance with republican moral values – especially given that torturing people or experimenting on them is not among the republican moral values with which government personnel are Constitutionally required to comply.

The enhanced interrogation techniques used at the CIA facility were, for a time, conducted in conjunction with the consultative assistance of an individual who was referred to as "Doc Fisher." However, during an earlier Nazi incarnation of himself, he had been known as General Walter Schreiber who had been in charge of the experimental medical programs being conducted at some of the more notorious concentration camps (e.g., Dachau and Auschwitz).

Villa Schuster was just the first facility in the CIA torture franchising operation. Similar "research" facilities were established subsequently in the German cities of: Munich, Mannheim, and Berlin, as well as in different localities in Japan.

When the Bluebird teams were done experimenting with their charges, they were "released". Thousands of people were disappeared through these 'release' programs.

Allen Dulles and his right-hand accomplice Richard Helms (both of whom, subsequently, would become directors of the CIA) wanted to recruit someone who was a chemist that would be willing to ignore the Constitution and turn Bluebird into a rigorous experimental program in which no idea would be too immoral to pursue. Ira Baldwin's former student at the University of Wisconsin – namely, Sidney Gottlieb – was selected to be that individual, and he dutifully began to report for work at the CIA in mid-July, 1951.

Gottlieb's early days at the CIA impressed both Dulles and Helms. Consequently, shortly after arriving, Gottlieb was promoted and designated to be the head of the Chemical Division that recently had

been established by the Technical Services Staff. Gottlieb was given a free-hand to develop espionage tools in whatever way his imagination might take him.

A little more than a month after Gottlieb had joined the CIA, Dulles -- with Gottlieb in mind as the person who, eventually, would assume operational control -- decided to renovate Bluebird, and renamed it Artichoke. Artichoke would deepen, broaden, and intensify the mind-controlling and interrogation enhancing dimensions of Bluebird.

On the basis of questionable data, Dulles had become concerned that the Soviets and Chinese Communists were developing drug-based, chemical-based, and electronically-based techniques of brainwashing and mind-control. His hope was that Artichoke would serve as a way to catch-up with whatever the communists might have achieved in such areas, if not be able to serve as a means through which to surpass them at their own game.

Initially, Morse Allen, who had been a security officer, took point on Artichoke. Morse had been the first director of Bluebird.

Within six months of Artichoke's christening, "research" facilities had been set up in Japan, France, South Korea, and West Germany. Each site would be run by an Artichoke team consisting of three individuals who would have – individually or collectively – expertise in medicine, security, and research.

Morse and the other Artichoke teams tested all manner of drugs along with other techniques on human subjects. The term "tested" is just a euphemism for extreme forms of torture, followed by death – either as a result of the torture or as an added "plus-1".

In the minds of the Artichoke researchers, the ideal drug they were seeking would be able, on the one hand, to induce people to spill whatever information was desired by interrogators, and, on the other hand, such a drug would have the capacity, when activated in a certain way, to create a condition of amnesia in a person with respect to whatever the interrogators might want that person to forget. Another desired feature of such a drug would be its ability to shape a person's ideas, beliefs, values, and behaviors in any way the interrogators desired.

If the foregoing kind of drug could be found, interrogation would become a three-step process. First the subject would tell interrogators everything the individual knew about any topic that might be probed, and, then, the individual's mind-set could be modulated in any manner that was desired, and, finally, the subject would not be able to remember anything that had happened from the time of detention to the time of release.

All manner of drugs were tried. Among them were: tetrahydrocannabinol, one of the active ingredients in marijuana; mescaline; heroin, and cocaine.

All the drugs which were used in their experiments proved to be unsuitable. One of the primary reasons underlying the lack of suitability with respect to those drugs had to do with the wide range of responses that occurred when given to different people.

If a researcher couldn't predict how a subject would respond to the presence of a given drug in that individual's system, then that drug would be useless for purposes of interrogation. The researchers were looking for something that would work the same way in everyone, and none of the drugs they tried had been able to satisfy the Artichoke teams.

They might have been discovering a lot of ways to torture and kill people. However, they were discovering nothing that would be conducive to extracting information, controlling minds, or inducing amnesia.

Gottlieb had been studying the research reports that were being written concerning the foregoing Artichoke experiments. He noticed that LSD had not, yet, been tried.

To develop a first-hand sense of what that drug might have to offer the CIA, he went on the first, of many, psychedelic adventures. He also began to give the drug to test subjects.

In the early stages of the LSD experimentation, people were informed that they were being given an agent that might impact them in various ways and, as well, those people agreed to the experiment. Later on, people, including CIA employees, were given LSD without their knowledge or consent.

From almost the very beginning, Gottlieb believed that LSD was the key to finding a way to control and shape the minds of human beings. Dulles and Helms had given him carte blanche to take his ideas wherever he liked, and, so, he began to dream up all manner of experimental designs involving LSD.

LSD was given to people in the black sites in West Germany and elsewhere who were believed, rightly or wrongly, to be enemy agents. Although the reports that filtered back to Gottlieb indicated that, like the other drugs which had been tested, LSD was unreliable because there were too many varied responses to its consumption, nonetheless, Gottlieb remained a true believer in what he considered to be the still untapped potential of LSD.

Gottlieb was personally involved in a variety of sessions involving the torture of, and experimentation on, numerous individuals who were being held captive at black sites in West Germany, Japan, and South Korea. When those experiments ended, the subjects were removed and killed.

Eisenhower was elected President in November of 1952. When he took office, the director of the CIA was Walter B. Smith who had been Eisenhower's chief-of-staff during the Second World War.

Eisenhower called upon Smith to serve as undersecretary of state. The newly-elected President filled the empty directorship at the CIA with Allen Dulles, and also made Allen's brother, John Foster, the new Secretary of State.

The foregoing appointments wrapped Gottlieb in a cocoon of protective power which enabled him to pursue his "research" interests in an even more unfettered manner. As a result, he began to run experiments in the United States that were fronted by various doctors, hospitals, universities, and institutions -- some of whom knew that such experiments were CIA-funded and CIA-monitored research operations, and some of whom were unaware of who was the ultimate source of their research funds.

Eventually, Gottlieb felt that he needed more power and freedom to conduct his research. He approached Richard Helms with an idea, and the two of them worked out a proposal that was forwarded to Allen Dulles for consideration.

Essentially, the proposal was a request to be permitted to do whatever was deemed necessary in the way of mind-control research that might be able to assist the CIA in its covert field operations. Dulles approved the project in April of 1953, gave it the name of MK-ULTRA, placed Gottlieb in charge of the program, and indicated that there was no end to the money that could be directed toward such research.

In what follows, discussion of MK-ULTRA will be limited to just three projects out of hundreds that were run by Gottlieb. The first two projects involved houses that were set up, first in New York and, then, later in San Francisco.

These houses were used to lure unsuspecting people to have drinks which were laced with LSD. These people were not informed about what was taking place, and their LSD-fueled trips were observed and recorded by CIA employees.

In other words, the CIA -- in violation of its charter -- was running covert operations on Americans through the aforementioned houses. Furthermore, later on, prostitutes were used to lure people to those houses, and the prostitutes were not only sometimes paid in illegal drugs, but they were given "get-out-of-jail-free" cards so that if they got into legal trouble somewhere along the line for their professional activities, then, the CIA would make those problems disappear.

Gottlieb was experimenting on Americans without their informed consent. Moreover, he was reported to be a prodigious user of both the drugs and prostitutes that were being made available, all paid for by the American taxpayer.

Of the many doctors, hospitals, universities, institutions, and foundations that Gottlieb used to front his CIA-backed experimentation, perhaps none stands out as egregiously as does the work of Ewen Cameron. Cameron had been born in Scotland but was living in New York State while working at McGill University in Montreal.

At McGill, he was the chairman of the Department of Psychology. In addition, he was the director of Allan Memorial Hospital, a psychiatric facility affiliated with McGill.

When Gottlieb recruited Cameron, the latter individual was the President of both the Canadian Psychiatric Association as well as the

American Psychiatric Association. Gottlieb's interest concerning Cameron had been engendered by an article the latter individual had written concerning an adaption of work which previously had been carried out by Donald Hebb at McGill.

Cameron had a theory that he called "re-patterning" which employed a technique called "psychic driving" through which he believed patients could be shocked out of whatever physical or emotional affliction might be causing them difficulty. Such individuals would, first, be put into a drug-induced, semi-comatose state of sensory isolation for anywhere from ten days to three months.

While in this state, patients would be subjected to a series of electroshocks that were 30-40 times more powerful than the level of shocks that were used during "normal" forms of that kind of treatment. Following such treatment, patients would be isolated, placed on a starvation diet, and, then, fed massive amounts of LSD.

In addition, while kept in such isolation, patients were fitted with helmets that had earphones. Negative words, phrases, and messages (e.g., your mother hates you) were sent through the helmet earphones thousands of times during the course of Cameron's experiments.

The patients that were "treated" through the foregoing set of methods were not suffering from severe psychological disorders. In fact, when they first came to Cameron, they tended to report issues involving some degree of limited anxiety and/or which entailed marital or family problems of some kind.

Cameron misled the foregoing sorts of people about the nature of the treatment to which they would be subjected. Once they began the treatment, they became prisoners and were unable to exercise any form of informed consent to what was taking place.

The lives of many of the people treated by Cameron were destroyed. Some of them committed suicide.

Cameron was no longer alive when what had been taking place at the Allan Psychiatric Hospital was uncovered. The Canadian government ended up paying more than a hundred people substantial payouts in damages for the torture which they had endured at Cameron's hands and which not only had been funded by Gottlieb and the CIA but the details of those experiments were known to Gottlieb,

and despite knowing what he did about those experiments, Gottlieb continued to support them with the money supplied, unwittingly, by American taxpayers.

Not all of the MK-ULTRA projects that were run by Gottlieb were as sordid as were the Cameron experiments, but they all shared two qualities. First, the people who were experimented on – most of whom, but not of all whom, were Americans – were all denied the right of informed consent, and, secondly, for more than a decade and in contravention of the provisions of the charter governing CIA activities, covert CIA operations were being run on American soil.

At the cost of millions of dollars, thousands of tortured bodies and souls, as well as an unknown number of individuals who were slaughtered by people who sought to play God and were woefully under-qualified, Gottlieb never found his elusive drug that would enable interrogators to extract information, control minds, and generate amnesia concerning the whole process. The purpose which supposedly fueled his research was a complete failure which had been built upon decades of fraudulently leveraging the willful blindness of presidents, Congress, the judiciary, the media, and the American taxpayer.

For a number of decades, Gottlieb had been engaged in acquiring and applying different versions of toxic knowledge. He sullied, corrupted, and destroyed everything which he touched with that knowledge.

Gottlieb was never held accountable for anything that he did – not the torture, not the experimentation on human beings, not the killings, and not the violation of any number of American laws that were flaunted while he went about his business. On several occasions following his retirement, he was called to testify before Congress, but he never was seriously challenged about the depth of the degenerate corruption which he directed and for which he had oversight while employed by the CIA.

Allen Dulles, Richard Helms, Sidney Gottlieb, and others who were responsible -- directly or indirectly -- for the foregoing projects had allowed their own delusions, fears, demons, and pathologies to dictate their actions. They often tried to justify their actions with notions of

national security, and others have sought to lend support to such individuals on the same philosophical grounds.

However, doing immoral things in order to protect national security will never resolve the fundamental issues that are entangled in the foregoing sorts of delusions, fears, demons, and pathologies because if national security is going to be the criteria that is to justify doing whatever one likes, then, every country has the same right, and this will lead to the worst dimensions of human beings being called to the forefront as the only way to protect one's citizens.

The most secure foundation for constructively resolving one's concerns about what the "other" is going to do to one are principles of sovereignty that need to be extended to, and guaranteed to, everyone, whether citizen or non-citizen. National security does not trump sovereignty because national security is, ultimately, a losing game since it has nowhere to go but to serve the Red Queen and engage in a never-ending arms race fueled by unending paranoia.

Furthermore, national security is never about national security. It is always and inevitably about people in control staying in control.

The advocates of national security tend to be pathologically addicted to issues of control, and, consequently, are individuals -- like the Gollum in *The Lord of the Rings* Trilogy – who fear losing their rings of power more than anything, and, unfortunately, they don't care how many people have to die or be adversely affected in order for them to be able to: (1) Maintain power; (2) retain influence; (3) continue to have a sense of relevance, no matter how shoddy, with which to feed their egos, and (4) experience the intoxicating emotions which often accompany a person's attempt to actualize a savior complex which is actually meant to save the individual who is pursuing the realization of that complex rather than the rest of humanity who merely are meant to serve as fodder for that sort of a pathological orientation. Controlling and oppressing the lives of others for the sake of so-called national security does not secure the sovereignty of anyone but rather destroys the opportunity of sovereignty for everyone.

All CIA officers, as well as individuals who are given special access clearance, are required to sign secrecy agreements. Those who accept the terms of such an agreement are promising not to divulge whatever

secrets to which they might be granted access irrespective of what ramifications those secrets might have with respect to constitutional security or the sovereignty of citizens.

In effect, by signing secrecy agreements, such people are laying a moral groundwork which establishes a potential for being able to commit treason in the future. More specifically, by signing such secrecy agreements, they have indicated that as far as moral hierarchies are concerned, their first loyalty must be to maintaining secrets, irrespective of the nature of those secrets or how those secrets might adversely constitutional security and the sovereignty of individuals rather than to being bound by constitutional principles such as are given expression in the guarantee clause of Article IV, section 4 which specifies that the federal government must, itself, be governed by republican moral principles.

One dimension of the moral philosophy of republicanism is that government officials cannot be judges in their own cause. However, to maintain secrets no matter what the costs of such secrets might be to constitutional security (not national security) and the sovereignty of citizens is to serve as a judge in one's own cause of keeping secrets.

Moreover, republicanism requires federal government officials to be objective and impartial in their deliberations. If one is sworn to maintain secrets irrespective of the nature of those secrets and irrespective of the damage that such secrets might do to constitutional security (which doesn't necessarily have anything to do with someone's theory concerning national security) and the sovereignty of the citizenry, then, one will have difficulty being either objective or impartial because everything which one thinks, feels, or does will be shaped by that secrecy agreement, and, therefore, the commitment to secrecy serves as a source of potential bias in all one's subsequent deliberations and actions.

To be bound by the constitutional principle of republicanism, is to be bound by the principles of honesty. A federal official cannot be honest if that individual is bound, first, by the conditions of secrecy.

Republican moral philosophy requires federal officials to be loyal and have honor. However, that loyalty and honor must be predicated on giving priority to constitutional security and the sovereignty of citizens rather than to secrecy.

Mike Pompeo once referred to Julian Assange as a "non-state hostile intelligence service." Such a characterization encompasses anyone and everyone who uses faculties of critical thinking and in the process disagrees with, or seeks to resist, the corrupt activities being actively, and often diabolically as well as secretly, pursued by various government officials like Sidney Gottlieb, Allen Dulles, Richard Helms, and Mike Pompeo.

Gottlieb might have been looking in all the wrong places for a magic elixir that was capable of controlling the minds, emotions, and behaviors of people. While he was obsessed with LSD as well as with other kinds of pharmacological substances, and believed -- despite a great deal of evidence to the contrary – that the answer to his quest for control of the human mind was to be found in drugs of one kind or another, nevertheless, just one year after the CIA had been created and approximately five years before Gottlieb started to develop the MK-ULTRA mandate which Dulles had awarded him, yet another field of study was beginning to emerge.

More specifically, in 1948, Norbert Wiener had written *Cybernetics: Control and Communication in the Animal and Machine*. In that book, Wiener outlined a framework which indicated how certain kinds of communication processes or feedback dynamics could be used to shape, and, therefore, control, how both living and non-living systems operated in order to be able to realize goal-oriented programs which, through feedback loops, could, when necessary, be refined and improved over time.

Although a more in-depth investigation into an array of complex and nuanced descendents of Wiener's cybernetic control and communication perspective will not take place until Chapter 10, some worthwhile information might be forthcoming by taking a look at the certain aspects of the perspective of Robert Duncan who, like Gottlieb, worked for, among others, the federal government and helped to create programs that were directed toward seeking to control how human beings think, feel, and behave. While Duncan has chosen to give preference to issues of secrecy and national security rather than to constitutional security and human sovereignty, nonetheless, he has been engaged in some penance work which not only has tried to

mitigate and repair some of the damage which he helped to unleash, but, as well, has sought to educate Americans about certain facets of the research concerning control of human beings that has been actively pursued by the federal government and which, more and more, is being used against unsuspecting citizens.

Very early on in *Project: Soul Catcher, Volume Two – Secrets of Cyber and Cybernetic Warfare Revealed*, Robert Duncan makes clear that human beings, like computers, can be hacked. He ought to know because, for years, prior to his decision to say whatever limited sorts of information his secrecy agreements permitted him to divulge concerning declassified government programs involving psychological, neurological, and bio-warfare, he had been engaged in precisely that kind of experimental research on behalf of the federal government.

The first time that I listened to Robert Duncan was during an interview on an internet channel called *Koncrete* but which has since been re-titled to the 'Danny Jones Podcast'. Duncan, along with Len Ber -- a medical doctor, émigré from Russia, and American citizen – were being interviewed about targeted individuals and government mind control programs.

Dr. Ber is a targeted individual. He is someone whose life has been hacked and, as a result, has become subject to unpredictable hacking sessions that have become possible due to discoveries that have been made by, among others, Robert Duncan and his federally-funded scientific colleagues.

Through an unanticipated set of circumstances, Dr. Ber later contacted me concerning something that I had written about targeted individuals and mind control. He wanted to do an interview which, after some hemming and hawing on my part, finally took place.

Leading up to the proposed interview, there were a few delays in our preparations. Some of those delays were my responsibility, but some of them were because of a number of hacking attacks which Dr. Ber had to endure.

When he recovered enough to talk about our upcoming interview, he told me a little about those events. They are so painful and torturous that all one wants to do – and all that one has the energy to do -- is to curl up into a fetal position and try to hang on.

Robert Duncan claims not to know – and he might be telling the truth – how many mind-hacking programs were being run by the CIA, the Department of Defense, or the National Security Agency at the time his aforementioned book was released for public consumption (2010). Nevertheless, based on the number of people who have contacted certain organizations (such as *Targeted Justice*) which have been trying to help individuals who have become victims of the aforementioned mind-hacking programs, there are estimated to be thousands of people in the United States who have been exposed to those sorts of programs and, unfortunately, that number has substantially increased over the last 14 years (since the publication of Duncan's book).

Furthermore, the number of targeted individuals cannot be restricted to America. Duncan acknowledges in his book that projects involving destructive electromagnetic physical, mental, and emotional interference with the lives of allegedly private citizens are being conducted by an array of governments, corporations, and individuals in England, Australia, and Europe as well.

The foregoing forms of destructive interference have been taking place at least since the latter part of the 1960s. One of the locations where such dynamics occurred -- and which, eventually, became public knowledge -- was in Moscow when members of the U.S. embassy began to complain of certain kinds of physical, emotional, and mental disturbances they had been experiencing while stationed in Russia.

Moreover, according to Robert Duncan, several intelligence officers indicated to him at some point that the foregoing sort of targeted interference dynamics showed up again in 1976. More recently, during a five year period from 2016 to 2021, there have been hundreds of military officials and intelligence personnel who have encountered various kinds of problematic physical and cognitive interference incidents in locations as diverse as India, Hanoi, Washington, D. C., China, and, of course, Havana, Cuba which has provided a name for the syndrome that has been characterized by, among other things, various kinds of cognitive disturbance, pain, and auditory ringing (and these are just some of the milder sorts of things that can be imposed on people through electromagnetically pulsed

frequencies which can be augmented by programs controlled by artificial intelligence networks).

One question that Robert Duncan is often asked is: How can mind-hacking take place in a way that affects just one of the two people who might be standing next to one another? He indicates that one feature which helps make the foregoing phenomenon possible is due to the fact that every brain has its own set of bio-electric signals which constitute a unique sort of bio-signature, and, therefore, if one knows the nature of the cognitive signature that one wishes to access, then, a person engaged in brain-hacking activities will have a method through which to differentiate between the brains of two people standing next to one another and, thereby, if so desired, a brain-hacker can begin to manipulate the brain for which a signature-key is known. Although the unaffected person who is standing next to a targeted individual might be bathed in a certain amount of electromagnetic radiation, such energy tends to be dissipated and, consequently, becomes dispersed as noise rather than being received as some sort of directed, targeted energy because, in a sense, there is nothing in the non-targeted individual for the directed signal to hang on to since that signal is geared for another person's bio-signature and, therefore, lacks the necessary access key.

When certain kinds of energy or frequencies are directed at a person who is being targeted, the process of brain-hacking is aided when that energy is sent in the form of pulsed signals which are synchronized with the depolarization processes that are taking place in different neuronal micro-circuits governing a person's cognitive functioning. When the two (pulsed energy and neuronal depolarization) are properly synchronized, then, whatever bodily processes, cognitive functions, or behaviors that are linked to the micro-circuitry being targeted by such pulsed frequencies become subject to modulation or control, and, as such, the right kind of pulsed frequency signals will serve as a key (and this is referred to as a 'Bit Stream Key') which unlocks access to neuronal micro-circuits whose properties have been mapped out ahead of time by those who are engaged in brain-hacking.

Besides the issues of bio-signatures and directed beams of pulsed energy frequencies, a third factor involved in brain-hacking has to do

with the issue of entrainment. The precision required during the aforementioned synchronization process is considerable, but when such directed energy becomes sufficiently well-synched with some tipping-point set of neurons, then, those pulsed frequencies will be able to gain control over that set of neuronal signals and entrain the constituent neurons in that set to follow whatever pulsed frequency coding is sent to a given individual's brain.

There are a number of entrainment programs which can be run to establish the sort of synchronization that will enable the right kind of bit stream key frequency to become manifest and, thereby, be able to pull or push neuronal signals in one direction or another. Hypnosis and binaural dynamics (when the ears hear two beats of slightly different frequencies) are two such entrainment methods, but there are others, some of which will be touched on in Chapter 10.

When the bit stream key being sent via pulsed frequencies is correct, it will induce a transition in both electrical conductivity and ion concentration among the targeted neurons (i.e., a depolarization dynamic). This is known as an evoked potential, and its appearance indicates that the pulsed frequencies are, now, capable of entraining certain facets of neuronal activity to follow whatever external signals are being sent to the brain.

Each bit stream key constitutes a resonance that can be used to activate or entrain different micro-circuits in the brain. Such resonances can be used to map the brain and form a frequency model of brain functioning.

When someone who is interested in hacking brains puts together the right set of resonances via such bit stream keys, then, frequency patterns associated with certain sounds, words, feelings, meanings, and thoughts can be detected and, when desired, those same patterns can be generated and modulated. If this is done well, then a targeted individual might have difficulty determining whether the subject matter of on-going conscious activity is coming naturally from within or is being projected into one's consciousness from without.

When multi-dimensional or multi-faceted sorts of nuanced hermeneutical understandings are represented by various networks of neuronal activity, these networks tend to involve phase issues that give expression to slightly different firing patterns from one set of

neurons or micro-circuits to another. When those phase differences are properly decoded and organized, then, a brain-hacker can come to understand -- or can be told by someone who is further up the hacking chain -- the meanings, attitudes, and emotional orientations which are being given expression through those phased neuronal relationships.

The foregoing situation is akin to a synthetic form of mind-reading. Furthermore, by sending certain patterns of pulsed frequencies, a form of artificial telepathy becomes possible in which different thoughts, ideas, beliefs, and so on can be introduced into the consciousness of a targeted individual.

Naturally, the foregoing kinds of understandings can be transitioned in any number of directions by a brain-hacker as a way of introducing different senses of meaning or understanding in the mind of the person who is undergoing the sorts of transitions which are being generated through programs of such pulsed frequencies. Indeed, the foregoing considerations go to the heart of what brain-hacking or the high-jacking of phenomenology is, ultimately, geared toward achieving – namely, being able to both grasp the nature of a given state of consciousness, and when considered necessary by the one (s) who is (are) manipulating another person's sense of reality, then, what is felt, sensed, thought, believed, meant, and done by the one being controlled can be modulated or transitioned to some other state of consciousness that fits in with whatever a given strategy of manipulation or control might entail.

If all of the foregoing considerations seem somewhat fanciful, one should take into consideration that there are over-the-horizon RADAR systems capable of tracking tiny fluctuations of ion density in small objects that are traveling at speeds of nearly 40 miles per second. Such tracking capacities have the capacity to assist someone – say someone who is interested in brain-hacking -- to generate maps and models of changes in ion density that take place during neuronal activities, and these capabilities have been in existence at least since the late 1940s and early 1950s.

Just as computer functionality can be undermined by the presence of a virus, so too, the cognitive functioning of a human being can be destabilized when subjected to the right set of frequencies that have

been programmed to engage the micro-circuits of a person's brain in a particular fashion and, in this sense, act like a computer virus.

In his book *Project: Soul Catcher*, Robert Duncan alludes to various programs that have been developed by the Department of Defense which are capable of placing certain sets of frequency codes in a person's mind which have the capacity to undermine that individual's ability to control his or her own cognitive activity. Data concerning the foregoing frequency coding events can be gathered, analyzed, and, in best cybernetic fashion, fed back into the existing program to enhance that program's effectiveness and, thereby, bring about even more devastating results during the next brain-hacking cycle.

Once the bit stream keys for a person's cognitive activity have been established, then, that individual becomes vulnerable to whatever entrainment signals are sent. This process is referred to as spell casting, but the spell is a function of the effect that pulsed electromagnetic frequencies have on a person who has been biologically and neurologically groomed to respond to such spells.

According to Robert Duncan, only 1% of a given population is targeted at any given time. He contends that this limited percentage of targeted individuals is so that undue attention will not be drawn to the enslavement programs which are transpiring.

In other words, a frog thrown into a boiling pot of water will quickly jump out of that pot. However, when a frog is placed in a pot of water and the temperature of that water is gradually raised, the frog will stay to the inevitable end of its boiled life.

Human beings are similar to frogs. The temperature of the phenomenological and cognitive waters in which humanity resides is being raised 1% at a time and, therefore, goes largely unnoticed.

Due to the manner in which certain government officials are rolling out the phenomenon of mind-control, when targeted individuals speak about their experiences to others, those events are often perceived by the general public as constituting a set of anomalous, rare occurrences that are affecting just a limited number of people. Consequently, those experiences tend to be interpreted as being the ramblings of someone with mental or emotional problems and, therefore, are subsequently dismissed.

Thus, human phenomenology is being hacked in the midst of a world-wide community audience that does not understand what it is witnessing. Soon, according to plan, the boiling water will envelop those unsuspecting individuals, and, consequently, they will have no inclination to try to escape from what they have convinced themselves is happening only to others and, as a result, those individuals will assume that the temperature gauge which has been ringing more and more does not toll for them.

Just as computer hackers use spoofing techniques to induce a person to believe that an e-mail link can be trusted or that a given IP address is what it purports to be, so too, there are methods which enable brain-hackers to induce a targeted person to believe that a voice which occurs in that individual's consciousness actually belongs to someone whom one trusts and/or loves. Through such techniques, individuals can be induced to believe, among other things, that God is speaking to them.

Duncan claims military technology is approximately 60 years ahead of what is known by, and shown to, the public (and keep in mind that Duncan has worked in covert military projects and, therefore, is not just making a statement based on speculation). The public has come to know about phenomena such as deep fakes (both voice and image) as well as holographic/virtual reality technology that can make differentiating between what is real and what is imitation become a challenging exercise, so how does one go about trying to imagine what the military is actually capable of doing currently given that Duncan has described the military as being, at least, 60 years ahead of the public?

Moreover, the technology which Duncan is describing in his *Project: Soul Catcher* book is 14 years out of date. Moreover, what he can say about such out-of-date technology is limited to declassified information.

At best, he is only hinting at what the military and other government agencies have accomplished. On the basis of what Duncan can say and is saying, the strides which the government has made in mind-control technologies is quite terrifying, yet, one might suppose that what lies beneath the visible surface (that which he can talk about) is the stuff of nightmares, and, unfortunately, these sorts of

nightmares are currently being foisted on people without the latter's consent.

According to Robert Duncan, there are data bases that have been developed and maintained by brain-hackers which contain information concerning complexes of frequencies that have been encoded in conjunction with almost every kind of pain one can imagine -- from: Severe headaches, to: Heart attacks, broken bones, and wounds of one kind or another. In addition, data bases also have been constructed containing information about the frequency patterns that are associated with emotional states such as suicide, fear, anxiety, depression, and so on.

Cloning refers to a process in which the foregoing kinds of frequencies are transferred to another person. When appropriate bit stream keys have been established for a given individual, then, that person becomes vulnerable to forms of frequency entrainment which will enable the foregoing kinds of pains and emotional states to be felt by a targeted individual.

Duncan's discussion of cloning revolves about the use of psychic soldiers who are able to create within themselves certain physiological, emotional, and mental conditions which entail pain and negative states of one kind or another, and, then, such conditions are cloned in the targeted individual. Duncan maintains that while the psychic soldier knows that what is going on within the soldier is manufactured theater, the targeted individual who is being sent cloned editions of that theater does not know that what is happening has been artificially generated and experiences those events as being painfully real.

Technology has advanced since Duncan's book was published. Artificial intelligence programs have taken the place of human psychic warriors and have the capacity to transfer all manner of pains, states, emotions, and ideas to targeted individuals through the aforementioned cloning process, and, moreover, disinformation and misinformation can be introduced through such methods as well.

Entrainment dynamics often involve scripts which are designed to shape and modulate the phenomenology of a targeted individual. These scripts can give expression to an array of possibilities, including religious, sexual, demonic, alien, paranormal, and political themes.

Scripts are often used to create states of: Confusion, fear, panic, doubt, paranoia, frustration, distrust, and unhappiness. When an individual has no access to a normal process of consensual validation through which such a person can have access to trustworthy feedback from other human beings as a way of probing what might, and what might not, be real – and this is the case for many targeted individuals whose families and friends have been induced to distance themselves from a targeted individual because everything such a person says seems so crazy and terrifying that most people do not want to believe that what is being said could be true –- then scripts (with all their negative, destructive, and problematic features) become all a targeted individual has to reflect upon as that person tries to navigate the currents and hazards of an existence which has been made nearly impossible by brain-hackers both within and without the government.

In addition to the ways in which scripts of one kind or another are intended to help induce a person to enter into states of dissociation, de-realization, and depersonalization, technological entities known as "chatter bots" are also used to assist with the de-patterning and conditioning processes that are used in conjunction with targeted individuals. Everyone experiences a certain amount of internal chatter in which various ideas, thoughts, memories, feelings, fantasies, and concerns bubble to the surface of consciousness, and there is often a pattern to that sort of chatter which is peculiar to a given individual.

The foregoing sorts of internal chatter frequencies can be captured, mapped, and played back to the individuals from whom they are derived. 'Chatter bots' are automated, AI systems that are relentless in the way they can be programmed to take selected instances of those internal chatter frequencies, modulate those sequences according to the imagination of the brain-hacker, and, then, be set loose in a series of chatter sessions that can be turned on or off in arbitrary ways which are intended to break a person down if not push that individual toward insanity, and, possibly, suicide.

The foregoing overview has concentrated mostly on those facets of the targeted individual programs which involve the brain. However, from time to time, Duncan does indicate in his 2010 book that pulsed frequencies can be used to create whatever diseases one might care to

induce in a targeted individual, and that theme will be developed in more detail in Chapter 10 of this book.

Duncan points out that during the Congressional hearings which were held in the mid-1970s (the most important of these being the investigations conducted under the chairmanship of Senator Frank Church from Idaho), there were some 120 institutions and organizations which were implicated in the experimental research that had been approved by Sidney Gottlieb (some of which were outlined in the previous section of this chapter) and funded by the CIA. Since there were no adverse consequences for any of the individuals in the CIA, military, or federal government who had perpetrated all manner of criminal, if not treasonous, acts, the CIA, the Department of Defense, and other government agencies proceeded to experiment on, torture, and kill thousands of more individuals in the form of, among other things, targeted individuals, and this set of practices has continued to the present time.

Targeted Individuals have not been selected because they were enemies of America that were seeking to violently overthrow the government of the United States. Rather, they were selected because the CIA, Department of Defense, the military, the National Institute of Health, and other governmental departments had the power to bully, abuse, terrorize, torture, and exterminate whomever they wished.

The brain-hacking projects funded by the American government are about exercising power and control for purposes that are embellished with a cover story about purporting to serve national interests but which, in reality, give expression to nothing but the self-serving dark machinations of individuals who could care less about constitutional security or individual sovereignty. The proof of the foregoing statement is rooted in the tens of thousands of targeted individuals who currently are being tortured and experimented on in the United States by various government agencies (or by individuals who are being funded by those government agencies), and, then, who rely on various tactical and strategic uses of sophistry to gaslight the public while being protected by various members of Congress and the judiciary who, at best, are deep in the thrall of willful blindness, and, at worse, are knowing participants in lending support and protection to the continued use of such toxic knowledge.

Robert Duncan has to be very careful about what he says and how he says it. He knows more than he says (and during interviews he often alludes to this fact through a revealing smile), but government gate-keepers keep tract of people like Duncan and let them know in ways, both subtle and overt, what the penalties will be if individuals like Robert Duncan say too much and, thereby, divulge secrets which are meant to be kept from the American public – not for purposes of protecting national security but in order to protect the vested, self-serving interests of government officials, corporations, and individuals who wish to ignore the constitution and deny sovereignty to the American people.

For a fairly long time, I ran a video interview on my website that Robbie Martin did with his sister, Abbey Martin, concerning the anthrax attack that killed five Americans in October, 2001. I also have watched his short documentary 'American Anthrax,' as well as listened to several interviews which he did concerning that documentary.

For a long time, there also was a book on my "to do" list by the recently deceased Canadian, Graeme Macqueen, entitled: *The 2001 Anthrax Deception*. Not too long ago, I was able to finish that work as well.

The research of the foregoing two investigators provides the factual backdrop for much of what follows. The anthrax incident initially surfaced in September-October of 2001, but continued on, in typically bumbling style, for another eight, or so, years as different dimensions of the federal government continued to ply the American public with reams of misinformation, disinformation, and inept forms of lying.

The term "anthrax" is based on a Greek word for coal, and the blackness of coal resembles the color of scabs which form on skin that has been caught up in such a disease. Anthrax is said to be caused by the presence of the Bacillus anthracis bacteria, although there are some individuals who are of the belief that when the pleiomorphic cycle of a microorganism is destabilized in certain ways, then, such microorganisms might be induced to undergo various kinds of morphological and functional changes which are capable of leading to whatever symptoms of the anthrax disease are observed.

There are three forms of the malady which are associated with different facets of the body. As noted earlier, one area of vulnerability is the skin, and when anthrax arises at such points of vulnerability (usually following some sort of destabilization of an individual's biological terrain), this form of the disease is known as cutaneous anthrax.

A second area of vulnerability is the gastrointestinal tract. This form of the disease is believed, by some, to arise when anthrax spores are inadvertently consumed via improperly cooked meat, but, there are alternative perspectives which hold that the foregoing sorts of spores also might arise when the biological terrain in which a certain kind of microorganism exists becomes destabilized and the microorganism is, thereby, induced to undergo transition to a form of Bacillus anthracis which is toxic and gives expression to the symptoms associated with gastrointestinal anthrax.

A third form of the disease is associated with the lungs. This is referred to as pulmonary anthrax,

Pulmonary anthrax is the most deadly form of anthrax, possessing a mortality rate of between 75 and 95 %. Gastrointestinal anthrax is the next most lethal form of the disease, whereas cutaneous anthrax, left untreated, has a mortality rate of approximately 20%.

All five of the people who died in conjunction with the anthrax attacks during the fall of 2001 died from the pulmonary form of the disease. One might also note that what causes death is not the result of some sort of infection created by bacteria but, instead, is due to a toxin that is released by those bacteria and which is capable of interfering with different aspects of biological functioning.

Irrespective of whether, or not, the foregoing sort of microorganism is involved in a disease process, bacteria will reproduce. However, when more bacteria are created through a normal cycle of mitosis, then, the capacity of the increased numbers of bacteria to be able to release greater amounts of toxic material is enhanced.

Although the symptoms of the three forms of anthrax are slightly different from one another, the most lethal form -- pulmonary anthrax – usually is associated with a progressive sequence of symptoms. More

specifically, an affected person starts out with some combination of: High fever, swelling of the spinal column and brain, difficulty in breathing, shock, and, eventually, death.

The spores of anthrax bacteria have long been a subject of study by English, German, Russian, and American scientists. Such spores can integrated into an aerosolized form of dispersal to form a biological weapon, and part of the weaponization of anthrax has to do with finding ways to prevent the spores from clumping together so that they are able to float in the air and spread further while simultaneously becoming easier to be inhaled more deeply into the lungs of a human being.

Following World War I, a number of nations pursued the production of an international agreement which resulted in a ban on the use of biological weapons. This became part of the Geneva Protocol of 1925.

Although the United States signed the foregoing protocol, the second step – namely, ratification – was never realized in America. Furthermore, even though the 1925 Geneva Protocol banned the use of biological weapons, nonetheless, that document did nothing to prevent researchers from developing or altering such biological agents.

In 1989, a reworking of the 1925 Geneva Protocol was passed in both houses of the U.S. Congress and was signed into law by, then, President, George H. W. Bush. This law sought to fill various lacunae which existed in the original protocol such as issues involving development and sharing of weapons and/or methods.

However, in mid-2001, when different countries were trying to work out protocols for verifying compliance among those who were participants in international agreements concerning biological weapons, the United States indicated that it would not take part in those verification procedures. As a result, America became the only country in the world which refused to comply with the inspection and verification process concerning what might, or might not, be taking place in various American biological weapons labs, such as at Fort Detrick, and this refusal to allow American labs to be open to inspection took place just a few months prior to the October anthrax attacks.

Letters containing spores of anthrax had been postmarked as early as September 18, 2001. However, two additional letters containing a more weaponized version of anthrax than had been present in the earlier letters showed up a little over two weeks later.

These latter letters had been sent to two U.S. Senators (Tom Daschle and Patrick Leahy). They had been sent somewhere between October 6th and October 9th, 2001.

The first person to die from anthrax passed away on October 5, 2001. Three more people died during the last ten days of October, while a fifth person died three weeks later, on November 21, 2001.

A total of 22 individuals tested positive for exposure to anthrax. Eleven of those people were diagnosed with cutaneous anthrax, and the other eleven individuals were said to have pulmonary anthrax.

Although there are interesting details to learn in conjunction with all of the people who were the recipients of various letters containing anthrax spores of one kind or another, the two individuals who will be focused on in what follows are Tom Daschle and Patrick Leahy. This is because the issues that arise in conjunction with those two individuals appear to indicate that what took place with the Senators was more of an attack on the process of governance than appeared to be the case in the other attacks, as horrific as these other cases might have been.

Eleven days after 9/11, President George Bush met with Congressional leaders -- including Tom Daschle who was the Senate Majority Leader -- and indicated that he (Bush) was interested in passing legislation that would enable him to use force against those whom he believed to be responsible for the events of 9/11. Daschle indicated that he was not only prepared to serve as a sponsor of such a bill, but, as well, he was quite prepared to assist such legislation to have a smooth passage through the Senate.

However, Daschle was not the author of the bill which Bush was alluding to, and, as a result, the Senate Majority Leader was not familiar with its contents. The text of the bill was sent to him later in the day.

When he read the text of the proposed legislation, he discovered that the bill gave Bush, and whoever might come after him, a blank check to employ all means necessary -- including military force --

against anyone (whether inside or outside of America) who might be considered by the President to be prepared to perpetrate attacks against the United States. Daschle was shocked and deeply troubled by the unfettered scope of the bill's contents and sought to place constraints on the language of the proposed legislation.

The bill – with Daschle's altered language -- was passed by both houses of Congress on September 14th, 2001 and, then, signed into law by George W. Bush just four days later on September 18, 2001. This was the same day on which some of the letters containing anthrax spores were later found to have been postmarked.

The Bush administration immediately began to push for another piece of legislation – subsequently known as the Patriot Act -- to be fast-tracked through Congress. The effect of the earlier resolution to authorize military action, as well as the current legislation concerning the Patriot Act, were, in effect, pushing for legislative action that would establish an imperial presidency.

A third plank of the imperial presidency came in the form of a proposal to establish military tribunals. This aspect of the Bush agenda would rear its ugly head toward the latter part of 2001.

If all of the foregoing legislation passed – and, eventually, it did -- such a legislatively-enabled imperial presidency would entitle Bush (or so he seemed to believe), as Commander in Chief, to be able to derogate to himself the right to be legislator, judge, and executor in conjunction with a variety of issues in the post 9/11 world. However, Bush (and Congress) seemed to have forgotten that some 230 years earlier, Americans had risked their lives to fight a war of independence against King George for acting in precisely the way in which Bush now wished to proceed.

While the House of Representatives was controlled by the Republicans, and, as a result, Bush would have no trouble getting the legislation he wanted passed in the House, the Senate was another matter. Democrats enjoyed a majority in that chamber, and, therefore, getting the Senate to come on board with the Bush agenda depended on being able to induce people like Tom Daschle, the Senate Majority Leader, and Patrick Leahy, Chairperson of the Senate Judiciary Committee, to support, and vote in favor of, what was taking place.

The Senate Judiciary Committee had responsibility for ensuring that whatever legislation was being considered would reflect commitment to various principles of civil liberties. The Senate Majority Leader played a central role in helping legislation to weather whatever political storms might arise in conjunction with proposed legislation.

Both Patrick Leahy and Tom Daschle had been actively resisting the Bush administration's desire for a quick passage of the Patriot Act. For example, Leahy felt that President Bush was backing out of an agreement that the Senator believed the President had made concerning the manner in which law enforcement authorities would, and would not, be able to exchange information involving grand jury proceedings and wiretaps with various intelligence agencies.

Senator Daschle backed Leahy on the foregoing issue. As a result, Daschle indicated that due to the foregoing unresolved conflict, he did not believe that the proposed Patriot Act legislation would be able to be passed by the October 5, 2001 date which the President and his Vice President, Dick Cheney, desired.

Soon after the foregoing delay in passing the foregoing legislation, Attorney General, John Ashcroft, as well as Andrew Card, the White House Chief of Staff, and Donald Rumsfeld, the Secretary of Defense were all making noise via the media that unless the Patriot Act was passed by the indicated October 5th date, the government would not have the tools needed to combat the next set of attacks which might soon take place and very likely might involve weapons of a biological and/or chemical nature. In early October, the *New York Times*, *Washington Post*, and other media outlets were being pressured by the Bush Administration to publish articles that pushed the idea that biological acts of terrorism were likely to be perpetrated in the near future.

Somewhere between: October 6th, 2001 – the day after the October 5th, 2001 deadline for passing the legislation had been missed – and October 9, 2001, letters containing anthrax spores that exhibited more weaponized properties than did the anthrax spores that were contained in the letters which had been postmarked on September 18, 2001, were sent to Senator Tom Daschle and Patrick Leahy. The Daschle letter wasn't opened by an intern, Grant Leslie, until October

15th, 2001, and the Leahy letter became entangled in the sequestering of Senate mail that took place following receipt of the letter addressed to Daschle as well as the illness and death of several Congressional postal workers.

On October 11th, 2001 – less than a week following the sending of anthrax-containing letters to Senators Daschle and Leahy -- the FBI issued a warning which indicated a terrorist attack was imminent. Later that same day, the Senate passed its version of the Patriot Act despite the objections of Senator Russell Feingold who felt that the legislation needed to be amended to better protect civil liberties and, as a result, voted against the passage of the Patriot Act.

During the activities that led up to the Senate vote which occurred near to midnight on October 11th, 2001, Senate Majority Leader Tom Daschle repeatedly thwarted the aforementioned efforts of Senator Feingold to make changes in the legislation that might better protect the civil liberties of Americans but would delay passing the Senate's version of the proposed Patriot Act yet again. The concerted efforts of Tom Daschle to prevent Senator Feingold from being able to make changes to the foregoing legislation that would better protect civil liberties at the cost of delaying its passage in the Senate seems rather incongruous with his actions of a week, or so, earlier.

On the previous occasion – just a few days earlier -- Daschle had been backing Patrick Leahy's desire to exercise the necessary caution to ensure that civil liberties would be preserved amidst the draconian provisions which were present in the Patriot Act. On that earlier occasion, Daschle had played a major role in delaying the vote on that legislation in the Senate and, thereby, frustrating Cheney's and Bush's desire for the October 5th, 2001 passage of the legislation, but, just a few days later on October 11th, Senator Daschle was actively seeking to shut Russell Feingold down with respect the same very same issue protecting civil liberties.

What changed Senator Daschle's mind in just a few days? Since the anthrax letter to Senator Daschle would not surface for another four days (October 15, 2001), one cannot point to that letter as playing a role in his decision.

On the other hand, the timing of the postmark on the anthrax-containing letter to Senator Daschle certainly makes one wonder. For

example, was the person or persons who sent that anthrax-containing letter to Daschle motivated to do so because of the failure of the Senate to pass the Patriot Act legislation by the October 5th, 2001 date that had been aggressively pushed by both Bush and Cheney?

Even though a version of the Patriot Act was passed by the Senate near to midnight on October 11th, 2001, the final version of the Patriot Act would not be ready to send to President Bush for his signature until October 26th, 2001 because the Senate's version of the legislation was different from the version passed by the House. The two versions would have to be harmonized, and this would require several more votes in both the House and the Senate before congressional work on the bill could be completed. Consequently, while the anthrax-laden letter did not appear to play a role in the October 11th, 2001 Senate vote, it might well have played a role in what Daschle did between October 11th, 2001 (the date of the first vote) and October 26th, 2001 (the date of the final vote).

What might have been communicated to Daschle privately between the missed date of October 5th, 2001 and the October 11th, 2001 vote is unknown. However, between October 5th, 2001 (when the vote on the Patriot Act was delayed) and October 11th, 2001 (when the Senate passed its version of the Patriot Act), the Bush administration had been engaging in a full-court press of the Senate – especially Daschle -- concerning passage of the Patriot Act.

As a result, the Bush administration appeared to be using its many public pronouncements in the media about the possibility of imminent, terrorist, biological attacks, as well as taking advantage of the FBI's October 11th, 2001 warning that a new terrorist attack might be about to take place in order to create a public impression that Daschle, and other Democrats, were not prepared to protect Americans against terrorism. Such a pressure tactic might have succeeded in inducing Senator Daschle to change his perspective concerning the issue of civil liberties that he had displayed in supporting Patrick's Leahy's concerns about civil liberties a few days earlier and, instead, would induce Daschle to push through the Patriot Act on October 11th, 2001 despite the concerns of Senator Russell Feingold about the risks that the bill represented to civil liberties.

In other words, when push came to shove, Daschle caved. In order to appease the Bush administration's fear-mongering as well as to protect his own image in the eyes of Americans, Daschle was prepared to throw civil liberties under the political bus.

The foregoing considerations do raise some important -- if unanswerable -- questions concerning some of the political games that were being played while the Patriot Act was being negotiated. However, perhaps there is a more important value which the foregoing considerations have, and would have to do with its being able to provide a context for the controversies that were set in motion by the anthrax letters and the deaths and illnesses which ensued in conjunction with those letters.

More specifically, the government's (FBI's) initial theory concerning the identity of those who had sent the anthrax-containing letters involved al-Qaeda and/or Iraq. On the basis of the written contents of the anthrax-containing letters sent to Tom Brokaw (received on October 12, 2001) and Tom Daschle (received on October 15, 2001), the FBI believed that those letters had been sent by extremist Muslims – likely al-Qaeda – because those letters bore the date: 09-11-01 and because the phrase "Allah is Great," along with a few other phrases associated with Muslim extremists (such as "Death to America"), appeared in the letters.

There was no forensic evidence indicating that Muslims had been responsible for the events of 9/11, nor had there, yet, been any kind of a rigorous investigation into the events of 9/11 which had succeeded in putting forth credible evidence. Nonetheless, America and its allies were already bombing Afghanistan and killing hundreds, if not thousands, of people based on nothing more than speculation as to who had perpetrated the events of 9/11.

Afghanistan's sin – which was being punished by acts of war – was that the leaders of that country had been prepared to turn Osama bin Laden over to the American authorities if America would present evidence indicating that bin Laden had been guilty of attacking America on 9/11. However, because such evidence was not forthcoming, Afghanistan refused to release bin Laden into American custody.

The FBI's initial examination of the anthrax-containing letters was as inept as was the Bush's administration's initial examination of the events which had taken place on 9/11. The FBI jumped to the conclusion that because the date 9-11-01 was on the letters and because those letters contained phrases like "Allah is great," then, obviously, Muslims must be involved, and, as a result, the FBI never considered the possibility that someone might have been trying to make things seem as if extremist Muslims of some kind had been involved in the anthrax issue.

The FBI was acting like a lynch-mob that was ready to paint anyone as being guilty who could be forced-fitted into their pre-existing biases. They were beginning to toss their rope over the nearest tree in homage to their white-robed brothers.

The federal government supposedly had all manner of alleged intelligence indicating al-Qaeda this and bin-Laden that. Obviously, the fact that the anthrax-containing letters also contained the word "Allah" and the date: 9-11-01, well, this was precisely the conclusive proof that the FBI had been searching for, lo these many months.

The anthrax attacks must have been committed by al-Qaeda as a follow up to its 9/11 attack on America. However, there was no actual evidence -- just speculation – concerning such issues (A more detailed exploration into some of these issues can be found in: *Framing 9/11*).

Toward the end of October 2001, Tom Ridge who was an Assistant to the President for Homeland Security added his voice to the babblings of other government authorities in order to claim that the al-Qaeda hypothesis was the strongest candidate to account for both the events of 9/11 as well as the anthrax attacks. One could hope that before one starts to bomb, kill, maim, and displace thousands of innocent people in Afghanistan, then, perhaps, one might want to have something stronger than a hypothesis as a basis for one's actions.

The FBI believed that although members of al-Qaeda could have been the perpetrators who sent the anthrax letters, the anthrax itself – which required labs and scientists to weaponize it -- must have come from a state sponsor of such terrorism. Because Iraq, supposedly, had a large supply of anthrax (a belief that weapons inspectors later showed to be false), then, Iraq became a 'country of interest' with respect to the anthrax issue – after all, didn't Mohammed Atta have a

clandestine meeting in Prague, Czechoslovakia with someone from the Iraqi government prior to 9/11? (Like the foregoing speculations concerning anthrax stockpiles in Iraq, the so-called "intelligence" concerning the alleged Prague meeting was never proven to have occurred.).

James Woolsey, who was the Director of Central Intelligence, had had been seeking to classically condition the American public since 7:00 p.m. on 9/11 by continuously pairing the phrase: "September 11th" and the word "Iraq" in order to elicit the response that he wanted – namely, a growing anger toward Iraq – which might, thereby, incline the American public to support the government's desire to wage war on Iraq just as the government was waging war on Afghanistan based on nothing more than speculation and hypothetical thinking. When the anthrax issue arose, Woolsey used such "evidence" to further demonize Iraq.

So-called "news" media -- like the *Washington Post* and the *Wall Street Journal* in the United States, as well as *The Observer* in England -- were pontificating that Iraq was the most likely candidate on which to pin the anthrax tragedy. The purpose of such articles was not to actually provide the public with verifiable news but, rather, that sort of coverage was designed to induce the public to adopt a perspective which was based on nothing more than fear-mongering and speculation … something in which, for centuries, the media have been busily and enthusiastically engaged.

When someone began to do some actual investigatory work in conjunction with the anthrax issue, the spores that were present in the letters sent to media people and several senators were identified as being from the Ames strain. This strain initially came from a cow in Texas but because someone, somewhere along the line, thought those bacterial spores had come from Ames, Iowa, the Texas anthrax spores came to be referred to as the Ames strain, and no one ever corrected the mistaken moniker.

The Ames strain of anthrax exists mostly in American labs. In fact, that strain plays a significant role in research conducted by the U.S. military.

The FBI determined there were only 15 labs in the world which had supplies of the Ames strain of anthrax. Nevertheless, there were no labs in Iraq which worked with that particular strain.

Furthermore, the anthrax spores that were present in the Daschle letter were highly sophisticated, weaponized spores. Among other things, they had been provided with some sort of additive which was able to interfere with the electrostatic charge that normally enables anthrax spores to clump together and, thereby, this additive enhanced the ability of spores to become aerosolized so they could be spread widely as well as be able to gain access to a person's lungs more easily.

Al-Qaeda would not have been able to create such high-tech spores in a bunch of caves. Moreover, Iraq did not seem to have access to the Ames strain.

Brian Ross, an alleged news correspondent for ABC, reported that the anthrax in the letter addressed to Daschle had traces of bentonite in it. This additive – if it was actually present in the letters – would serve as a significant chemical signature because it could be identified with just one country – namely, Iraq.

Less than five days after going public with information concerning the alleged bentonite-Iraq-anthrax connection, Ross was forced to recant. In point of fact, there had been no bentonite found in the Daschle letter and whoever had fed Ross the story – a story which Ross had failed to verify with second or third sources of confirmation -- had been interested in helping war drums continue to beat for a manufactured war with Iraq.

Due to the foregoing problematic pieces of evidence, the FBI's search for the perpetrator or perpetrators of the anthrax crisis began to turn toward domestic suspects by the end of October 2001. The first individual to be nominated as a domestic terrorist suspect came in the form of Steven Hatfill who, on August 6, 2002, was identified by Attorney General John Ashcroft as a "person of interest."

The "person of interest" phrase had been invented by the federal government so that someone could be placed in the public dock as a person who, in some undefined way, could be treated by federal authorities as being guilty without any actual evidence having to be presented which would be capable of justifying the harassment of said

individual. Using the "person of interest" phrase was attempting an end-around, of sorts, with the American notion that, supposedly, someone is innocent until proven guilty.

For a year, Hatfill was harassed by the FBI with respect to the anthrax issue. Eventually, Hatfill had enough of the governmental nonsense and sued the government.

The case took a while to settle. However, when the dust cleared, Steven Hatfill had been awarded a judgment in his favor for nearly six million dollars.

A number of years passed before the FBI was ready to begin harassing someone else concerning the anthrax issue and, as a result, zeroed in on new suspect in 2008. His name was Bruce Ivins, and he had been employed at Fort Detrick in Maryland by the U.S. Army Medical Research Institute of Infectious Disease (USAMRIID) while engaged in, among other things, research concerning an anthrax vaccine.

Dr. Ivins had had a history of alcoholism, drug use, depression, and emotional disorder. After months of constant harassment by the FBI in which his life was turned upside down, Ivins committed suicide on July 29, 2008.

The cause of death was said to be an excess amount of Tylenol. No official indication was given of how those drugs entered Ivins' body.

The Department of Justice closed the Ivins case in 2010. The DoJ's final disposition of the case was that Ivins had committed the anthrax attacks.

In 2008, the FBI requested that the National Academy of Sciences undertake a review. The NAS was to be tasked with providing an independent review of the scientific methods that had been used by the FBI during its investigation of Bruce Ivins.

In response to the foregoing request, the National Academy of Sciences appointed a committee of 15 scientists as members of the review process. The work of this committee began in 2009 and was completed in 2011 with the submission of a final document concerning their work.

On several occasions during the aforementioned review process, the NAS had asked the FBI to provide a list of the conclusions which

the FBI had derived on the basis of the scientific methods that had been used. The FBI never complied with those requests.

The essential thrust of the 2011 NAS report was that the scientific methods used by the FBI during its investigation of Bruce Ivins did not support the FBI's conclusion that their suspect was guilty of committing the anthrax attacks. One of the key arguments advanced by the FBI was that a liquid anthrax medium known as RMR-1029 (which was kept by Ivins in his Fort Detrick lab) was the source of the spores that showed up in the anthrax letters.

However, considerable evidence existed which indicated that there were dozens of individuals – perhaps more -- who worked at the Fort Detrick facility who had access to the same anthrax materials as Ivins did. Furthermore, one or more people would have had to be able to take the RMR-1029 material and turn it into spores that had been weaponized in a very sophisticated manner.

Consequently, there was no evidence capable of demonstrating that the spores which were present in the various letters that had been sent came from the liquid anthrax to which Ivins had access. In addition, there was no evidence that Ivins had performed the necessary weaponization steps in conjunction with such staring materials or that he was even capable of performing such tasks.

The processes involved in growing and weaponizing anthrax would have taken nearly a year. Ivins couldn't possibly have been able to keep such a lengthy process of anthrax growing and weaponization hidden from other people who worked at that same lab.

Dr. Ivins had been working as a microbiologist at Fort Detrick for thirty years. Notwithstanding his emotional and substance-abuse problems, no motive had ever been uncovered concerning why he would do the things of which he was being accused.

A major difference between Stephen Hatfill and Bruce Ivins is that Hatfill was quite outspoken in defense of his innocence, whereas Ivins was so consumed with his own personal problems that he was not emotionally capable of aggressively defending himself against that with which he was being charged. In Ivins, the FBI had found someone whom it could bully, abuse, and harass at will, but when they had tried

the same tactics with Hatfill, the government had to cough up nearly six million dollars for its harassment of an innocent person.

Before he died, Dr. Ivins admitted that he had been trying to commit suicide. While this might be true, the members of the FBI who were assigned to the Ivins case were the ones who mercilessly and with malice aforethought had pushed him to such a breaking point.

There are two kinds of psychopaths. There are individuals who come by their condition naturally and, therefore, are born broken, but there also are individuals who are not born broken but, instead, come to cede (that is freely choose to give) their agency to a similar kind of brokenness through their ill-considered commitment to various kinds of ideological belief systems which are largely devoid of an inclination toward engaging life through qualities such as: Character, empathy, or truth.

What the FBI did to Steven Hatfill and Bruce Ivins lacked character and empathy. Moreover, their actions displayed a complete indifference toward facts or the well-being of those whom they harassed so brutally.

However, the ideological psychopaths who work at the FBI (and not all FBI agents are ideological psychopaths) also showed a complete indifference to the interests and welfare of American citizens in general as a result of the way in which those officials prosecuted the Hatfill and Ivins cases. This is because the people who perpetrated the anthrax attacks are still at large and, consequently, have been enabled to commit – and, perhaps have even managed to commit -- similar heinous crimes between 2010 when the FBI closed the anthrax case and the present time.

Prior to the October 5th, 2001 date on which actual evidence emerged concerning the presence of anthrax in various letters, there had been a slew of interviews involving people such as Attorney General John Ashcroft, Health Secretary Tommy Thompson, White House Chief of Staff Andrew Card, and Defense Secretary Donald Rumsfeld concerning the likelihood of biological attacks involving anthrax in the near future. There were all kinds of possible biological candidates that might be used in a bioweapons attack, so why were members of the Bush administration singling out anthrax as being the likely agent of a biological attack?

Various members of the White House staff (including George Bush and Dick Cheney) were being administered ciprofloxacin (Cipro) as early as September 11, 2001. This was a week earlier than the first anthrax-laced letters were sent out (postmarked September 18, 2001) and nearly a month before the FBI had been able to examine the contents of the Daschle letter and confirm that it contained anthrax.

Richard Cohen had been a columnist for the *Washington Post* at the time of 9/11. He later wrote a 2008 article for *Slate* magazine which indicated that shortly after September 11th, 2001, he had received a tip from a high-ranking official in the federal government that Cohen should get some Cipro and start using it.

When Cohen went to a doctor to secure a prescription for Cipro so that the columnist might be protected against possible exposure to anthrax, Cohen discovered something of interest. More specifically, the doctor he went to had been approached by many people prior to Cohen who had been seeking the same prescription.

If there were hard evidence that an anthrax attack was imminent, then why did only a few people receive the antibiotic? If there were hard evidence concerning an impending anthrax attack in Washington, D.C., then why didn't, say, Congressional postal workers receive the benefit of antibiotics because if they had received such treatment, then, perhaps, two of them would not have died later on in October?

Apparently, while the lives of everyone in Washington, D.C. are precious, some of those lives are more precious than others. Unfortunately – and this appears to reveal a great deal about the character – or lack thereof -- of certain people -- there is no evidence to indicate that either Bush or Cheney sought to protect the people of Washington, D.C. by arguing that: 'Well if the threat of an anthrax attack is sufficiently seriously for us to have to take Cipro, then, this sort of protection ought to be offered to others.'

The considerations which have been outlined in the foregoing pages of discussion in this section of the present chapter appear to point in a particular direction. More specifically, when one combines: (1) The way in which a multiplicity of members of the Bush administration began pushing the idea that an anthrax attack was very likely in the near future and were doing so prior to the date when the first anthrax-laced letters had been postmarked, with: (2) the fact that

Cipro was provided to select members of the White House Staff on September 11th, 2001 but not to other government employees; (3) the tip that was received by Richard Cohen from a high-ranking government official concerning the acquisition and use of Cipro; (4) the sending of anthrax-laced letters to two senators who were resisting – minor though that resistance might have been – various aspects of the Bush administration agenda concerning passage of the Patriot Act; (5) the continued attempt of the FBI to link Iraq with the anthrax attacks despite a complete absence of verifiable and credible supporting evidence; and, finally, (6) the evidentially-challenged attempts of the FBI to pin the anthrax on Stephen Hatfill and Bruce Ivins (attempts that were shown to be based on shoddy and sloppy methodology by a report prepared by the National Academy of Sciences), when the available evidence indicated that there were other government-related entities which were the more likely perpetrators of the anthrax attacks – all of the foregoing, six evidential considerations indicate that elements from within the United States government were responsible for the anthrax attacks that killed five people, and the direct beneficiary of this arrangement can be tied to the Bush administration's desire to establish an imperial presidency that would enable Bush and his executive colleagues to become legislators, judges, and executors in all matters concerning a war on terrorism that had been manufactured in order to fear-monger the public and, thereby, induce the latter to cede their sovereignty to the Machiavellian forces which were seeking to enhance their power at the expense of American citizens and citizens in, first, Afghanistan and, then, later Iraq.

The techniques that enable governments to manipulate people in ways that are not in the sovereign interests of the individuals being manipulated give expression to a set of dark arts. These 'arts' entail forms of toxic knowledge because when such so-called knowledge is applied to existential issues (social, political, scientific, governmental, educational, financial, religious, military, environmental, and/or technological) then, toxicity of one kind or another arises.

Katherine Watt acquired a degree in Natural Sciences from Penn State University in 1996. For a time, she served as a newspaper

reporter before returning to school in 2003 and worked toward obtaining a paralegal certificate.

As a result of the latter accomplishment, she began to do paralegal research for a number of small law firms in Pennsylvania. Her investigative efforts focused mostly on constitutional principles involving civil rights and environmental law connected to local campaigns revolving about food, water, and energy.

In early 2020, she began to pay attention to what was transpiring in conjunction with COVID-19. She couldn't understand why no one seemed to be able to legally prevent excesses from taking place -- either prior to the time when some arbitrary edict was to be officially implemented, or, after the fact, once such arbitrary edicts had been let loose on a community. For a reason or reasons unknown, cases were being thrown out of courts before relevant issues even had a chance to be adjudicated by juries.

In late January 2022, she listened to a podcast featuring Todd Callender. During the interview, she heard him mention the term "kill box."

A "kill box" is a military term which identifies a particular 3-dimensional area or a given geographical location that is to serve as the locus for a lethal attack against someone who has been designated as an enemy and who -- through one strategy or another -- will be induced to occupy the aforementioned kill box. As the "kill-box" term tends to suggest, a "kill box" is about termination.

Although the idea of a kill box is usually associated with the termination of life, this need not be the purpose of establishing such an area or location. Ultimately, kill boxes are about control, and, of course, one way of controlling someone is by killing them, but one also can use kill boxes to terminate a person's: Identify, aspirations, personality, finances, capacity to understand, morality, rights, sovereignty, and soul.

By using the foregoing term – that is, 'kill box' – Mr. Callender was attempting to bring people's attention to the idea that COVID-19 was a strategy intended to manipulate people to enter into a zone of vulnerability in which they would be exposed to toxic treatments that were capable of killing them, maiming them, or imposing chronically

illness on people. Katherine Watt began to explore some of the legal mechanisms and other modalities of control (such as financial considerations) that were enabling kill boxes to exist in America.

Before exploring the legal dynamics that have led to the development of a multiplicity of kill boxes across America, perhaps value could be derived from taking a quick look at some of the tools which are being used to herd individuals into spaces and locations that are not in the interests of those human beings. Katherine Watt mentions three such tools: Informational; psychological; and technological.

Informational herding tools involve propaganda, censorship, and education. By controlling the properties of the lenses through which experience is engaged and perceived, a person is able to frame how any given topic is to be understood.

"Misinformation" is anything that serves to counter the perspective that the constructors of kill boxes wish to impose on the public in order to push or pull members of the public in different directions which, ultimately, will deliver those targets to their designated points of termination. "Disinformation" refers to any narrative or perspective which is advanced by people who claim to be researchers but who are considered by the constructors of kill boxes to be agents of subversion who are attempting to disrupt the dynamics that are intended to lead people to the slaughterhouse. "Mal-information" is anything which can be shown to be true but has the effect of countering the desire of the constructors of kill boxes to realize their objectives of herding targets to strategically and tactically generated points, areas, or locations of termination.

Censorship is that which seeks to assist potential targets to focus on only the messages that the constructors of kill boxes wish their targets to focus on. According to the constructors of kill boxes, anything which might induce a person to listen to ideas that could interfere or undermine a target's progress in reaching a kill box needs to be suppressed or eliminated.

Propaganda gives expression to the "guidance" being offered by the constructors of kill boxes with respect to how presumptively sovereign people might best be convinced that reaching different designated points, areas, or locations of termination is in a person's

best interests. As is the case with censorship, the constructors of kill boxes consider propaganda to be a form of informational support that is designed to ease or smooth a person's journey to points, areas, or locations of termination.

In addition to informational tools of herding, there also are a plethora of psychological tools which can be used to help herd people to designated areas of termination of one kind or another. These psychological herding tools involve various tactics of fear-mongering and terrorism.

When one makes people sufficiently frightened, they tend to lose their capacity for critical reflection. The lost of a person's capacity for critical reflection and discernment is considered a positive condition by those who construct kill boxes because people who have been manipulated into a dysfunctional state of fear are easier to herd toward their designated points, areas, and locations of termination.

Inducing people to live in a state of heightened stress as a result of being exposed to a constant, chaotic barrage of fear-mongering dynamics tends to wear down whatever resilience an individual might have through which to resist the psychological ploys which are being directed against that person. The ultimate purpose of such a psychological herding tool is to push a person toward a state of learned helplessness (see the early work of Martin Seligman) in which even if one is provided with a way to escape from one's predicament, nonetheless, one will merely continue to remain in the same painful environment (i.e., one has given up on life) until one has been delivered to a designated point, area, or location of termination.

The constructors of kill boxes are terrorists who often dress themselves in the clothes of fellow travelers. Publically, they offer smiling, empathetic-like support, but privately they are busy organizing an amalgamation of terror-soaked events which have been designed to lead targets to believe that the only hope for deliverance from the terror which has been set loose by the constructors of kill boxes is to do exactly what the constructors of the kill boxes, now dressed in sheep's clothing, tell such targets to do.

The term "informed consent" is considered to be an antiquated notion by the constructors of kill boxes. Instead, according to such people, a person should become modern in one's thinking and merely

trust that, despite a litany of evidence to the contrary, the constructors of kill boxes have the best interests of humanity uppermost in their minds and hearts.

Like informational and psychological tools of herding, technological tools of herding are promoted in only the most constructive terms by the constructors of kill boxes. Processes of chemistry, biology, radiology, nuclear power, pharmaceuticals, vaccines, EMF, AI, 5G, and nanotechnology are described in exclusively heroic ways that are intended to make life better for everyone, while the dark, toxic, very real potentials of those processes are ignored, suppressed, or subject to gas-lighting, and one dimension of such a dark, toxic potential has to do with the way in which the tools of chemistry, biology, radiology, nuclear power, pharmaceuticals, vaccines, EMF, AI, 5-G, and nanotechnology have come to play prominent roles in constructing the kill boxes that are being increasingly used to entangle the lives of people in all manner of toxicity, while being told that such toxicity is good for the soul.

When asked questions concerning the identity of the individuals who construct kill boxes, Katherine Watt offers a number of candidates. For instance, she mentions such organizations as: the World Health Organization, the World Economic Forum, the International Monetary Fund, the World Bank, and the World Trade Organization, but she feels that the head of the snake is to be found in the Bank of International Settlements located in Switzerland which was created in 1930 and is a law unto itself that is beyond the control of any state or nation on Earth.

At the present time, the Bank of International Settlements controls the creation and flow of all money in the world. The national central banks as well as private banks (such as the Federal Reserve in America) are ultimately governed by the policies of the Bank of International Settlements, and the ability of any bank to conduct business is according to the permissions or constraints that are generated by the BIS.

Every level and institution of governance in America depends on a system that tends to begin with local banks which, eventually, depend on the member banks of the Federal Reserve, which, ultimately, depend on the Bank of International Settlements. According to

Katherine Watt, the banking system, in collusion with the military and the WHO, have brought about a system in which public health has become militarized or, stated alternatively, the banking system, the military, and the WHO have established a framework which enables the military to don the garb of public health and, as a result, has the capacity to determine what counts as health and what counts as acceptable means through which to achieve health or combat disease.

Thus, to give a concrete example, she notes how toward the end of January (20th), 2020, the World Health Organization issued a 'Public Health Emergency of International Concern' declaration concerning COVID. A couple of weeks later, the Health and Human Services Secretary – Alex Azar – issued a emergency declaration in response to the WHO's aforementioned action, and once this latter declaration was pronounced by HHS, the PREP Act of 2005, along with other pieces of legislation, came into play.

The PREP Act not only provides for the release of medical countermeasures to be developed which, supposedly, are to deal with the declared emergency – i.e., COVID-19 – but, as well, the PREP Act absolves anyone from considerations of liability if such individuals are involved in the manufacture, distribution, or use of the aforementioned medical countermeasures. This get-out-of-jail-free-card is valid even if the medical countermeasures can be demonstrated to be ineffective, harmful, lethal, or the cause of disease.

Trump and Biden, each in his own inimitable manner, issued edicts, signed directives, and supported legislation that opened up funding streams (such as the CARES Act – and remember, all financial streams ultimately flow with the permission of the Bank of International Settlements). These funding streams were used to construct kill boxes, staff those kill boxes, and incentivize the use of medical countermeasures in those kill boxes (for example: counterproductive PRC tests, mRNA jabs, and remdesivir infusions, as well as the improper operation and oversight concerning the use of respirators). Moreover, Trump and Biden, each in his own manner, were pushing the idea that healthy human beings were to be considered as potential bio-hazards which constituted threats to national security.

More specifically, following the events of 9/11, the 2001 Authorization for Use of Military Force (AUMF) placed America on a permanent war footing with respect to the issue of terror – a politically legalized state of affairs which had no limits concerning geography, time or human targets. In effect, a covert form of global medical-martial law had been established by the U.S. military in which anyone, from any country – including the United States – could be considered to be presumptive enemy combatants if those individuals were identified by the Executive Branch as a threat to American national security.

Nowhere in the U.S. Constitution does one find any indication that national security -- rather than the Constitution -- should be considered the Supreme Law of the land. Moreover, while Congress does have the Constitutional authority to declare war, nevertheless, nowhere in the Constitution has Congress been given the power to authorize the use of military force (as opposed to declaring war), nor has Congress been given the Constitutional authority to delegate its war-making powers to the Executive branch in order to enable the latter facet of government to decide who and what constitutes that against which such a war should be fought. Once a enemy has been identified, defined, and declared by Congress to be an "appropriate" candidate against which a war is to be waged, then, the Commander in Chief (i.e., the President) has the Constitutional authority to determine – within Constitutional limits – how such a war is to be prosecuted, but until a state of war has been declared, the Commander in Chief has no Constitutional authority to conduct military actions.

The 1973 War Powers Resolution (which required a President to seek permission from Congress to use military force) contains the same inherent flaw as the 2001 Authorization for the Use of Military Force does. Neither piece of legislation is about a declaration of war but, instead, each of the foregoing Congressional actions is concerned with forms of military intervention which have not reached the threshold of a war being declared and, therefore, one can argue that such forms of military intervention fall outside of the actual powers of Congress which specifically have to do with declarations of war and not with ambiguous, ill-defined, and arbitrary uses of military force that are independent of such declarations of war.

The U.S. government set up a program in 1969 under 50 USC (United States Code dealing with War and National Defense) Chapter 32 which outlined the provisions and protocols for establishing the country's readiness to defend against chemical and biological warfare. Katherine Watt points out that there are key terms sprinkled throughout the aforementioned program such as: "prophylactic," "protective," and "defensive" which stipulate how research concerning biological and chemical weapons must be done in conjunction with the limitations inherent in the non-offensive character of the foregoing terminology which are directed, supposedly, toward issues of defense and health.

She maintains that using terms such as "protective," defensive," and "prophylactic," create a misleading or false narrative. In other words, to be able to defend against, or heal from, biological and chemical attacks, one must become intimately familiar with the offensive capabilities of a given biological or chemical weapons system, and in the process certain kinds of toxic knowledge are acquired – such as occurred in relation to the military weaponization of anthrax that took place at Fort Detrick before the anthrax attacks of September/October 2001 – and, therefore, there are a multiplicity of loopholes built into the legal code governing the federal governments research concerning biological and chemical weapons which permit scientists to be able to conduct the sorts of research that, supposedly, are to be excluded from those programs.

This is all part of the dual-use charade that is built into the language which is present in many kinds of federal laws governing research into chemical and biological weapons. On the surface, the language seems to permit research that is directed toward generating only defensive, protective countermeasures, but, as linguist's might say, there are degrees of freedom that have been built into the deep structure of the language being used which actually enable research to be conducted which is not defensive in nature, but offensive in character.

In 1983, the Public Health Service Act of 1944 was amended to include the Public Health Emergencies Act. This latter act entitles the Secretary of Health and Human Services -- following consultation with certain other government departments and agencies -- to take actions

that are considered to be appropriate ways to respond to such emergencies.

The National Childhood Vaccine Injury Act was passed in 1986. Notwithstanding the foregoing legislative title, most of the people who were protected against injury by the Act were people who manufactured vaccines. The National Childhood Vaccine Injury Act did introduce a program that, when considered superficially, appeared to provide a legal mechanism (i.e., The Vaccine Injury Compensation Program which gives rise to The Vaccine Court) which would allow families who claimed to have children who been injured via a given vaccine, nevertheless, the structure and rules which govern that Court are very, very heavily weighted in favor of vaccine manufactures including the fact that members of the Department of Justice are the ones who, in effect, would be defending vaccine manufacturers and the medical system against citizens who don't have the temporal, legal, and financial resources to fairly compete against a system that is being financially backed by the Federal Reserve and, ultimately, the Bank of International Settlements.

Citizens were bringing water pistols to mine-field fights which operated in accordance with rules of engagement that were intent on decimating those citizens. Yet, despite the inherent unfairness of such a legal system, the injuries caused by vaccines have been so egregious that the federal government – rather than the vaccine manufacturers – has doled out more than 5 billion dollars in injury compensation to various families.

In 1988, the Stafford Act was passed. This act governs how the United States is supposed to respond to disasters, especially with respect to how that response pertains to the activities and programs of FEMA (Federal Emergency Management Agency).

The Emergency Use Authorization Act was introduced into law during 1997. According to Katherine Watt, the foregoing legislation transferred the classification of CBRN (Chemical, Biological, Radiological, and Nuclear) weapons from: The DoD, to: The Department of Health and Human Services (in the form of the FDA), and in the process, this transfer of functions helped to militarize HHS.

During the period of 1997-1998, there had been a lot of criticism directed toward the military for – according to law – permitting its

personnel to be used as test subjects for drugs which had not been approved by the FDA. In response to that criticism, a law was passed which revoked existing authority which enabled the military to use its personnel as experimental subjects, and, then, three days later, another law was passed which enabled the FDA, during times of declared emergency, to vaccinate the general population with products that had not been officially approved.

Between 2000 and 2002, the Public Health Threats and Emergencies Act, the Patriot Act, the Public Health Security and Bioterrorism Preparedness Act, as well as the Homeland Security Act had an array of ramifications. One of the ramifications of the foregoing list of acts led to the eventual merging of the Department of Homeland Security, the Department of Justice, the Department of Health and Human Services, the Department of Defense, and a number of other cabinet agencies through what became known, in 2006 as PHEMECE -- The Public Health Emergency Medical Countermeasures Enterprise -- and the upshot of this arrangement enabled a limited number of people in the Executive Branch to treat public health emergencies as military issues which purportedly threatened national security.

Another ramification of the foregoing acts, when combined with Project Bioshield Act of 2004 and the PREP Act of 2005-2006 enabled the Department of Defense to take control of public health issues whenever a public emergency was declared – as, noted earlier, Secretary Alex Azar of the Department of Health and Human Services did on February 4, 2020 in conjunction with COVID-19. The Department of Defense took control because such a declared emergency was considered to be a threat to national security and under the 2001 Authorization for Use of Military Force (AUMF), anyone who resisted the military's handling of such an emergency could be considered to be an enemy combatant who was a threat to national security.

All of the foregoing litany of statutory provisions, plus many others which have not been mentioned, were introduced -- sometimes gradually and sometimes not so gradually – in a way that has, bit by bit, had the effect of militarizing Public Health or rendering it more authoritarian and fascist-like. Katherine Watt's work over the last 2-3 years has detailed how a legal framework for such a militarization or

fascist-leaning process has become the established law of the land, thereby, enabling the viral-like construction of the aforementioned kill boxes.

In short, the federal government began to issue a variety of executive orders, agency regulations, and a slew of "guidance" documents concerning the rules of engagement that were to be followed during declared health emergencies. The gist of the foregoing forms of communication was, among other things, that in times of declared emergency, all forms of non-federal policing are subordinate to the federal military – which is a euphemistic way of saying that a state of "medical-military" martial law exists.

mRNA jabs were considered by the constructors of kill boxes to constitute a military countermeasure to a disease – namely, COVID-19 – that had been declared as an emergency and, therefore, could be considered to be a threat to national security. Project Warp Speed was a military operation from the beginning, and submitting to experimental forms of therapy being promoted by the military became one's civic duty – at least, this was how the military and government perceived the situation.

Diseases designated as communicable diseases were considered to be a threat to national security irrespective of whether, or not, such diseases could be proven to be communicable. If a given communicable disease was deemed to be a threat to national security, then, it was okay to kill people in order to stop the transmission of that disease. Killing people became like lighting a backfire to stop a raging fire from spreading to other parts of the country or community.

According to Katherine Watt, the foregoing manner of engaging COVID-19 was disclosed in the False Claims Act case of whistleblower Brook Jackson. Pfizer filed a motion in April of 2022 which sought to have the foregoing case dismissed because Pfizer argued, in effect, that the company had not been engaged in the process of developing a vaccine but had, instead, been a party in a contractual relation with the Department of Defense for purposes of providing a prototype for the DoD which could be made to look as if it were a vaccine but was never intended to serve as such a countermeasure, and, therefore, because what Pfizer had provided the DoD was a prototype and not a vaccine -- per the contractual arrangement between the two -- Pfizer was not

under any obligation to perform safety or efficacy tests, or to run clinical trials, or to seek FDA authorization for such activities.

On October 4, 2022, the U.S. government actually filed a statement of interest in conjunction with Pfizer's motion for dismissal. The gist of the government's argument appeared to be that Pfizer was operating according to the conditions of the contract which had been signed between Pfizer and the U.S. government and, therefore, the company had not been guilty of any attempt to make false claims concerning a product but was just doing what the government had contracted with the company to do – provide a prototype.

The foregoing sorts of contractual arrangements are sanctioned under a notion of 'Other Transaction Authorities' (OTA). The practice emerged during Obama's Presidency.

OTAs give expression to the following arrangements: "The Director of the Defense Research Projects Agency (DARPA), the Secretary of a military department, or any other official designated by the Secretary of Defense may, under the authority of section 4021 of this title (10 USC) carry our prototype projects that are directly relevant to enhancing the mission effectiveness of military personnel and the supporting platforms, systems, components, or materials proposed to be acquired or developed by the Department of Defense, or to improvement of platforms, systems, components, or materials in use by the armed forces." In other words, the prototype provided to the U.S. government by Pfizer was not done to defraud the government or violate provisions of the False Claims Act, but, rather, was a contractual arrangement that would help the military to exercise a process of misdirection (i.e., a PsyOp) which would enhance "the mission effectiveness of military personnel" by using a prototype prepared by a pharmaceutical company to hide the existence of a covert weapons program from the American public (i.e., toxic jabs) that was to be used against, among others, the American people.

'Other Transaction Authorities' are procurement programs that are packaged into contractual arrangements which establish public-private forms of co-operation or partnerships with corporate entities that are intended to enhance the capacity of the U.S. government to carry out military operations effectively. The prototypes for which the government enters into contractual arrangements (OTAs) are

intended for public consumption and, thereby, are meant to serve as a form of misdirection which is intended to draw attention away from the sorts of countermeasures that are being developed by the government and which are to be deployed during declared emergencies as a way of protecting national security through treating citizens as threats to such national security and, therefore, as appropriate candidates for military countermeasures in the form of biologics and pharmaceuticals which – under, for example, PREP Act provisions -- are permitted to cause harm, if not death, to the people to whom such countermeasures are applied.

In concrete terms, OTAs are designed to facilitate the relationship between the government and, among others, the Medical CBRN (Chemical, Biological, Radiological, and Nuclear) Defense Consortium, or the MCDC. This consortium provides a medium through which public-private arrangements can be made that are governed by Other Transaction Authorities which are contracts involving the development, manufacture, distribution, and funding of an array of countermeasures to serve the interests of national security rather than the interests of Constitutional security.

In effect, the laws of contract (in the form of – among other things – OTAs) are being used to extinguish national and individual sovereignty. Despite the fact that contracts are just a sub-category of the Constitution when considered as a whole, and notwithstanding the value of that sub-category, nevertheless, such a sub-category – as is true of all such constitutional sub-categories -- must be able to fit in with a variety of other Constitutional principles and values, and, yet OTAs have been afforded an unwarranted, elevated, legal status by the military that is injurious to both constitutional and individual sovereignty.

Katherine Watt points out that given the manner in which many different acts of legislation entail redundant ways of dealing with public health emergencies (and this may very well be by design), she feels that just focusing on one law (for example, the National Emergencies Act needs to be voted on every six months in order for its active status to be maintained) is not a practical way of trying to resist, if not overturn, the militarization of public health that is taking place, Consequently, she maintains that if citizens are to have any hope of

successfully resolving the multiplicity of problematic ways in which the government is intruding into the private lives of individuals, then, something more is needed beyond processes of seeking to deactivate individual pieces of legislation.

Therefore, she indicates that what needs to be done is to repeal the entire, complex, network of enabling legislation. This is because the multiplicity of legislative acts becomes like a many-headed hydra in which cutting off one head doesn't end one's difficulties – all of the heads of the enabling legislation must be removed.

As Katherine Watt indicates, the forgoing issues are entangled in a complex network of legal dynamics. However, none of those legal dynamics can necessarily be reconciled with the permissions and constraints that have been consigned to the federal government under the Constitution.

The Rule of Law does not determine the nature of the Constitution. Instead, the Constitution is what determines what can stand as a rule or principle of law. Calling something "law" or "legal" is only justified in a constitutional system if such laws or "legalities" can be shown to be undeniably rooted in constitutional provisions.

On December 21, 2001, Georgetown University and Johns Hopkins University released a revised version of a 1999 document which had been published by the Center for Disease Control. The document is known as the: *Model State Emergency Health Powers Act* (MSEHPA).

The foregoing document was intended to serve as a form of guidance for state governments with respect to the task of developing procedures and protocols in order to be able to deal with Public Health emergencies. While the aforementioned document addressed the issues of public emergencies in general (including mass casualty events), it paid particular attention to potential emergencies that might be due to acts of bioterrorism as well as epidemics that were caused by resurgent or emergent pathogens.

Although feedback from the states concerning the issue of public health emergences touched on a variety of potential problems with the proposed legislation, one of the most common criticisms of the MSEHPA document had to do with the extensive, and, perhaps, excessive scope of the powers that the document was suggesting ought

to be assumed by state governments in conjunction with public health emergencies and which would have the effect of making governors absolute dictators. However, despite such concerns, more than 40 states (including my own state of Maine) have proceeded to draft and pass into law, variations on the MSEHPA proposal.

Moreover, such laws were used to manage people during COVID-19 in ways that violated, among other principles, 9th Amendment provisions which stipulate that: "The enumeration in the Constitution of certain rights, shall not be construed to deny or disparage others retained by the people." This is because what many governors did during COVID-19 was to repeatedly deny and disparage the unenumerated rights of citizens with respect to issues of health care.

In addition, many people – perhaps most – construe the 10th amendment as being merely about state rights. This is not necessarily the case.

Most people remember that: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively …" However, many individuals often either forget a phrase which was added by Roger Sherman to the 10th Amendment and was approved by Congress without comment, or many people merely suppose that the phrase being alluded to is just a repetitive piece of shorthand for what preceded that phrase.

The phrase in question is: "or to the people." When people parse the 10th Amendment in a way which reduces it to a matter of state rights, they are creating an unnecessary tension between the 9th and 10th Amendments which has never been properly resolved.

According to the 9th Amendment, neither the federal government nor the state governments have the right to deny and disparage the unenumerated rights of the people, and this is especially the case in conjunction with issues – such as health – which are not among the enumerated powers of Congress. According to the 10th Amendment, if a power has not been delegated to the federal government nor denied to state government, then such powers are available for exploration, not only by state governments but by the people – independent of state governments – as well.

Roger Sherman was not stuttering when he added the phrase "or to the people." He was not trying to find a linguistic way of getting around any problems he might have been experiencing while trying to pronounce the words in the first part of the 10th Amendment and, as a result, just decided to provide a phrase -- i.e., "or, to the people" -- to that served as a shorter, less demanding way of talking about the notion of state rights.

The Constitution does not begin with the words: "We the states." It begins with: "We the people."

To be sure, the federal government consists of people, and the state governments consist of people, but the notion of people extends beyond the individuals that are present in either federal or state governments, and according to the 9th and 10th Amendments, neither the federal nor state governments can deny or disparage the unenumerated rights which people have, and, furthermore, as Roger Sherman indicated in his add-on to the 10th Amendment, the people have certain unenumerated powers that cannot be reduced to, or impinged on by, state powers.

There is nothing in the amended Constitution which indicates that states have an unimpeded and automatic right to implement emergency public health provisions which have the capacity to deny and disparage the unenumerated rights of the people in matters of, among other things, health. Moreover, there is nothing in the Constitution which stipulates that states have the unimpeded and automatic right to usurp powers that belong not just to the states but, as well, belong "to the people."

"We the people of the United States" is not talking about individual states. Rather, the opening of the Constitutional preamble is making reference to a collective enterprise, or country, which consists of, first and foremost, states united by people.

If Americans are going to move forward in a constructive fashion with respect to a whole set of contentious issues – including health -- then the tension which all too many people seem intent on placing between the 9th and 10th Amendments is going to have to be resolved. This unresolved tension has been present since 1791 when the foregoing two amendments were adopted by the states, and, apparently, when those two amendments were accepted by the states,

the state governments might not have understood exactly what it was that they were adopting because since that time states have spent an inordinate amount of time and resources to deny and disparage not only the unenumerated rights of the people but also seem to have refused to acknowledge that states and the federal government are not the only ones with a right to power.

A lot of work needs to be done to reconcile the rights and powers of the federal government, the state governments, and the people. The idea set forth in the Constitutional preamble is to from a more perfect union, but this becomes a fool's errand, if the federal and state governments are not prepared to understand that the people have rights and powers which are independent of the federal and state governments.

Federal and state governments want to be able to control their destiny as best they can. The people have precisely the same desire, but, unfortunately, for 233 years this issue has been staring Americans in the face and all they tend to do is avert their eyes and minds from taking steps to actually tackle the foregoing problem in a constructive fashion.

In 2005, the World Health Organization came out with an 80-plus page document entitled: *International Health Regulations*. These regulations outline the alleged rights and obligations of signatories with respect to the manner in which public health emergencies -- that have a potential for crossing borders -- are to be handled.

While someone in the United States government might have signed a document concerning the 2005 IHR WHO document, this is not sufficient for the contents of that document to become binding on Americans. In order for such a document to have potential legal relevance in America, then: (a) that document would have to assume the form of a treaty which must be approved by a two-thirds majority vote in the Senate (but this has not, yet, taken place), and (b) the Senate would have to have constitutional authority to sign away the sovereignty of Americans to the WHO, and the Senate does not have that kind of authority.

There are a further set of amendments to the 2005 IHR document which are set to be added by May 14, 2024. Many of these new amendments are highly injurious to the sovereignty of the countries

that are expected to sign on to the updated IHR document. Irrespective of whether, or not, the Senate takes a vote on the IHR document and its new amendments, the Senate doesn't actually have the authority to override the provisions of Article IV, section 4 of the Constitution (which guarantees a republican form of government), or to override, for example, the 1st, 9th, and 10th amendments which represent constraints on what the federal government can and can't do.

For example, Congress does not have the right to make any "law respecting an establishment of religion, or prohibiting the free exercise thereof." Theories of disease have been made into a religion concerning the nature of the relationship between human beings and reality, and, in addition, the WHO is attempting to set itself up as a high priest and/or priestess of a public health religion which -- through the declaration of public emergencies concerning their theories of disease – supposedly have a absolute right to impose regulations on people concerning how those individuals are to be tested, tracked, treated, quarantined, controlled, and forced to do whatever is decreed by the WHO.

To impose a theory of health, disease, and treatment on an American citizen is to do deny and disparage the un-enumerated 9th Amendment rights of that person. Health is not one of the enumerated powers of Congress, and, therefore, health becomes one of the unenumerated rights of a citizen that cannot be denied or disparaged by government.

If the Senate were to try to acknowledge the International Health Regulations as a binding treaty on Americans, then the Senate would, in effect, be denying and disparaging the unenumerated rights of individual citizens. Moreover, by acting in that fashion, the Senate would be violating the Constitutional guarantee to provide a republican form of government – that is, a government which is operated in accordance with the moral principles of republicanism.

When Katherine Watt is asked what she believes the motive(s) is (are) for the "partnership" among the Bank of International Settlements, the military, and WHO, she indicates that, ultimately, this is a battle between Good and Evil in which each person has to choose which side that individual will serve. However, she also mentions the

issue of greed as, possibly, being a primary motivator underlying the activities of the foregoing organizations.

Without dismissing any of the foregoing considerations, there is another way of understanding the elaborate network of international, financial, military, and health laws which are being used to build and pseudo-legalize kill boxes. This involves the notion of "continuity of governance" as a tool of control for whatever one wishes to use such control to accomplish.

Greed is just a way of keeping score. The underlying driving force that makes running up the score and winning pleasurable could be the desire to be in control.

The dynamic of dominating and controlling others tends to provide a narcissistic-like supply which certain people crave and to which they often are addicted. Once an individual has more resources and money than a person could know what to do with in several lifetimes – let alone just one lifetime -- what often continues to fuel existential activity is the capacity to control people, resources, and money and to be able to do with such assets whatever one likes, and the depths to which such "likes" can descend are horrifying.

In other words, the psychological dynamics of control often are wedded to various kinds of pleasures that are derived from exercising such control in sadistic ways. Maiming, killing, raping, torturing, and humiliating people all have different pleasure streams or supplies associated with them as do acts which push people into constant states of terror, desperation, dissociation, depersonalization, and degradation.

The dynamics of control are not just about control. Control is the gateway to many other darker dimensions of human potential that exist far beyond the landscape of greed.

Continuity of government is about maintaining the supply lines of control. Continuity of government is about ensuring that one's connection to different kinds of pleasure will remain accessible.

Continuity of government is about maintaining a chain of command and power during an emergency. However, when protecting national security and the sovereignty of the few rather than protecting constitutional security and the sovereignty of everyone become the

justification for whatever is done in conjunction with issues of governance, then, continuity of government merely becomes code for the acquisition of power which allows one, or more, people to control what takes place in a fashion that meets with the likes and dislikes of the individual, or individuals, who are seeking that sort of power.

If the aspirations of a set of people are inclined to the dynamics of control, then, such individuals will tend to seek to establish a network of financial, institutional, militaristic, and judicial mechanisms which will provide a redundancy of ways through which the few can retain or assume power during emergencies which are defined by those who are in power. This is the system which exists now in America and which is being critically analyzed by people such as Katherine Watt.

Legislation concerning the handling of emergencies is never about establishing programs that will help enable citizens to enhance their individual sovereignty in order for them to be better able to collectively deal with such emergencies independent of government. Instead, such emergency legislation is always about providing those in power with the authority to require citizens to relinquish their individual sovereignty in order to better serve the interests of national security as defined by those who are in power.

The Bank of International Settlements, the banking system, The WHO, the World Economic Forum, the World Trade Association, the International Monetary Fund, the World Bank, and the military forces of the world are all control systems. One can posit many theories about why such groups, organizations, and institutions seek control (e.g., they are the Illuminati, they are Masons, they are aliens, they are greedy, they are Satanic, they are corporations, they are Russians, they are Americans, they are members of this or that religious orientation), but none of these theories will enhance one's insight into the basic fact that the name of the game which is being played has to do with the dynamics surrounding the acquisition of control and the ways in which such control/power is leveraged in order to undermine the sovereignty of people, both individually and collectively.

The quest of the few for power and control at the expense of sovereignty for the rest of humanity is what must be resisted. This remains true irrespective of what the ideology, theology, or economic

orientation of the person or persons are who is seeking such control in order to suppress or extinguish the sovereignty of others.

The term "regulatory capture" refers to a process in which an entity that is supposed to be controlled by a government agency reverses the process of regulatory dynamics, and, as a result, that which was to be regulated through government oversight becomes the regulator of the governmental regulation process. The Bank of International Settlements operates outside of any form of government oversight, and because of that independence and because countries need money to operate, the BIS is able to shape much of what goes on politically, economically, financially, socially, medically, educationally, and militarily in a given country by controlling what a central bank – whether private or national – does in such a country.

Although the head of the Federal Reserve is nominated by the Executive branch, confirmed by the Senate, and required to testify before Congress every so often, the fact of the matter is, the federal government has no real control over what the Federal Reserve system does, or doesn't, do, but what the Federal Reserve system does, or doesn't do, IS dependent on what the Bank of International Settlements wants the Federal Reserve to do or not do.

The federal government, the state governments, and all local forms of government are functionally dependent on the activities of the Federal Reserve which, in turn, is dependent on the activities of the Bank of International Settlements. Every level of government in every country operates in accordance with the financial system that has been set in place by the Bank of International Settlements and, as such, regulatory agencies will tend to dance to the tune set by Central banks (whether public or private) and the BIS.

Governments, militaries, courts, the media, big tech, medicine, and education have all had their ways of regulating affairs captured by the financial system that is run by the Bank of International Settlements. Those who are in compliance with, and serve, that system will tend to reap the benefits of that arrangement until the BIS decides that such compliance is no longer required and, as a result, decides to move in a different direction, while those who are not in compliance with, and do not serve, that financial system will tend to suffer the consequences

and have to learn – to whatever extent this is possible – how to adjust to those consequences.

The Chinese did not invent the social-credit system. The financial system did.

If one wants to resist the medical-military form of martial law that is being increasingly imposed on countries around the world and which the WHO -- with the support of the BIS – is intending to take to the next level of fascism with a slew of amendments that will be introduced sometime in May 2024, then, one is going to have to find ways – to whatever extent such ways actually exist – to work outside of the financial system that has been established by the BIS because whatever is financially dependent on the activities of BIS will consider those who resist to be persona non grata and the latter individuals will either be eliminated or will be forced into a marginalized existence in which they will not be permitted to participate in any facet of society.

COVID-19 was merely an opening salvo intended to soften up the beaches of resistance. Additional attacks are in the works and will soon be unleashed.

Sometimes, Katherine Watt is asked why she believes people seem to be psychologically vulnerable to the presence of power systems. In response to such questions she sometimes refers to: The 1971 Stanford prison experiment conducted by Philip Zimbardo; the 1963 "learning" experiment of Stanley Milgram, and the series of experiments run by Solomon Asch which explored the exercise of judgment/perception by an individual in certain kinds of social settings.

Usually, the foregoing experiments are parsed in terms of issues involving conformity or obedience. In fact, Stanley Milgram wrote a book called *Obedience to Authority* as a post-facto attempt (published in 1974) to account for the results of his 1963 "learning" experiment.

For those who are interested, Chapter 8 (Ceding and Leveraging Agency) in *Beyond Democracy* (the book is available for free on my website) critically reflects on the aforementioned Milgram and Zimbardo experiments in considerable detail. To make a much longer story considerably shorter, the dynamics at work in those experiments might have little to do with issues of conformity or obedience to

authority, but, instead, might be giving expression to a process of ceding one's agency to one, or more, individuals because one trusts the person or persons to whom one is ceding one's agency.

There might be many reasons for why one decides to trust one or more individuals and, as a result, turn over one's agency to such an individual or individuals, thereby enabling the later person or persons to shape one's actions, understandings, ideas, and/or behaviors. Conformity and obedience are themselves functionally dependent on some underlying decision-making process which determines why one wishes to be obedient to this or that person or why one wishes to conform to this or that person's way of doing things, and, quite frequently, the reason for such conformity or obedience is because, for good reasons or bad reasons, one trusts that whoever or whatever is the focus of one's conformity or obedience can be trusted to help one realize whatever purpose gave expression to the process of ceding agency to a given individual or set of individuals in the first place.

To whatever extent conformist or obedient behavior might be present in a given set of circumstances, such conformity and obedience are merely means to an end. They are not the ends which, originally, were being sought and which induced one to cede one's agency to a given person or persons.

During COVID-19 many people gave up their agency to others for all kinds of different reasons. However, one of the primary themes running through such reasoning processes involved the element of trust, and, unfortunately, the question of whether, or not, the individual or individuals to whom one ceded one's agency ought to have been trusted tends to have been ignored, unasked, or suppressed in one way or another.

Many people were told to trust the science and the scientists. However, most people had little, or no, understanding of that which they were being induced to trust, and, as a result, they blindly ceded their agency to individuals who should not necessarily have been trusted.

Trust took the place of informed consent. Indeed, the people who were in control insisted that trust should be endorsed, and informed consent should be jettisoned … in effect, like the great and terrifying

Wizard of OZ, people were being told to pay no attention to the man pulling the levers behind the screen.

Katherine Watt's research has demonstrated that there is a perverse toxic knowledge which is at the heart of much of what is transpiring today with respect to the militarization of public health. The perpetrators of this transformation have a knowledge which has been marinating in toxicity for quite some time now, and her research has provided considerable insight into the legal framework through which the aforementioned perpetrators are seeking to transmit that toxicity to much of humanity.

From the biological weapons of Erich Traub, to the research of the CIA's "Poisoner in chief," Sydney Gottlieb, to the mind-control expertise of Robert Duncan, to the anthrax attacks of 2001, to the militarization of public health which is transpiring today, this chapter has provided an outline of nearly 75 years of evidence which indicates that there are, and have been, all too many individuals in American government who -- for the sake of control and power if not the sheer pleasure of abusing, torturing, and oppressing people -- are quite willing to do the most unspeakable things to the people whom – according to the Constitution – such people are supposed to serve and protect.

The chapter has provided just five data points to lend support to a 'proof-of-concept' notion that there are natural and ideological psychopaths who are, and have been, employed by the American system of governance, and, as a result, there are an unknown number of people present in our system of government who are quite capable of actualizing a potential for the sort of horror that will be addressed in the following chapter. Any number of additional data points (the assassinations of John Kennedy, Martin Luther King, and Robert Kennedy; Project Phoenix; The Iran-Contra Affair; The Panama Deception; the first Gulf War; the 1993 bombing of the World Trade Center; the Oklahoma City bombing; the CIA-Crack Cocaine connection; the Balkan Wars of the 1990s; 9/11; the 2nd Iraq War; the 2008 Financial Crisis; the use of drones by Bush, Obama, Trump, and Biden to kill innocent people; the Paradise, California and Maui, Hawaii fires, plus numerous other incidents over the last 75 years) could have

been added to the 'proof-of-concept' notion being advanced in the present chapter. Anyone who wishes to deny that all of the foregoing data points could have provided substantial evidence (which might have been explored in this chapter but stands beyond what already has been presented through the foregoing discussions) is exhibiting a form of willful blindness with respect to the existence of natural-born and self-created, ideological psychopaths who are present within American government activity. These latter individuals have injured, killed, and destroyed the lives of millions of Americans, and, if given the opportunity, they will do so again in the near future.

Chapter 9: Optogenetics in the Rear-View Mirror

The following essay surfaced approximately eleven years ago. To a certain degree, such material foreshadows some of the discussion that will take place in the next chapter, but the article which is given expression through the present chapter was written at a time in my life when even though there were certain aspects of the TED talk on which the present chapter is based that bothered me, I had no idea that the issues with which I was concerned back then would resurface in such stark, concerning terms a little over a decade later.

Eleven years ago my 'Spiderman-like-sense' was tingling. However, I wasn't sure of the nature of the danger about which it was trying to warn me, but enough of the warning was felt within me to lead to the writing of a paper exploring some of the themes that were bubbling to the surface at an earlier time.

Chapter 10 will try to provide a framework for the rest of problem that I was not seeing clearly more than a decade ago. In some ways, a line from a Bob Segar song seems appropriate here, namely: "I wish I didn't know now what I didn't know then," but once something has been seen, it can't be unseen, and some of what has been seen will be the subject of the next chapter.

Recently, I watched a 'TED' talk (TED is an acronym for 'Technology, Entertainment, and Design'). The talk was given by two neuroscientists, Steve Ramirez and Xu Liu, and took place in Boston, June 2013.

The presentation was based on research that led to several publications that appeared in the science journals, *Nature* and *Science.* The title of the *Nature* article is: 'Optogenetic stimulation of a hippocampal engram activates fear memory recall' and was published in early 2012, while the *Science* report was entitled: 'Creating a False Memory in the Hippocampus' and was published in July 2013.

All of the foregoing will be elaborated upon shortly. However, first, I would like to create a context for the critical reflection that will give expression to my comments concerning the research of the two aforementioned neuroscientists.

Toward the end of the June 2013 TED presentation, Steve Ramirez

indicated that one of the purposes of their talk was to bring people up to date on the kinds of research that were taking place in neuroscience, as well as to acknowledge (even if only vaguely) the existence of various ethical issues raised by their research, and, finally, to invite people to join in the discussion with respect to their research. Steve's co-presenter, Xu Liu, also stipulated at one point near the end of the talk that their research was rooted in a philosophical principle of neuron science - namely, that, ultimately, mind is a function of physical stuff ... stuff that can be "tinkered with" and a tinkering process that is limited only by our imagination.

On the one hand, the following comments constitute my acceptance of the aforementioned invitation from Steve Ramirez during the June 2013 presentation for people to join in the conversation concerning their research. Consequently, part of my comments will address some of the ethical concerns that were alluded to by Steve Ramirez during the Boston presentation, while another aspect of my comments - perhaps the more central dimension of such comments -- will revolve around an exploration of the philosophical principle cited by Xu Liu that is at the heart of neuroscience and which, as indicated earlier, seeks to reduce mental phenomena to biological, material, or physical events.

Let's begin by providing an outline of the experimental model employed by Steve Ramirez and Xu Liu. Among other things, that model involves introducing mice to a few methodological bells and whistles.

Optogenetics (a word which appeared in the title of the aforementioned *Nature* article) is a term that - as the sub-components of the word might suggest - involves combining optical and genetic properties in certain ways. Essentially, microbial or viral genes are engineered to become receptive or sensitive, in some manner, to light or optical energies and, thereby, such genetic residues are enabled to, in effect, serve as a target for light sources (e.g., lasers) that will induce the target molecules to serve like switches that are capable of turning certain aspects of cellular functioning on and off when the genetically engineered concoction is injected into, say, mice and, subsequently, activated by laser stimulation.

In their presentation, Ramirez and Liu also point out that there is a

biological marker or indicator present in cells that signifies certain kinds of activity had taken place in those cells. Therefore, part of the process of genetic engineering employed in the optogenetics technique is to take a molecular component that has a sensor-like capacity that is able to detect the presence of the aforementioned cellular indicator or marker signifying recent cellular activity and, then, splice that sensor component to the aforementioned molecular/genetic switch that, subsequently, can be activated and deactivated through the application of targeted laser energies.

In the case of the Ramirez-Liu experiments, the 'switch' portion of the genetically engineered component is channelrhodopsin. This is a membrane protein that controls the flow of certain ions (for example, sodium - Na+) into the interior of a cell. Modifying the flow of ions into a cell is possible because channelrhodopsin is a protein whose three-dimensional conformation can be altered when stimulated by, among other things, laser light and, in the process, open or close the membrane channel-way with respect to ion flow, thereby affecting the functioning of such a cell.

To sum up, the general idea employed by Ramirez and Liu in their experiments is to identify cells that are involved in, for example, memory formation through the manner in which those cells will leave an activity signature or marker. This marker can be detected by the genetically engineered sensor-switch component and, this, in turn, will transform the cell into a target that is believed to have something to do with memory formation and which -- when deemed appropriate by the researchers - can be activated by stimulating the switch side (i.e., the membrane protein channelrhodopsin) of the genetically engineered virus with laser light.

For quite some time, the hippocampus (a ridge section found along the bottom of the lateral ventricle portion of the brain - there are two such ridge sections) has been implicated (via an array of experimental and clinical evidence) as playing an important role of some kind with respect to memory formation. Thus, when one scans the title of the aforementioned *Nature* journal article - i.e., 'Optogenetic stimulation of a hippocampal engram activates fear memory recall' - and understands that the term "engram" is a way of referring to a memory trace that has arisen through a hypothesized change

(temporary or permanent) in brain chemistry within the hippocampus, then one is being told by the *Nature* article title that the Ramirez/Liu experiment is one which uses optogenetic methods (outlined previously) to bring about the activation (or recall) of memories involving fear.

In 2000, Eric Kandel received the Nobel Prize for research that helped establish the nature of some of the physiological dynamics that are associated or correlated with memory formation/storage in Aplysia -- a sea slug whose relatively large nerve cells made it a good candidate for trying to scientifically analyze what happens biochemically when learning or memory formation occurs in those life forms. To make a much longer story somewhat shorter, Kandel and other researchers discovered -- while studying the gill-withdrawal reflex in Aplysia -- that sensitization and habituation (which are both forms of learning and, therefore, constitute instances of memory formation) were associated with the release of certain kinds of molecules -- [e.g., c-Amp - the so-called second messenger of the cell, serotonin (a neurotransmitter) , PKA (c-AMP dependent kinase) , and CREB (cAMP response element binding protein) -- that appeared to play important roles in short-term and long-term memory formation, as well as were implicated in the processes that converted short-term memory into long-term memory.

The generation of the foregoing sort of cascade of biochemical molecules also was correlated with increases in synaptic complexity or connectivity. As a result, Kandel came to believe that changes in synaptic connectivity were indications that learning/memory was somehow being established through those synaptic enhancements, and, in turn, those changes in synaptic connectivity were some kind of a function - although many of the details were lacking with respect to the precise dynamics of that function -- of the cascade of biochemical changes that were taking place within neurons.

Mice are more complex than Aplysia, and humans are more complex than either mice or Aplysia. Nonetheless, ever since the work of Kandel began back in the 1960s, a great deal more biochemical, physiological, cellular, and neuronal evidence has been generated that is consistent with the idea that when certain (a) biochemical changes in cellular physiology are correlated with (b) changes in synaptic

connectivity that are correlated with (c) differences in behavioral activity over time, and when the foregoing three elements occurred in relatively close temporal (if not spatial) juxtaposition to one another, then the collective presence of those three elements was interpreted to indicate that learning or memory had been generated ... and, this remains the basic idea concerning the issue of memory formation irrespective of whether one is talking about Aplysia, mice, humans, or any other life form that is capable of exhibiting a capacity to learn or retain memories (short-term or long-term) with respect to on-going experience.

Naturally, the physical/material details of learning and memory might change as one moves from species to species. Nevertheless, a growing body of evidence lends support to the idea that learning/memory are entirely functions of physical/material events.

The Ramirez/Liu research that was outlined in the June 2013 TED talk is a continuation of the foregoing perspective. The two investigators took mice and surgically implanted a means of delivering laser stimulation to the hippocampus portion of a mouse's brain that also had been equipped with a genetically engineered 'sensor-switch' which could detect recent activity in cells that seemed to be involved in the formation of memories concerning fear in the experimental animals.

More specifically, the researchers placed a number of surgically altered, and genetically engineered mice into a chamber where an electrical shock was applied to the feet of the animals. As a result of this experience, certain cells in the hippocampus portions of the mice brains became active, and this activity left a biochemical footprint that was detected by the genetically engineered sensor-switch which had been injected into the mice through a viral host and, as a result, served as target candidates for subsequent laser stimulation.

The fact specific cells became active during the shocking process was interpreted by the researchers to signify that a memory had been formed. However, a number of questions can be raised concerning that kind of interpretation.

To begin with, what does it mean to say that a cell has left a marker indicating that the cell has been active recent? Active doing what?

The presumption of Ramirez and Liu is that the cellular activity gives expression to processes that are involved in learning or memory formation. However, one could ask in relation to such activity: Involved how?

How does a neuronal cell's activity generate learning or memory formation? Where, exactly, is the memory amidst such cell activity?

Is learning/memory in the cells that have been activated? If so, what is the form of the dynamic structure or process that is said to 'hold' the memory in the cells - whether considered either individually or collectively? Or, is the memory of fear to be found in the synaptic changes that follow from the changes in cell chemistry. Or, is it some combination of the foregoing two possibilities.

According to Ramirez and Liu, the process works as follows. First, the three-dimensional conformation of channelrhodopsin is induced to change. As a result, certain ions begin flowing into the interior of the cell.

In turn, the ion influx leads to a cascade of metabolic processes involving, among other things, c-AMP, serotonin, CREB, PKA, and other bio-molecules. Where is the memory or learning in all of this, and how did this cascade of cellular denizens come to signify or be interpreted to mean "fear"?

Kandel and others believed that the foregoing cascade of events was functionally related to changes in synaptic connectivity and that it was this transformation in synaptic connectivity and complexity which signified that learning had occurred or a memory had been formed. So, does the memory reside in the synaptic connections, and, if so, how is the memory instantiated in those connections, and if the memory is held through those synaptic connections, what determines the holding pattern and what 'reads' that pattern to understand that it is a memory which holds one kind of learning rather another?

What is the relationship between, on the one hand, cells (the sort of cells in which Ramirez and Liu are interested and for which they have genetically engineered their sensor-switch mechanism) that are active during memory formation and, on the other hand, changing synaptic connectivity (which people such as Kandel believed was central to learning and memory formation) ? If memory is in the cells -

as Ramirez and Liu seem to believe - then what is the significance of the changes in synaptic connectivity and how does what transpires in the cell shape, color, and orient those synaptic changes?

Alternatively, one might ask what determines which cells will be initially activated to become part of the fear-learning or fear-memory process. Or, what determines which biochemical, electrical, and physiological changes will take place within cells that will permit an organism to differentiate learning/memory experiences over time?

After all, if the same cellular components (e.g., c-AMP, serotonin, PKA, CREB, etc.) are thought to be at the heart of memory formation, then how are those components put together in distinct packages that would enable an organism to differentiate among memories? Or, what determines the pattern of synaptic connectivity that will take place and which can be said to hold - allegedly - this or that form of memory/learning, and what is it about the structural or dynamical character of enhanced synaptic connectivity that gives expression to memory?

One might also critically reflect on the nature of the differences between the original existential circumstances that led to the - alleged - formation of a fear memory, and the quality of that memory relative to the actual event. People who suffer from PTSD have vivid, intense, flashbacks, and, consequently, there seems to be a dimension of intensity associated with such flashback memories that is comparable to the original circumstances out of which the memories arose.

However, memories are not always as vivid and intense as the original circumstances from which they were derived or on which they are based. So, the fact that a given memory in a mouse is activated doesn't necessarily explain - in and of itself - why such a memory should necessarily lead to the response of freezing, and, therefore, one is left with the possibility that something might be going on in the experiment other than what Ramirez and Liu are hypothesizing to be the case.

Mice appear to have some degree of awareness or consciousness. How do cellular and synaptic changes generate phenomenology or how does phenomenal experience arise out of those changes?

When a mouse receives a shock to its feet, does the mouse

experience fear or does it experience pain? Or, is the mouse experiencing stress?

There is a behavioral response in mice known as “freezing”. This consists in a set of behavioral dispositions in which the mouse remains very still and, possibly, vigilant when immersed in a given existential situation that is considered threatening in some way.

Once a mouse has been shocked and, then, subsequently, exhibits, freezing, this doesn’t necessarily mean that the mouse is experiencing fear or remembering fear while in the condition of freezing (although this might be the case). Instead, the mouse might be exhibiting a form of coping strategy (which could be instinctual rather than learned) that is intended to either help avoid subsequent shocks or deal with the pain of having been shocked, and if so, perhaps the primary phenomenological component under such circumstances is merely heightened vigilance with an inclination in the mouse toward escaping or avoidance when possible.

Alternatively, freezing in mice might represent a state of shock. Possibly, a mouse that is exhibiting freezing behavior might not either be in pain or in a state of fear, but, rather, is just stunned and directionless with respect to how to proceed or what to do next ... somewhat like a prize fighter who has been rocked by a punch and is merely trying to stay on his or her feet but with very little focused awareness with respect to just what is going on around him or her.

A variation on the foregoing possibility is that ‘freezing’ in mice might be a response to stress rather than an expression of fear. Pulled in different direction by various internal and external forces, a mouse might freeze up, and, consequently, the associated phenomenological state is one of stress rather than fear.

The fact of the matter is that we don’t know what is going on in the phenomenology of a mouse during the state of freezing. Is the mouse afraid, in pain, in shock, stressed, uncertain, vigilant, wanting to get away, remembering a previous, similar problematic experience, or is the mouse experiencing some combination of all of the foregoing possibilities? We don’t know.

Freezing is a behavioral disposition that is exhibited by mice during certain circumstances. Freezing in mice is a coping strategy

and/or an instinctual behavioral response.

Learning or memory formation might play some sort of modulating role with respect to how that behavioral response manifests itself within different circumstances. Nevertheless, we don't necessarily understand what is triggering the behavioral response of freezing or what the precise properties and dynamics of the triggering event are.

Is the freezing response being triggered by a memory? If so, how does the memory lead to the initiation of the behavior?

Moreover, mice have a more expansive repertoire of behavior than just freezing. Sometimes they fight and sometimes they take flight?

What if the freezing is an indication that the mouse is uncertain about whether to pursue fighting or fleeing? What if the freezing indicates indecision rather than fear, stress, pain, or shock?

Perhaps, freezing means different things to a mouse in different circumstances. On some occasions, it might be an expression of fear, but on other occasions it might indicate stress, indecision, or a vigilant wait for the sort of information that might push the mouse toward fighting or fleeing.

We don't know what, if any, phenomenology is associated with that behavioral response. We don't know what, if anything, the cellular and synaptic changes that have been described by neuroscientists since the time of Kandel have to do with the generation of that phenomenology.

There is no neuroscientist on the face of the Earth who has yet been able to demonstrate how one goes from cellular changes in neurons to enhanced synaptic connectivity, and, then, is capable of proceeding on to demonstrate how the phenomenology of memories of a particular character and quality arise from those cellular and synaptic changes. All scientists have established so far is that there is a correlation between certain kinds of biological events and the appearance of the sorts of behavior that seem to suggest that learning has taken place or a memory has been formed, but, unfortunately, some scientists have jumped to unwarranted conclusions concerning the connection between biological activity and the phenomenology of

experience.

Consider the following idea. One can probe the electronic intricacies of a television set all one likes - even down to the quantum level. However, such analysis will do nothing to tell one where the content and structure of the picture comes from that is made manifest through the television set.

As is the case with television sets, so too, biology, cell physiology, and synaptic connectivity might play a necessary supporting role with respect to the phenomenology of experience. Nonetheless, biology alone might not be sufficient to account for the character of the content that is given expression through the phenomenology of experience.

A television set plays a necessary supporting role with respect to being able to generate a picture on its screen but that same electronic device cannot account for why the picture has the content, structure, and quality it does. To account for the latter phenomenon, one needs to talk about television stations, writers, authors, directors, actors, producers, and viewers ... all of which exist beyond the horizons of the television set, just as a proper explanation for memory or learning might exist beyond the horizons of purely biological considerations - at least as those considerations are currently understood.

Let us return to the Ramirez/Liu experiment. Under normal circumstances, when a mouse is placed in an experimental box, the animal exhibits exploratory behavior ... sniffing and scurrying its way around the interior of the apparatus.

If the feet of the mouse are shocked during the exploratory process, the mouse, subsequently, might begin to display freezing behavior. According to Ramirez and Liu, the mouse has formed a memory of fear, and this state of fear leads to the behavioral response of freezing.

However, as indicated earlier, we really can't be certain of what is taking place within the phenomenology of the mouse. The mouse might be experiencing fear, but, as well, the mouse also might be experiencing a phenomenology of vigilance, avoidance, stress, shock, and/or pain along side of the fear or instead of such fear.

If shocked for a sufficiently long period of time with no possibility

of escape, the mice also might come to exhibit the same sort of 'learned helplessness' that Martin Seligman discovered occurred with respect to dogs when they were exposed to inescapable shocks. Under such circumstances, the freezing might be a sign of learned helplessness rather than a state of fear per se.

Learned helplessness is a more complex phenomenological state than fear since it consists of the integration of a set of experiences rather than being a function of just one experience. Yet, the differences in phenomenological state between fear and learned helplessness both might end up being manifested through the same freezing behavior.

Ramirez and Liu arrange for the genetically engineered channelrhodopsin switch to be activated through the application of a pulse of laser light. This sets in motion a series of cellular biochemical and physiological changes, and, then, freezing behavior is exhibited.

What actually has happened? Has a memory been activated and, then, that memory causes freezing behavior to appear?

Even if it is the case that a certain memory has, somehow, been activated through the activation of the channelrhodopsin switch, can one be sure that the biological situation is not unlike a television set which has been switched on, and, yet, the picture which appears is not - strictly speaking - caused by the turning on the television set. Rather, the turning on of the television set is little more than a necessary precursor for gaining access to a picture (memory) that is generated through an entirely different process occurring outside of the electronic circuits of the television set.

Does the laser-activation of those cells that were active during the process of memory formation (when the unfortunate mice were shocked) represent the recall of a specific kind of memory? Or, does the laser-activation of such cells merely set in motion a sort of 'learned reflex arc' or 'behavioral circuit' that results in freezing behavior without the middleman of memory mediating between laser pulse and the condition of freezing?

We see the pulse of laser light being applied. We see the freezing behavior.

Ramirez and Liu hypothesize that the two events are bridged by the experience of a memory of a specific kind that has been activated

by a pulse of laser light. However, they are unable to provide a plausible explanation that can take one step-by-step from the point of initiation (laser stimulation) to the terminal point of behavior and show that what was transpiring involves a memory of a certain kind and the existence of that specific memory caused the observed behavior.

The fact of the matter is that Ramirez and Liu can't even be certain what kind of memory was laid down during the process of shocking. They claim the memory is one of fear, but they can't prove this because they can't eliminate the possibilities that the memory that formed might have contained elements of stress, pain, shock, and indecision, and not just fear.

Or, perhaps, fear was not part of the original memory phenomenology at all. After all, one might argue that the original memory was one of pain, not necessarily fear, and, therefore, fear is a secondary emotional response to the perception of pain.

Did the laser-activation of cellular activity give expression to a memory of pain rather than fear? If so, then the title of their *Nature* article is, at best, misleading, and at worse, it is incorrect.

Moreover, if the original memory was of pain, then, how does the secondary event of fear come into the picture? How does laser-activation of a pain memory bring about an emotional response of fear that, in turn, brings about freezing behavior? Is the experience of fear a second memory different from the memory of pain, and isn't it possible that pain might be associated with other secondary phenomenological states (e.g., stress, flight, fight, vigilance, and shock) that could just as easily lead to a freezing response?

Ramirez and Liu can see into the structure of their experimental situation only a little farther than their laser-activation of the channelrhodopsin. They know that such activation will set in motion a cascade of biochemical and physiological changes (the sort of changes explored by Eric Kandel and others), and they know that those changes will be followed by changes in synaptic connectivity.

However, they really don't understand what any of this actually means other than the fact that, collectively speaking, it is all correlated with memory formation. The rest is all conjecture and speculation.

During the Boston presentation, Ramirez spoke of giving the mouse "a very mild foot shock". One wonders why a mouse would develop a fear memory if the shock were so "very mild." Clearly, euphemistical language is being used to mask a process that is more painful than the phrase "very mild" might suggest.

Nothing was said during the Ramirez/Liu presentation (by either the researchers or the audience) with respect to the ethical issues entailed by treating animals in the way they were treated during the experiments that were the focus of the TED presentation. This was true both with respect to surgically altering the heads of the mice to accommodate a laser delivery system as well as in relation to shocking the mice, and, so, the ethical issues to which the researchers were vaguely alluding during their presentation involved something else other than the treatment of life forms within the lab.

When I was an undergraduate, I participated in an experiment involving the delivery of shocks, and the nature of the experiment was such that I was the one who delivered the shocks to myself. For me, there was a clear phenomenological difference between those shocks that were very mild and those shocks that were painful and might lead to a sense of fear, stress, shock, and/or anxiety if they were to continue.

In a rather startling expression of egocentricity, the researchers appeared to be talking in terms of what they considered to be a very mild foot shock, with nary a spoken worry about what the mouse might have thought or felt about the whole affair. Nonetheless, the word that appears in the title of their Nature article is "fear" - the article title didn't say anything about 'a very mild shock memory recall ', but, rather, used the phrase "fear memory recall".

Presumably, there is a difference in learning and memory formation with respect to different kinds of stimuli. The phenomenology of the experience involving "a very mild foot shock" is likely to be different than the phenomenology of an experience involving a shock deemed to be capable of generating a memory formation of fear.

So, even if one were to accept at face value everything that the two researchers said with respect to the nature of their experiment and the way in which it supposedly tapped into memory formation, there is a

question that remains. Was the memory that was established in the mice one of fear, or of a very mild shock, or of something much more complex?

What exactly was in that memory? The researchers claim that the memory was one of fear, but even if this were true, that fear occurred in a context.

In other words, the shocks took place in an experimental apparatus within a laboratory. The air had a smell. The box had a smell. There were sounds. The box had a feel to it. There were visual qualities present within the box. The surgically implanted mechanism had a 'feel' to it.

The foregoing context served as horizon to the experience of the shock. The memory was not just a matter of the alleged fear but, as well, the memory involved certain aspects of the context surrounding the shock.

How are the foregoing sorts of contextual factors coded for with respect to either the cascade of cellular activities that occur in connection to memory formation or with respect to the subsequent alterations in synaptic connectivity? This is not an insignificant issue because, as we shall soon discover, it plays an important role within the Ramirez/Liu experiment.

More specifically, according to the two researchers, if one places a mouse that has been shocked in one laboratory box into another, different box, then the mouse will start out by behaving as any mouse tends to do when introduced into a new environment. In other words, the male or female mouse will begin to explore the box and does not exhibit freezing behavior. All of this changes when a laser is used to activate the channelrhodopsin membrane molecule in those cells that have been identified by the injected genetically engineered sensor-switch as having been active during the process of memory formation in the shock phase of the experiment.

When the laser is used to re-invoke the 'fear memory' by changing the three-dimensional conformation of the channelrhodopsin that leads to the flow of ions into the cell and sets in motion a cascade of biochemical and physiological events associated with memory, mice that previously have been shocked will exhibit the freezing response.

According to Ramirez and Liu, the mouse is being induced to remember the original experience of fear and responds accordingly - that is, the mouse freezes.

In their Boston presentation, Ramirez and Liu discuss how they have added a few wrinkles to their experimental design. For example, they talk about, first, taking surgically altered and genetically engineered mice and placing them in a blue box, and, then, identifying the cells that are active in the presence of such 'blueness'.

Before proceeding on with an account of the experiment, it seems to be appropriate to pause briefly and ask a question. How does one know that the cellular activity being identified by the researchers through their genetically engineered sensors which has to do specifically with blueness rather than some other feature of the experimental set-up, and, moreover, even if one were to accept the idea that the cellular activity has something to do with retaining a memory of blueness, once again, one can raise the question of what, precisely, such activity has to do with memory formation?

How - specifically -- is 'blueness' being encoded via the cascade of cellular events that are occurring during the learning of, or memory formation concerning, blueness, and how does this particular package or set of cellular events translate into unique changes in synaptic connectivity concerning the issue of blueness? Moreover, how is this aspect of learned or remembered blueness separated from, or integrated into, the context of other sensory experiences that form the context surrounding the experience of blueness?

In addition, one might ask why certain cells are selected for the memory of blueness, while other cells busy themselves with the memory of different sorts of sensory modalities. Or, one also might wonder how the work of an array of active cells concerning different facets of a experiential context become integrated to generate a unified phenomenological experience that can be understood in one way rather than another by a given life form? [By way of a personal aside, for reasons obvious and not so obvious, all of this talk about red and blue boxes led to my thinking about the contents of the so-called '*Blue' and 'Brown'* books of Ludwig Wittgenstein which I read as an undergraduate].

Now, let's return to the Ramirez/Liu experiments. In the first stage

of one of their experiments involving a blue box, nothing happens to the mice. They just get to explore the box.

In the next phase of the experiment, the mice are placed in a red box. While in the red box, a laser pulse activates the cells that were identified as being active during the blue-box experience, and, as well, the mice are given - I am quite certain - a very mild foot shock to generate a 'fear' memory that is now associated with a re-invoked or recalled memory of the blue box.

In the final state of this experiment, the mice are placed back in the blue box where they have never been shocked. Yet, as soon as the mice are placed in the blue box, they exhibit freezing behavior.

Ramirez and Liu maintain they have created a false memory in such mice. I have a little difficulty understanding how the two researchers arrived at their conclusion.

But, let's deal with first things first. Ramirez and Liu speak about an association being established between two things. On the one hand, there is the re-invoked memory of blueness, and, on the other hand, there is the shock that is given in the red box while the memory of blueness is re-invoked.

There is no false memory that is being created in the foregoing scenario. The association being established is not a false memory, but, rather, it constitutes the blending together of two facets of the red box context - namely, a shock and the experience of blueness.

This is an example of classical conditioning. One takes a stimulus - blueness - and pairs it with another stimulus - shock - to generate a behavioral response - freezing -- that can be initiated by the presence of blueness alone even without a shock being administered, and even though blueness had never before been experienced as being 'fear-stress-shock-pain-avoidance' related.

The mice are not misremembering the original experience of blueness. They have been taught something new during the time spent in the red box ... that is, they have been taught how the presence of blue can be threatening, and when the mice are placed back into the environment of the blue box, they are induced to enter into the condition of freezing because of what they learned in the red box.

Beyond the foregoing considerations, there is the problem of

understanding the dynamics of association. How does the memory of association work?

Everyone talks in terms of the capacity of various life forms to associate different aspects of experience whether through temporal and spatial juxtaposition. We all know that such a phenomenon is real, and we all note evidence of its presence through a wide variety of circumstances involving human beings and other life forms.

Nevertheless, no one really knows how it works. No one understands the dynamics of association. We only acknowledge the result of that dynamic.

How does the memory of blueness and the memory of being shocked - very mildly -enter into a new, modified understanding within the context of a the red experimental box that is capable of generating, say, the freezing response in mice? How does what happens in those cells which are active during the formation of a memory of blueness become intertwined with what happens in those cells that are active during the experience of being shocked?

One might suppose that there are many neuronal cells that are active during any given experience. Why is blueness singled out as the feature that is to be mixed with the sensory experience of being shocked?

Phenomena such as generalization do occur (as is evidenced by my previously noted aside concerning Wittgenstein's Blue and Brown books in which some sort of generalization took place in relation to the blue and *red* boxes of the Ramirez and Liu experiments) . Various life forms do transfer certain aspects of learning or memory developed in one context to a broader array of contexts that are in some, as of yet, mysterious way acknowledged or arbitrarily designated as being similar to the original context of learning.

Unfortunately, we don't really know or understand much about how any of this actually works. We see all kinds of correlations, but we have little idea of how everything fits together and generates or causes this or that memory or this or that understanding or this or that belief or this or that instance of learning, and this remains true even with respect to the simplest of cases involving learning and memory formation such as in instances of: habituation, sensitization,

association, conditioning, or generalization.

The experiments conducted by Ramirez and Liu really haven't gotten us any closer to understanding the specific dynamics of: Memory, learning, or how the phenomenology surrounding such experience arises. More specifically, their work hasn't helped to show us how to bridge the gap between, on the one hand, changes in the internal biochemistry or physiology of neurons and synaptic connectivity, and, on the other hand, the actual, causal dynamics of learning and memory as a function of the former material changes, nor are we able to explain in a plausible, consistent, rigorous, coherent fashion how changes in neurons and synaptic connectivity become manifested in phenomenological, conscious states that are characterized by differential qualities that are integrated into a unitary sense of experience concerning reality - and quite independently of whether such unified phenomenology actually accurately reflects the nature of some aspect of that reality.

Ramirez and Liu only have provided us with some more correlations. These might be interesting correlations, but, in the end, that is all they are.

The methodological techniques that have been devised and are used to demonstrate the existence of certain correlations are quite innovative. Nonetheless, the bottom line on all this ingenious innovativeness is that nothing which they have said in their TED talk or in corresponding articles gets us any closer to understanding how the dynamics of memory and learning work, and, certainly nothing which they have said demonstrates the truth of the underlying philosophical premise that mind can be shown to be a function of purely material events — events that can be tinkered with.

This leads to a further issue. Toward the end of the Boston TED talk, Xu Liu talked about how we are living in very exciting times in which science is not tied down by any arbitrary limits with respect to progressing in our understanding and knowledge concerning such phenomena as memory and learning. In effect, science is bound only by our imaginations.

Unfortunately, the imaginations of some people are more problematic and disturbing than are the imaginations of other people. The Defense Department subsidizes a great deal of the scientific work

that is taking place in academia and in the corporate sector (both are integral parts in the military-industrial complex), and, as luck would have it, the people who are in control of that Department imagine all kinds of things with respect to the arbitrary uses to which scientific research can be put -- uses that end up killing, maiming, hurting, and enslaving people ... both foreign and domestic.

Although the research of Ramirez and Liu has not demonstrated the generation of false memory, that research has revealed some possible techniques for interfering with the minds of life forms. How long will it be before the research of people like Ramirez and Liu is weaponized and applied against whomever the people in power deem to be appropriate?

We don't live just in the exciting times about which Liu enthuses. We also live in very perilous and authoritarian times ... times in which all too many governments are quite prepared to do whatever is necessary to stay in power, control resources, and induce citizens to serve that power. Ramirez and Liu are very naive if they believe their research is only about scientific progress, and they also are in denial if they suppose that they do not have a moral responsibility with respect to the possible applications of their work.

Speaking vaguely about the ethical implications and ramifications of their research work after the fact has got things backward. They should have been concerned about those implications before they did their research, and, in fact, those ethical deliberations should have impacted their decision about whether, or not, such research should have been undertaken at all.

The Ramirez/Liu research dredged up memories within me of Michael Crichton's book: *The Terminal Man*. Like the scientists in the book, neuroscientists today are full of all kinds of swagger and arrogance with respect to their technical proficiency and ingeniousness, and, unfortunately, like the scientists in Crichton's book, they are ignorant of their own ignorance concerning the many lacunae between what they believe they know and the actual nature of reality.

The scientists in Crichton's book believed they knew what they were doing. They didn't, and their ignorance cost the lives of quite a few people.

The neuroscientists of today believe they know what they are doing. They don't, and the problematic ramifications of that ignorance might only manifest itself after difficulties or tragedies of one kind or another arise.

The many physicists who worked on the Manhattan project believed they knew what they were doing. Few of them grappled with the horrors of Hiroshima or Nagasaki before the fact except, perhaps, Oppenheimer who quoted from the Bhagavad-Gita after witnessing the Trinity test: "Now I am become Death, the destroyer of worlds".

There were many physicists and other scientists who worked to bring nuclear technology into the real world. Those scientists seem unconcerned - before the fact -- about the possibilities of Three Mile Island, Chernobyl, and Fukushima becoming future realities, or about the problems surrounding the disposal of nuclear wastes, or the use of depleted uranium as weapons of mass destruction.

T.S. Eliot said: "Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information?" Ramirez and Liu, along with a great many other researchers have a lot of information but do not seem to have much in the way of either knowledge, or more importantly, wisdom.

More specifically, I worry about people - such as Ramirez and Liu - who believe they understand what is going on with their experiments when this is just not the case and which, I believe, the foregoing discussion has helped to demonstrate. We already have seen the terrible consequences that have ensued, and are continuing to ensue, from the self-serving arrogance of the pharmaceutical industry with respect to its psychoactive concoctions that are based on a form of technical wizardry that is entirely devoid of any real understanding concerning the human mind, but, is, instead, rooted in a bevy of correlations which are not understood, and, yet, recklessly, the pharmaceutical industry and the FDA are permitting - if not rushing - - all manner of drugs into the market that are generated through spurious science in their attempt to create life-time dependencies (rather than cures) with respect to this or that psychoactive drug.

As people such as Joanna Moncrieff (*The Myth of the Chemical Cure*) a psychiatrist from England, and Peter Breggin (*Medication Madness*) , a psychiatrist from the United States, have pointed out,

neuroscientists have very little understanding of how psychoactive drugs metabolize within human beings or how the actual dynamics of their 'effects' transpire. The existence of side effects lends support to the foregoing claim.

I know of no pharmacological study that begins with a set of predictions concerning the precise array of side effects that will arise in conjunction with the use of a given psychoactive agent. They do not make such predictions because they don't actually know what happens in people when such drugs are taken.

For instance, there are many scientists and clinicians who speak in terms of the idea of "chemical imbalances' being the cause of various emotional and mental problems. This mythology is present in the marketing campaigns for an array of pharmaceutical products being advertised on television.

Let's consider the case of SSRI - that is, selective serotonin re-uptake inhibitors. I don't know of any neuroscientist who has provided a convincing argument about how the absence of serotonin causes depression or how the absence of serotonin leads to the sorts of symptoms that are associated with clinical depression. Moreover, there is also the rather embarrassing fact that when independent, double blind studies are done concerning the efficacy of SSRIs, those drugs have been shown to be no more effective than placebos.

To whatever extent pharmaceutical agents 'work', they do so by masking problems, not curing them, and in the process, those psychoactive agents dull, if not destroy, many facets of emotional life, awareness, and human sensitivity. Unfortunately, losing one's humanity is confused with the alleged effectiveness of a given drug with respect to a change in a user's symptom profile.

Scientific methodologies are one thing. Conjecturing about the significance and meaning of the experimental results that are run through those methodologies is quite another issue altogether.

Ramirez and Liu do not have a theory of memory or learning. They have a series of conjectures based on a problematic understanding concerning, and interpretation of, the correlational dimensions of their own experiments and the experiments of other individuals working in the area of mind/brain research.

The issue before us is the following one. Are neuroscientists on the right track with respect to their attempt to reduce mental phenomena to some set of physical dynamics and, therefore, the work of researchers like Ramirez and Liu represent important steps along an inevitable path that will take us to the promised land of full understanding and a complete explanatory account of how mental phenomena are all functions of underlying biological events? Or, alternatively, are neuroscientists on an asymptote path that generates ever more tantalizing correlations which will never permit them to reach the promised land of complete explanations and, instead, will permit them to only provide accounts of mental phenomena that will always be inherently flawed because there are more realities in heaven and earth, Horatio, than can be dreamt of in their philosophies.

I believe the foregoing critical analysis of the Ramirez and Liu experiments leads to more than a few questions about just what it is that neuroscientists know with respect to the nature of mental phenomena such as memory formation. Maybe, eventually, they will reach the promised land of 'Full Explanations', but right now they are stuck in the entangled underbrush that populates the land of descriptions that are based on proliferating correlations, and they don't seem to have much, if any, real understanding, knowledge, or wisdom concerning the actual nature of the mind.

Chapter 10: Full Spectrum Dominance: An Overview

To properly orient the lenses through which the following ideas are to be understood, there are two points that should be kept in mind prior to exploring the remainder of this chapter. The first point might seem both obvious and relatively innocuous, but, nonetheless, it still needs to be stated as a reference point for what follows.

More specifically, any medical or health treatment that claims to offer some sort of curative solution for, or even relief from, a given biological condition contains within itself a form of understanding or toxic knowledge which can be used to undermine or counter such a constructive solution. For example, the process of diagnosis that is used to provide a proactive form of engaging a physical problem can also be involved in a process that leads to a patient's injury or death (indeed, a recent study – *Burden of Serious Harms From Diagnostic Error In The USA* by David Newman-Toker and others speaks to this issue), and, similarly, the drugs that are prescribed as part of various treatment protocols have been shown to be the cause of serious injury or even death (as numerous studies have demonstrated) among hundreds of thousands of clients every year.

Whether such problems are the result of unintentional errors (so-called iatrogenic mistakes) or are due to intentional actions (e.g., beliefs concerning the process of euthanasia) or are the result of a mistaken understanding concerning a given set of symptoms (e.g., diagnostic and treatment protocols based on a false theory of medicine), any hermeneutical perspective which might have a capacity to serve a constructive role in medicine and health contains within itself a knowledge that can lead to harm and death through a problematic (intentional or unintentional) application of such a perspective. Furthermore, given the nature of the discussion which took place in Chapter 8 (*Dark Machinations*) concerning evidence that discloses some of the many ways in which governments, institutions, and individuals have been shown to act contrary (profoundly so) to the best interests of those who, supposedly, are in their care, one should always be mindful that medicine and health constitute dual-use mediums which entail both constructive and destructive potentials.

The second point that should be kept in mind throughout the following discussion is that if viruses do not actually exist (as was

indicated during Chapter 3 and 4) and if the pleiomorphic approach to microorganisms is true (considerations for this were provided in Chapters 1 and 2), and, therefore, the monomorphic approach of Pasteur which has dominated modern medicine and biology is actually false, then, there is a great deal of health care which begins at no reliable beginning and works toward no reliable end. For instance, if viruses do not exist, then, conditions such as measles, mumps, polio, smallpox, many forms of hepatitis, chicken pox, HIV, herpes, and many other conditions which are believed to be the result of viral dynamics are wrong and, consequently, whatever is causing the aforementioned diseases is something other than a function of viral activity, and, as a result, using viral protocols to treat such diseases is fundamentally misguided.

Although Béchamp (microzymas), Enderlein (endobionts), and Reich (bions) all had their own way of alluding to a form of dynamics that seemed to be more fundamental than cellular activity and actually shaped, and, conceivably, made such cellular activity possible, the set of phenomena that has been described through Gaston Naessens' idea of the somatid cycle -- which consists of a set of, at least, 16-18 pleiomorphic forms, only the first three of which are manifested in a condition of biological health – seems to offer the most detailed insight into the aforementioned fundamental dynamic that appears to be at the heart of biology. The somatid cycle is especially important to keep in mind because Naessens had pointed out that every kind of cell has its own, unique form of somatid cycle which orients functioning in such a cell, and, therefore, any form of diagnosis and/or treatment that does not take the somatid cycle into account is likely to be problematic in any number of ways.

There is a form of medicine/health which is being pursued today and which has been explored for, at least, the last 30-40 years, that is quite diverse and involves areas such as: Regenerative medicine, biodigital convergence, bioinformatics, cellular communication, bioengineering, epigenetics, graphene, neural networks, pervasive computing, nanotechnology, hydrogels, microfluidics, photonics, optogenetics, neurotherapy, biosensors, plasmonics, telemetry, quantum dots, tissue engineering, precision medicine, synthetic biology, and xenobots. While the foregoing terms will be provided with

a bit more depth and nuance in the discussions which follow, for the time being, one should keep in mind the two points with which this chapter began – namely, (1) every approach to medicine and medicine has within it a potential for both good and evil, and given the historical evidence which demonstrates the way in which governments, institutions, corporations, and individuals all too frequently have the capacity and willingness to implement the destructive dimension of a dual-use technology like medicine/health, then, all of the aforementioned areas of research must be engaged with the understanding that the hype for such forms of technology often seeks to hide (acts of duplicity) or ignore (willful blindness) the dark underbelly that is also associated with, and is beings developed alongside of, the surface, superficial editions of dual-use technologies; (2) to whatever extent the aforementioned multiple areas of interconnected research ignore the existential problems surrounding the issue of viruses and/or ignore the dynamics of the somatid cycle (or, microzymas, endobionts, bions) and the ramifications and implications of those dynamics for cellular functioning, then, to that extent one needs to begin asking some serious questions about why such areas of research are ignoring and downplaying issues that are crucial for healthy functioning.

There is a third consideration which might also kept in mind along with the foregoing several points. Since a fair amount of the discussion which follows has to do with the alleged functioning of the brain (alleged because many researchers seem to forget that theories need to be confirmed before they can be considered to be scientific fact), the following research of John Lorber has relevance to such a discussion, and, indeed, if Lorber's research is correct, then, one should keep asking the same sort of question in conjunction with all of the aforementioned areas of research: What is really going on here?

Roger Lewin wrote an article for the journal *Science* that appeared in the December 1980 edition and was entitled: "Is Your Brain Really Necessary? The article provided an overview of certain aspects of the clinical work conducted by a British neurologist, John Lorber (1915-1996).

One of the research interests of Professor Lorber (he was on faculty at Sheffield University) involved the condition of

hydrocephalus in which, usually for congenital reasons, the cerebrospinal fluid of a person is prevented from circulating properly as it flows between the spinal column and the brain. As a result, over time, the cerebrospinal fluid begins to collect in one or more of the ventral spaces within the brain and begins to exert an outward pressure which squeezes the brain against the skull.

Professor Lorber divided people with the foregoing condition into four categories. First, there were those individuals whose brain scans indicated a minimal amount of enlargement of their ventricles, and, then, beyond this minimalist category, there were individuals whose scan indicated, respectively, ventricles or spaces within the brain that occupied: (2) 50 to 70 percent of an individual's cranium; (3) 70 to 90 percent of a person's cranium space, and, finally, (4) 95% or more of the internal cranium space of an individual.

Professor Lorber indicated that category 4 constituted about 10% of the total group of the people being studied. At least half of these individuals – that is, individuals whose cranium is 95%, or more, filled with cerebrospinal fluid, and, therefore, with very little brain material -- exhibited severe cognitive challenges and disabilities, and, yet, nonetheless, the remaining half of this group of individuals were able to take an intelligence test and score 100, which matches the mean average score for that test.

Moreover, Professor Lorber also indicated there was one youngster from the foregoing group who scored 126 on the IQ test and who, also, had obtained a first-class honors degree in mathematics. In addition, his social capabilities were, in all respects, quite normal.

The reason why this particular young man showed up in Professor Lorber's study was because one of that individual's professors noted that the youth had a larger head size than other students and, as a result, referred the student to Professor Lorber for possible inclusion in the latter's research study. When a brain scan was performed in conjunction with that student, instead of observing a thickness of 4.5 centimeters in the brain tissue that normally exists between the ventricles and the outer portion of the cortical surface, the researchers found just a thin sliver of brain material measuring approximately a millimeter, or so, in thickness.

While commenting further on the case of the foregoing young student, Professor Lorber indicated that he couldn't be sure whether the quantity of cerebral matter in the student's brain was 50 grams or 150 grams. However, one thing the pediatric neurologist was sure of was this -- irrespective of whatever the precise amount of cerebral material was which might actually be present, it is substantially less (by an order of magnitude or more) than the 1.5 kilograms (1500 grams) that characterizes the weight of a normal brain.

Notwithstanding a cranium which is 95% filled with cerebrospinal fluid and the presence of brain material that is a millimeter, or so, in thickness (rather than the usual 4.5 centimeters of thickness), and which weighs roughly 1450 to 1350 grams less than a normal brain of some 1500 grams, the student graduated with a honors degree in mathematics. Furthermore, as previously indicated, there were other individuals who were in the same group that were able to score 100 on an intelligence test.

Many people believe the brain is what makes consciousness and the mind possible. However, conceivably, what makes the brain possible are consciousness and mind, and, as such, the brain, like an iceberg, merely constitutes the most visible part of a phenomenon that runs much deeper than the visible portion would tend to suggest.

If Lorber's research is correct (over the years, there have been a number of people who have rejected Lorber's research out-of-hand, but, to my knowledge, no one has been able to demonstrate that Lorber's results are the result of provably bad science), then, every statement which limits itself to the 3-lb material universe inside the skull of a human being is subject to various kinds of qualification, modulation, and amendation that tend to transcend modern theories of brain functioning. In other words, something more is going on with consciousness than brain functioning can account for and, consequently, any form of diagnosis, treatment, or set of protocols which is designed to correct or enhance cognition in some way that ignores the ways in which consciousness transcends such brain functioning, then, to that extent, one should exhibit caution in conjunction with such forms of diagnosis, treatment, and protocols.

What follows is a process of critical reflection that, in many ways, is inspired and shaped by the research and commentary of Sabrina

Dawn Wallace. She has a perspective that is very rigorous, nuanced, well-considered, and, based in part, on her own personal experience and journey in life – a journey that contains many harrowing twists and turns (I am aware of only some of these, and even in conjunction with what I do know, this is only from an existential distance that deprives me of access to experiences, understandings, and insights that she has had and which I have not had).

In my own, limited, inimitable manner, the remainder of this chapter seeks to pay homage to her work (as well as the work of individuals such as Ana Mihalcea, Len Ber, David Nixon, Mateo Taylor, La Quinta Columna, Mojmir Babacek, and other like-minded individuals). I hope she will forgive me for the parts that I might get wrong (I recommend going to the source in such matters rather than sticking with me), and, I also hope she will forgive me for, at times, going in directions that she might not take or with which she might not agree, but as far as everything that might be right in what follows is concerned, this is due, in no small measure, to her efforts and work.

She uses the term "psinergist" to refer to people who seek to operate out of a perspective that is similar to hers in conjunction with the issues to be discussed in the present chapter. As such, I don't know if I can be called a psinergist, but, I have aspirations in that direction.

Sabrina also has indicated that one of the qualities of a psinergist is a willingness to be wrong and, therefore, have a readiness to course-correct when necessary. This is a quality with which I strive to be in compliance, and, consequently, perhaps there is hope for me yet.

There is a popular saying among the AA community which advises a person to: "Take what you need and leave the rest." I concur, but, one might also note that sometimes what we leave should be objectively engaged – as best we can – before we bid it a final farewell … or, maybe, before we say: "auf wiedersehen," which, in the present context, could mean that an individual is prepared to shelve various considerations until they are seen again (wiedersehen) at some later time when one might be more inclined to critically reflect on such possibilities, and, if necessary, modify one's epistemological orientation as a result of experiences and thoughts one has had in the interim (an informal version of Bayesian statistical thinking).

Prior to tackling some of the issues entailed by modern bioengineering, an important question on which to reflect is the following one. Are the instructions for life written in DNA, or does DNA consist of a set of codes for proteins – both actual (standard genome) and potential (constructed) -- which are selected, parsed, organized, and set in sequential motion by something other than DNA, and if it were not for this other dimension of biological activity, then, might one legitimately surmise that DNA would have little practical value in the absence of this other dimension of biological activity?

The foregoing question alludes to processes that give expression to epigenetics. Unless the codes for proteins that are present in DNA are generated at the right times, in the right places, in the right amounts, and in the right sequences, then, DNA – in and of itself -- can't really take one anywhere of biological interest.

There is a dialectic which takes place between DNA and the system of dynamics – i.e., epigenetics -- that regulates the way in which such DNA is given expression. Furthermore, epigenetics is the set of processes that links DNA with various aspects of the biological terrain in which DNA is embedded as well as links DNA to the greater ecological terrain in which any given biological terrain is embedded.

When action is needed, or when decisions have to be made, or when biological components have to be constructed in order to continue to exist within a given terrain and ecology, epigenetics generates the metabolic pathways that make such actions, decisions, and constructions possible within a biological context. DNA provides the words, and epigenetics spins the biological story which can be spun from those words.

The foregoing considerations are not only true for the set of approximately 20,000 "standard" genes that are among the genes which had been discovered and sequenced during the Human Genome Project (October 1990 through April 2003 … a few more genes from stragglers resisting analysis -- such as the Y-chromosome -- have been added since then), but the aforementioned logistical issues also are relevant to the 70,000-75,000 genes that have been discovered which are not coded for by the aforementioned standard set of genes but, instead, have to be improvised on the fly. In other words, epigenetic dynamics have regulatory oversight concerning the logistics of gene

expression, both with respect to "standard" genes but, as well, in relation to the 70-75,000 proteins which have to be cobbled together from sequences of nucleic acid that are drawn from different locations of genetic material within a given cell.

In addition, there are non-coding genes (genes that do not code for proteins) which provide the nucleic acids (both DNA and RNA) that are translated into various kinds of regulatory and functional RNA. Among these RNA-based biological components are: Ribosomal RNA (which forms part of the biological mechanisms that translates mRNA sequences into amino acids and proteins), transfer RNA (transports amino acids), and regulatory RNAs (which determine, among other things, whether, or not, some gene will be expressed).

Coding genes (genes that can be translated into proteins) and non-coding genes (code for something other than proteins) must be synchronized (or brought together) at times, places, amounts, and sequences which will lead to metabolic pathways that will enable cells to carry out their functional missions. Unless coding and non-coding genes are processed in ways which permit their respective products and regulatory activities to be properly coordinated, then, dysfunction arises, and life becomes untenable.

Proteins, by themselves, are not enough for life to be manifested. The nucleic codes for proteins are like words in a dictionary – namely, unless there is a way to provide such coding with the right kind of semantic and syntactic structures of a biological nature that can be sequenced or organized in a set of sentences and paragraphs (i.e., metabolic pathways) that form meaningful (i.e., biologically functional) sentences and paragraphs [i.e., concerning anabolic (building up) and catabolic (tearing down) processes], then, the foregoing dictionary has limited value.

A dictionary does not contain the regulatory dynamics which are capable of putting the words in that book together in a manner that has syntactical and semantical value. Similarly, a genome does not contain the regulatory dynamics which are capable of putting together the words (genes – proteins) contained in that genome in a manner that has syntactical and semantical biological value (i.e., life).

There are approximately 40 trillion cells in the human body. Most of those cells -- but not all (e.g., blood cells and platelets) -- contain DNA.

The DNA sequences which are present in the cells that do contain genetic material are pretty much the same. Yet, that genetic material is not necessarily expressed in the same way as one goes from one cell type or tissue type to another.

Different cell types have different sizes, shapes, and functions. These differences in sizes, shapes, and functions are due to the way epigenetic processes determine which genes are to be expressed and how the genes that are selected are to be expressed (e.g., when, where, how much, sequence, termination, etc.).

In other words, the liver, kidneys, brain, heart, lungs, skin, stomach, colon, muscle, bones, cartilage, and so on operate in the way they do because epigenetic processes regulate the manner in which the same basic set of genes are differentially expressed in each kind of tissue, organ, structure, or cell. However, such epigenetic dynamics don't necessarily originate from within the DNA, and, in order to better understand this point, let's take a closer look at certain aspects of epigenetic dynamics.

If the DNA in a cell were straightened out from its normally compacted form, it would measure about 1.8 meters or 5.9 feet. However, one wouldn't be able to fit a straightened -- nearly six foot -- sequence of genetic material into the nucleus of a cell which has a diameter of (on average) 6 nanometers, and, therefore, DNA needs to become much more compact when it is in the nucleus of a cell in order for it to be able to fit within such a very small volume.

During the process of compactification, DNA is wrapped around proteins known as histones. More specifically, DNA is wound around a set of eight histones, known as an octamer.

The combination of eight proteins (histones) and associated nucleic acids (DNA) is referred to as a "nucleosome". Each nucleosome consists of 146-150 base pairs of nucleic acids, and when folded and coiled, the nucleosome is referred to as "chromatin fiber".

The histones which make up the octamer or nucleosome are not all the same. The core of the nucleosome consists of two units of 'H2A-

H2B' (a dimer) as well as a tetramer (quartet) of 'H3-H4' which add up, collectively, to 8 histones.

Chromatin (i.e., coiled and folded nucleosomes) can exist in several structural conditions or forms. One form is called "euchromatin", while the other form is known as "heterochromatin".

'Heterochromatin' refers to a tightly coiled or condensed chromatin fiber. Transcription of DNA cannot take place when chromatin is in this tightly folded condition.

'Euchromatin' identifies a structural condition of chromatin in which there is a degree of loosening or uncoiling which, to some extent, separates DNA from histones. DNA transcription is possible in this semi-loosened or semi-uncoiled condition.

Histones have amino acid tails which extend out from the nucleosome structure. Enzymes, of one kind or another, place markers on those tails.

The foregoing sorts of markers indicate whether the genes associated with those histones will be activated or silenced – that is, turned on or off – by either, respectively, inducing the loosening of the compactified-coiled relationship between histone proteins and DNA, or preserving or maintaining that compactified-coiled status. Some markers will indicate that either activation or silencing is able to take place depending on where such markers are placed on a given histone tail by an enzyme.

The positioning or marker process involving histone tails is mediated by dozens of different kinds of dynamics. The four kinds of marking dynamics which have been studied the most are known as: methylation, acetylation, phosphorylation, and ubiquitylation.

Essentially, without getting bogged down in too many details, each of the four marking processes noted above is mediated by different enzymes which have the capacity to add certain chemical groups to histone tails or take away those groups from the tails. For example, in the case of methylation, there are different enzymes which, respectively, will add a methyl group (CH_3) onto a histone tail, or, alternatively, will take away such a group from a given histone tail, and, similarly, in the case of acetylation, there are different enzymes

which, respectively will add an acetyl group ($COCH_3$) onto a given histone tail or take away such a group from a given histone tail.

Depending on the nature of the marking process, adding certain groups, or taking them away, will have the effect of turning genes on and off by affecting whether the compactified relationship between histones and DNA is, respectively, loosened or preserved. When the aforementioned compactified relationship is loosened, then, DNA tends to become available for transcription by RNA polymerase which allows RNA sequences to be transcribed from DNA, and such RNA sequences, then, can be transferred to ribosomes in the cytoplasm outside of the nucleus and translated into amino acids and, eventually, proteins.

Tissue type depends on the sets of genes in the genome of a cell's nucleus that will be collectively and sequentially turned on and off over time and in response to changing conditions. The process of differentiation that is at the heart of biological development or maturation takes one from, on the one hand, stem cells (cells that are still free to develop in any direction and have, not yet, become dedicated to certain kinds of cellular functions) to, on the other hand, specialized cells of different kinds that make possible the functions and properties of different tissues, organs, and biological structures.

Although a fair amount is known about the foregoing sorts of dynamics, there is one thing that is not known. No one knows what has regulatory oversight concerning such epigenetic processes.

In other words, scientists know something about the mechanisms which are involved in the turning on, and turning off, of genes. They also know something about what happens when certain genes are turned on and off.

However, what scientists don't know is what decides when genes are to be turned on and off in the context of a complex set of metabolic pathways. What scientists don't know is what decides how various chemical markers (such as methyl or acetyl groups) are to be added or taken away from which tails of which histones in which nucleosomes at what times. What they don't know is what regulates the complex set of sequential processes involving compactification and loosening of the relationship between histones and DNA that make gene expression

and the interrelated pathways of cellular metabolism possible and functional.

DNA does not seem to control its own dynamic. Something outside of the genome appears to do this.

Naessens' somatids and/or Enderlein's endobionts and/or the microzymas of Bechamp and/or the bions of Wilhelm Reich might individually, or collectively, be good candidates to account for processes of transduction that act on the genome in a regulatory fashion and organize the when, where, how, and so on of cellular metabolism (and one might do well to return to the first several chapters of this book to touch base with a way of looking at biology that is very different from what passes as biology today). Nonetheless, irrespective of whether, or not, any of the foregoing candidates can be shown to have a defensible capacity to account for epigenetic activity, what does appear to be clear at this point in time is that no one in modern biology has been able to propose a plausible account for how the regulatory dimension of epigenetic dynamics might actually work in which certain enzymes are generated for the purpose of carrying and transferring specific chemical markers (and there are dozens of such markers) to various histone tails and transfer those markers to one histone tail rather than to another and on one part of a histone tail rather than another part of that same tail and do so in a way that will induce the expression of one or more genes at a given time, place, amount, and in one sequence rather than another.

Once such regulatory oversight has been issued, scientists have a fair understanding concerning certain aspects of what transpires next. Nonetheless, as far as the process of regulatory oversight itself is concerned, scientists have little, or no, understanding what is responsible for such regulatory oversight or how those epigenetic regulatory instructions are formed, issued, modulated, and terminated.

In short, the genome is the clay that is selected, shaped, molded, organized, and set in motion by the dynamics of epigenetics. The clay does not appear to sculpt itself – or, at least, no one to date appears to have been able to have shown that this is the case.

When one asks scientists about how epigenetics works at its most fundamental level (that is, the level which has regulatory oversight concerning gene expression with respect to: When, where, for how

long, in what quantities, and in what sequences different genes are designated to be expressed), the answer to such questions tends to be a variation on the following response. More specifically, scientists tend to say that the foregoing kinds of issues are an active area of research, and this is just a euphemistic way of saying: "We don't know."

Why has so much time been spent over the last 5 pages, or so, on outlining some of the basic principles of epigenetics? Or, asked in another way, what does epigenetics have to do with biophysics, bioengineering, nanotechnology, and synthetic biology?

If one were to reduce trans-humanism down to one issue, this issue would have to do with the way in which bioengineering-synthetic biology seeks to impose an arbitrary, artificial, and synthetic system of epigenetics on human beings in which the scientists and the medical-health people who operate such a system have self-servingly accrued to themselves the authority to be the ones who should regulate everyone's epigenetic system. This arrogance is particularly offensive because the foregoing sorts of people do not know how epigenetics actually works in any living organism and, as a result, they want to introduce an artificial system which they do know something about and substitute it for a natural system which they know very little about.

Although bioengineers and synthetic biologists often talk in terms of how they are trying to enhance human beings, this is not what they are doing. They are substituting something arbitrary, artificial, and synthetic as a way of erasing and extinguishing what they do not understand and which has eluded their understanding and which, as a result, they seem to have come to resent and for which they appear to have developed a contempt and hatred concerning that which they do not understand … or choose not to understand.

This is not enhancement. This is reducing human beings to a level which seeks to induce human beings to become a synthetic, arbitrary, artificial form of palimpsest relative to an underlying human potential that is being erased, silenced, and/or excluded.

There is a difference between "imposed, synthetic epigenetics" and "natural epigenetics." Nanotechnology (and related fields) is (are) nothing but the imposition of an oppressive and technological form of epigenetics onto human beings in a manner which is devoid of

informed consent. This artificial and arbitrary form of epigenetics is rooted in an ignorance which wishes to frame the toxic knowledge of various kinds of bioengineering as a form of health and well-being when, in reality, its approach to epigenetics is entirely about having control over the process of epigenetics and push human beings in a non-natural and problematic direction.

Transhumanism wants people to submit to its notion of what human beings should be and how the bodies and minds of human beings should function. The transhumanists want to be free to turn people's genes on and off according to the likes and dislikes of those transhumanists, and this is nothing but a completely arbitrary and artificial form of epigenetics that is designed to hide the extent of the ignorance or willful blindness which transhumanists have concerning human potential.

The foregoing notion of artificial epigenetics is about what certain people can do in the way of technological innovation. Unfortunately, the sort of innovation to which allusions are being made in the foregoing comments seeks to treat the ignorance or willful blindness in which that kind of innovation is rooted as giving expression to something other than the toxic form of knowledge which it actually is.

During the 1920's and 1930's, a lot of interesting, ground-breaking work was taking place with respect to the way in which light and matter interacted. Paul Dirac, a British scientist, had developed a theory concerning the way in which light and matter might interact with one another, and, later, introduced the term "quantum electrodynamics" to refer to a system of mathematical description which can be used to characterize those dynamics.

The foregoing starting point went through a number of perturbations before being refined in a form that led Richard Feynman, Shin'ichiro Tomonaga, and Julian Schwinger to win Nobel prizes in 1965 for their conceptualizations of how light and matter interact with one another – a formulation that has become part of the standard theory of quantum dynamics. There were certain discrepancies or divergences which showed up between mathematical computations and experimental results that were dealt with through a mathematical technique known as renormalization in which infinities

are mysteriously re-absorbed into certain values considered to be constants.

Feynman always felt there was something not quite mathematically right about the renormalization technique. Stated in another way, no matter how well a mathematical methodology is able to rid one of the pesky mathematical infinities which often show up during computations, one has difficulty from an ontological perspective (and not just a mathematical perspective) understanding the existential dynamics which would enable those sorts of infinities – if they actually existed – to suddenly disappear simply because one had made a computation or two.

There are those (for example, Max Tegmark in modern times and Pythagoras in ancient times) who believe that the ultimate structure of physical reality is mathematical in nature. I've always felt that these sorts of beliefs were a form of reifying mathematics and, as a result, tended to obscure the idea that, at best, mathematics provides ways to describe different facets of experience rather than constituting or serving as an ontological basis for reality.

Much of bioengineering, transhumanism, artificial intelligence, synthetic biology, and nanotechnology are computational or mathematical in character. While such computations might enable the foregoing sorts of researchers to suppose that they are discovering, or gaining insight into, fundamental aspects concerning reality, nonetheless, just as non-natural or artificial forms of epigenetics seek to force-fit their understanding onto reality (and, in the process ignore natural processes of epigenetics), so too, much of what bioengineering and related fields do entails forms of understanding – however technically proficient such understandings might be – that confuse those understandings with the realities which actually make those modalities of understanding possible.

For example, consider the issue of the biofield. In the 1930's Alexander Gurwitsch – a Ukrainian – discovered a method for detecting and measuring biophotons.

Biophotons can be observed at rates that are above what is associated with the thermal radiation which is emitted by tissues at normal room temperatures. Consequently, biophotons are not just a form of thermal radiation.

Biophotons are a radiant form of energy that can be observed in the form of both visible frequencies (low) and ultraviolet frequencies. Depending on circumstances, this energy has been observed to be manifested over ranges that run anywhere from one to a thousand photons per centimeter squared, per second in relation to human biology.

DNA and biophotons also have an on-going relationship. To what extent such biophotons are a byproduct of the quantum interactions among the different components of DNA (phosphates, sugars, and nucleic acids) and to what extent DNA might serve as a complex sequence of transducers for a form of energy that arises from elsewhere and is transmitted through DNA is uncertain.

As noted in the second chapter of this book, Naessens indicated he believed that somatids were more basic or fundamental to the life process than cells were and that somatids appeared to serve as precursors of some kind for DNA. Therefore, conceivably, DNA might serve as a transducer for certain kinds of energy that are being transmitted to biological cells through DNA as a result of somatid black box dynamics.

Whether biophotons are a function of DNA activity and/or a function of somatid activity, and/or they are a function of, say, the quantum dynamics which takes place in the phenomena of structured water which takes place in every cell of the body, their existence has been confirmed. The tissues of the body emit biophotons.

Although the term “biofield” came into existence during a 1992 gathering which had been organized by the Office of Alternative Medicine, which is part of the National Institute of Health in America, nevertheless, the phenomena to which the tern “biofield” alludes have been observed, studied, and applied for thousands of years. In this latter sense, the notion of a biofield is – at least in part -- a means of referring to the collective activity involving all the ways in which biophotons -- and perhaps other forms of energy as well -- are generated in and/or through the human body.

Those biophotons had been emanating and giving rise to various phenomena long before 1992. Indeed, biophotons, whatever their

source or sources, are likely to have played important roles in biological functioning since life first appeared on Earth.

Before outlining some of the complexities of biofield dynamics, let's take a step back and talk about energy in general. For example, some physicists describe energy as a capacity to do work – that is, a capacity to displace a material form from one position, level, state, or dimension to another position, level, state, or dimension via a force of some kind in a given period of time.

Engaged in the foregoing fashion, one might never know what energy actually is. All one can say is that due to the fruits of its presence – namely, the displacement of something over time – energy of some kind seems to have been flexing its metaphorical muscles in order for various phenomena of displacement to be able to take place and, possibly, observed through one method or another.

The four basic forces of physics with which many people are familiar [namely, gravitational, electromagnetic, the weak force (involved in such things as nuclear decay), and the strong force (regulates the interaction of quarks] give expression to the interaction between bosons (carriers or transmitters of force) and fermions (that which tends to be affected by boson-carrying forces). When fermions are affected by the presence of bosons, work is done because material forms (i.e., fermions) are being displaced in some way through the application of force (i.e., boson dynamics).

The presence of a force implies the existence of some kind of energy. In fact, one might say that force is a form of directed energy (vectors, tensors, and so on) – although the nature of what organizes the directional dynamics to which such energy gives expression is not always clear.

To the foregoing forces, one must add the Higgs boson – a term which is less familiar to individuals who might know about the other four forces of physics. When the Higgs field is excited in certain ways, the field gives rise to Higgs bosons in ways that can be calculated but which are not entirely understood and which appear to possess a mechanism or means of transferring or inducing certain properties of rest mass to become manifest.

Although some individuals describe the Higgs boson as that which confers a rest mass of sorts to fundamental particles, this might be a misleading way of thinking about those dynamics. If the rest masses of various fundamental entities are different from one another, then, whatever the Higgs boson is doing, it is interacting with those entities according to the manner in which the latter are capable of responding to, or interacting with, the Higgs boson.

In other words, it takes two to dance. The dance of the Higgs boson and fundamental material entities involves steps which each of the partners in the dance must perform in order for rest mass to be manifested in one way rather than another in a given set of circumstances.

Qi [(ch'i), Chinese approach], ki (Japanese perspective), prana (ayurvedic orientation), nur (Islamic framework), all refer to forms of fundamental energy that have prominent places in various kinds of medical and spiritual practices. Undoubtedly, there are terms other than the foregoing ones that exist in various indigenous traditions from the Maori in New Zealand to the Mayans of South America to the Navajo of the Western United States to the Blackfoot Natives of Canada which also make reference to such fundamental forms of energy.

One might suppose that the four foregoing terms are either different ways of referring to the same phenomenon or that they each are uniquely related to, or manifestations of, an underlying set of dynamics that gives expression to what makes different dimensions of reality (including life) possible. For example, Taoists might refer to the foregoing phenomena as the "unnamed Tao, and some Sufis might refer to such phenomena as manifestations of the 'Breath of the All-Merciful', and some Japanese Buddhists might use the term "tariki" to refer to a form of other power that transcends human beings.

What is the nature of the relationship, if any, between, on the one hand, gravity, electromagnetism, the weak force, the strong force, or the Higgs Boson, and, on the other hand, Qi (ch'i), ki, prana or nur (or any other term which plays a similar role in other spiritual/medical traditions)? Are we talking about entirely different sets of forces or energies (one set being material/physical in nature, the other set being spiritual/biological in nature), or is it possible that the five basic forces of physics are transduced expressions of a more fundamental set of

forces or energies involving, among other possibilities, Qi (ch'i), ki, prana, or nur?

Another way of engaging the foregoing issue that is related to the focus of this chapter is to ask: Is the biofield purely a physical phenomenon that is a function of the dynamics of the five forces of the standard model of physics through which biophotons are generated by, and become organized within, a biological frame of reference (according, for instance, to the manner in which, say, meridians of energy run through the body and cluster at certain nodal points known as chakras which exhibit functional properties that are different from one another)? Or, alternatively, is the biofield a manifestation of something that is other than, or, in some fashion, deeper than, the five forces which form the standard model of physics?

Perhaps the chakras are comparable to an iceberg. On the surface, one encounters biological lines of transmission and physical/material nodal complexes which serve as portals that, when properly activated, are able to give expression to different kinds of phenomena, and, yet, below those meridians and nodal complexes is a realm of forces, energies, dimensions, and realms that are not well understood.

Human beings are able to use forms of technology which they do not understand (for example, most of us know how to drive modern cars without necessarily knowing much about the complex electronic circuitry which makes those vehicles work in the way they do). Similarly, one might suppose that human beings have the capacity to make effective, intelligent use of the chakra system without necessarily knowing how that which exists beneath the ontological hood of the chakra system is able to make that system, or its potential, possible.

When joined together in some set of functional combinatorics, can the five, aforementioned physical forces produce life, or is life something independent of, even as it makes use of, and is shaped by, such physical forces? Are phenomena like Qi, prana, ki, or nur forms of vital-energy which cannot be reduced down to being emergent functions of, or generated through, the five forces of standard physics but which, nonetheless, engage in an existential dance with those physical forces such that every modality of force or energy contributes, each in its own way, to the shape and properties of the biofield?

How one perceives the nature of the biofield has the capacity to affect how one engages or treats that field. For example, should one assume that the biofield is a resource to be exploited as other material/physical resources often are exploited or is the biofield an expression of a set of deeper principles which are ignored only at one's own ontological peril as well as the ontological peril of humanity in general?

Irrespective of how one might conceive of the notion of biofield, when monitoring devices such as electrocardiographs, electroencephalographs, smart watches, fitbits, and the like are employed, those methods only have something to report because they use sensors that are able to capture certain dimensions of the dynamics present in a person's biofield. There are a bevy of biosensors – in both hardwired and wireless forms -- which can be connected to a human being's biofield for purposes of tapping into various biological functions which are present in the biofield.

Furthermore, the research of Clifford Carnicom, Ana Mihalcea, David Nixon, Len Ber, Robert Young, Mateo Taylor, La Quinta Columna, and others have uncovered some interesting – if shocking – evidence in conjunction with the materials that are finding their way into us as a result of receiving vaccines (including mRNA injections), as well as the ingesting of metals -- such as aluminum, barium, and/or strontium – together with the consumption of various forms of nano-particles that are present in, among other things, chemtrails and which, eventually, become part of the air that human beings and other organisms breathe, or the water that they drink, or the food that they eat. More specifically, components which are present in the aforementioned vaccine, mRNA, and chemtrail materials have the capacity to: Self-assemble into sensory antennae (which can broadcast whatever kinds of biological information such sensors are geared to detect), or provide material components (in the form of nano-particles, graphene, and metals) which also exhibit self-assembly forms of dynamics that give rise to routers (devices that have the capacity to identify certain kinds of information within a given network (say the body) and, then, transfer that information to an appropriate network destination), as well as actuators (devices capable of translating energy of some kind

into a mechanical force or vice versa, such as in the case of piezoelectricity).

The general population has not asked to be subjected to the material/technological fallout from vaccines, mRNA jabs, or chemtrails. The general population has not given its consent for heavy metals, nano-particles, and graphene to be allowed to contaminate air, water, and food or to be jabbed into their bodies, nor has the general population given its consent for such materials to be able to undergo processes of self-assembly in their bodies which result in devices that can send information and receive instructions, both of which can be turned into actions (mechanical, biochemical, or electromagnetic) that are capable of adversely affecting a person's health.

Obviously, whoever is responsible for injecting toxins into human bodies and/or releasing chemtrails are engaged in the active application of a toxic form of knowledge which is being used to poison human beings as well as the ecological terrain which surrounds human beings and other living organisms. The injurious and lethal impact which follows from the injection of toxic materials and the intentional release of toxic nano-particles – whether with or without the presence of chemtrails -- constitutes evidence that the people who are responsible for this state of affairs have no respect for the natural biofield which is present in all living organisms and such perpetrators of toxicity have been taking steps to replace our natural biofield with a synthetic, artificial, set of dynamics which has the capacity to lead to chronic illnesses, death, or various forms of mind control, depending on the intentions and agenda of the individuals who have control over the information which is being sent from, or to, the self-assembled systems that have been proven by the aforementioned researchers to exist in human beings.

One should keep in mind that what happens in one individual's biofield might not be restricted to just that individual's biofield. This interaction of different biofields has both constructive (e.g., phenomena involving the laying on of hands as well as empathic/compassionate connections with other people) and problematic possibilities (negative moods and attitudes have contagion-like properties and can pass from biofield to biofield).

For example, studies have been done (e.g., see "Biofield Science and Healing: History, Terminology and Concepts" by Beverly Rubik et. al.) which demonstrate that the magnetic field which is associated with the electrical activity of a given person's heart can be detected nearly 6 feet away by means of a magnetocardiogram. Moreover, through such measurements one can demonstrate that the R-waves of a given individual's electrocardiogram can become synchronized with the appearance of alpha waves in the electroencephalogram of another person across a distance of five feet.

In other words, the dynamics of the biofield of an individual do not exist just within an individual. Those dynamics – whether in part or as a whole -- extend out from an individual.

The foregoing, experimentally demonstrated, phenomenon might be connected with a form of "shedding" in which certain electromagnetic dynamics or properties that are present in one person's biofield are transferred or transmitted to another individual's biofield. That phenomenon could be understood as a form of load balancing.

By way of illustration, let us suppose that two people are in proximity to one another, and one of those individuals is a targeted individual (and, therefore, subject to receiving transmissions of pulsed frequencies that are experienced as injurious in one way or another (physically, emotionally, socially, and/or cognitively). Conceivably, the frequencies which are directed toward a targeted individual might be passed on, or spill over to, an individual who is nearby if the conditions where right and, as such, would help balance or complete the distribution of an energy/frequency load within a given network of transmission, somewhat like when lightning appears to arc out when striking a primary object and uses other nearby objects to complete a circuit of least resistance to becoming grounded.

The aforementioned experiments involving heart and brain activity serve as a proof of concept indicating that different aspects of the biofields of various individuals have the capacity to not only interact with one another but actively shape, to varying degrees, what takes place in those juxtaposed biofields. Of course, what we are able to measure might only constitute an extremely limited window into

the extent of the interactional dynamics that is possible among the biofields of different individuals.

In 2013, an article ("Cracking the Bioelectric Code: Probing Endogenous Ionic Controls of Pattern Formation") by AiSun Tseng and Michael Levin was published in the January/February edition of *Communicative & Integrative Biology*. The article was well-received in the overlapping worlds of technology, medicine, and academia.

The paper is typical of many of the articles that are being written in conjunction with issues concerning the bioelectric field. Such papers tend to only consider the aspects of that field which, like an iceberg, are above the water line of methodological visibility.

More specifically, the only aspects of the biofield which appear to be important to such researchers have to do with those processes which are a function of the basic forces of physics and chemistry that are manifested in biological dynamics which are amendable to available methodological techniques. The vocabulary of those articles is limited to terms such as: "resting potential," "ion channels," "voltage gradients," as well as "transmembrane potential"

Unfortunately, that sort of vocabulary seems to be motivated by a desire to shape the dynamics through which bioelectricity alters the way in which physiological states can be transformed into an array of biological outcomes. This is done by affecting the manner in which different cell types – ranging from stem cells to neurons – can be induced to express themselves according to the wishes of such researchers to modulate processes – such as those that are involved in developmental biology -- by manipulating the dynamics of bioelectricity and doing so in isolation from other considerations irrespective of whether, or not, those considerations are relevant to the nature of a human being.

Researchers like Tseng and Levin appear to tend to restrict themselves to whether, or not, some technical problem can be solved and, if so, how to go about solving it, but, unfortunately, such individuals often seem to be inclined to shy away from, if not ignore completely, questions which raise issues about whether, or not, those sorts of technical problems ought to be resolved in the absence of critical reflections concerning how what those individuals want to do fits in with potentially deeper issues of human nature. Engaged from

this latter perspective, the kind of science pursued by those researchers is exceedingly shallow irrespective of how technically complex those superficial considerations might be.

Of course, some bright individual will respond to the foregoing commentary by indicating that what people like Tseng and Levin are doing is the way in which science works. One goes with what can be observed and measured, and, then, one proceeds to manipulate the observable and the measurable until one comes up with a hermeneutical framework which, hopefully, can be encoded within one mathematical system or another which will enable one to generate outcomes that might excite someone in the catacombs of the publishing world, or which could serve to further one's career in some fashionable manner, or which might help one to acquire grant money, or attract the interest of venture capitalists, or to secure one's place in the scientific community until, according to the Eagles, the next new kid in town comes along.

Tseng and Levin want to understand and learn how to control the information that is present in physiological networks. Furthermore, they believe that a key to developing such insights involves cracking the bioelectric code which shape and operate those networks.

For Tseng and Levin, cracking the bioelectric code is entirely a technical issue. It never seems to be, fundamentally and primarily, a moral or spiritual issue.

If the bioelectric code can be cracked, then, this would carry all manner of implications for transforming synthetic bioengineering, developmental biology, and regenerative medicine. The foregoing possibilities frame their discussion in a manner that tends to remove from visibility any considerations that might create a healthy doubt or skepticism with respect to whether such transformative possibilities ought to be pursued.

Tseng and Levin believe that cracking the bioelectric code is a matter of probing and, thereby, coming to understand how biological pattern formation is a function of controlling ionic dynamics. However, by posing their perspective in the foregoing manner, they never seem to be willing to ask: How is the biofield affected when one is engaged in altering the way in which ionic phenomena can change pattern formation in this or that biological system?

The foregoing issue resonates with a line from the movie and play: *A Man for All Seasons* in which the Sir Thomas More character says: "Why Richard, it profits a man nothing to give his soul for the whole world" (and, then, looking at the medallion hanging from the neck of Richard Rich – indicating that Rich is the Attorney General -- says with such compassionate incredulity) "… but for Wales?" One could easily imagine Sir Thomas More making the same Biblical reference to the two authors of "Cracking the Bioelectric Code," … and replacing the phrase: "but for Wales" with the phrase: "but for synthetic biology?" and delivering the line with the same sense of incredulous compassion.

People who support the work of individuals such as Tseng and Levin will want to say that those researchers are concerned with science, not alternative forms of medicine or issues of spirituality. To which one could respond: Why should considerations of science be given preference to considerations of alternative medicine and spirituality?

The foregoing question is especially pertinent in light of the considerable evidence which has been accumulated by researchers such as Sabrina Wallace, Len Ber, Ana Mihalcea, Robert Young, David Nixon, and Mateo Taylor that many of the people who rave about the scientific discoveries of individuals such as AiSun Tseng and Michael Levin concerning certain breakthroughs involving the bioelectric code wish to use those discoveries, and others like them, to manipulate the bioelectric codes of individuals in ways that will fundamentally affect a person's biofield in potentially dysfunctional ways, and, yet, these acolytes of technology and transhumanism intend to do so without the individuals who are being adversely affected having the right to informed consent with respect to whether, or not, the latter individuals wish to be affected through the presence of the transformative tools of synthetic biology.

Tseng and Levin end their article concerning the breaking of the bioelectric code with a hypothesis. More specifically, they maintain that the methods of computational neuroscience which are being established can be used to remodel tissue in dynamical ways.

The two authors go on to add a further consideration. If their hypothesis is true, then, such an understanding will pave the way to

making tremendous advancements in fields such as: Bioengineering, hybrid cybernetic bio-robotics, and synthetic morphology.

Unfortunately, nowhere in their foregoing hypothesis, or its transformative implications, does one find any consideration about what might be in the best interests of the human biofield of which bioelectric phenomena are a part, or whether, or not, there might be epistemological boundaries inherent in ontology which ought not to be violated – especially by people who are driven to make whatever Faustian bargain seems to be promising and, as a result, their capacity to be truly objective is severely impeded. Instead, everything is about control, manipulation, and transformation of the material/physical/biological realms irrespective of whether those kinds of dynamics are conducive to the well-being of humanity.

Just as those who are committed to the cause of synthetic biology, hybrid cybernetic bio-robotics, nanotechnology, and transhumanism scurry about in their laboratories ignorant of the true causes of epigenetic dynamics, and, as a result wish to replace or suppress what they don't understand with something that they do understand (at least to a degree), so too, those same sorts of individuals – as is evidenced by the "Breaking the Bioelectric Code" article – are quite prepared to engage in whatever manipulations, transformations, and forms of control that can be invented in conjunction with a limited dimension of the biofield notwithstanding their complete ignorance about how that bioelectric code might interact with the biofield considered as a whole, and this context of wholeness includes the ways in which energies such as Qi, ki, prana, or nur might affect biofield dynamics in a manner that carries one well beyond the horizons and limitations of the bioelectric code as understood, in such a limited – but highly exploitable manner -- by people such as Tseng and Levin .

Nearly 60 years ago, I took a German course in order to satisfy a language requirement that had to be satisfied as part of the requirements needed for graduation from the college that I was attending. One of the assignments in that course involved reading and translating a story that was based on a fictional creation of Swiss

writer, Max Frisch, entitled: “Biedermann und die Brandstifter” – that is, ‘Biedermann and the Arsonist.’

As I remember the story – which might not be entirely accurate but is, hopefully, sufficiently close to serve my current purposes, the story begins with Biedermann reading a news story about a clever arsonist who is on the loose in the city. The arsonist has been able to fool people in various ways as the fire-starter goes about preparing to incinerate things. After reading the story, Biedermann indicates that he could never be taken in or fooled by such an individual.

Biedermann has a room or some space to rent and begins to interview potential candidates. Prior to, during, and following Biedermann’s interaction with the person whom he selects to rent some space, there are various forms of notices given in the paper and over the radio which warn the public to be on the lookout for a person who is an arsonist and who, already, has started a number of fires in the city.

The individual to whom Biedermann rents space begins to store items in that area. In fact, over a period of time, the man brings all manner of incendiary materials to the rented space … barrels of oil, rags, kerosene, matches, and so on.

Biedermann is quite ready to help the man to move the materials into the rented space but as Biedermann does so, he also asks questions about why such materials are being moved into the rental space. The man offers various explanations in an attempt to account for such activities.

Biedermann accepts those explanations. However, as the man is bringing incendiary materials into the house, and as the man is giving explanations which are being accepted by Biedermann, there are continuing news stories and announcements concerning the fact that there is an arsonist on the loose in the city and that everyone is in danger.

The story works its way to its inevitable end. A case of arson erupts.

The story was intended as a satire. It was meant to illustrate – depending to whom one talks or reads – the Soviet overthrow of Prague, Czechoslovakia or the Nazi subjugation of the Germans and

how, despite, the occurrence of a variety of warning-like events which were public knowledge, people went along with the explanations that were being given by government officials or the media and, thereby, fell victim to political manipulators who proceeded to burn down people, buildings, cities, and governments.

The foregoing Max Frisch story seems to capture the gist of what has gone on in America over the last 50-60 years. Arsonists have come to power in the United States and have proceeded to provide the public with various narratives in an attempt to explain away a series of events which should have been treated as warning signs but which, instead, have been dismissed in favor of the sort of problematic narratives that often are offered by officials from government, the media, and academia.

As a series of exercises in this regard, one might critically reflect on the following considerations. The special treatment of corporations which began with the 1819 Dartmouth College vs. Woodward case; the formation of the Federal Reserve in 1913; the establishment of the NSA and the CIA; Operation Paper Clip; Operation Gladio in Europe following World War II; the Gulf of Tonkin issue; the U.S.S. Liberty; the Phoenix Program during the Vietnam War; the Watergate break in; Iran-Contra; the first Gulf War; the Panama deception and the invasion of Grenada; the assassinations of John Kennedy, Robert Kennedy, and Martin Luther King; Ruby Ridge; Waco; the Oklahoma City bombing; the 1993 World Trade Center bombing; the Balkan conflicts of the 1990s; 9/11; the anthrax attacks of October 2001; enhanced interrogation programs at Guantanamo and Abu Ghraib; the revelations of Perry Fellwock, Russ Tice, Mark Klein, William Binney, Thomas Tamm, Thomas Drake, and Edward Snowden; the 2008 financial crisis; the nearly double decade wars in Afghanistan and Iraq; the destruction of Libya and Syria; the lethal use of drones against innocent people by Presidents Bush, Obama, Trump, and Biden; the 2014 color-coup in Ukraine and the ensuring Ukraine-Russian War; the alleged COVID-19 pandemic; the directed energy fires in Paradise, California, Lahaina, Hawaii, Texas, Canada, Greece, Turkey, and Peru; the 2023-2024 genocide in Gaza, as well as the oppression of Palestinians for more than 75 years; the existence of hundreds of thousands of targeted individuals in the United States. The extensive

warnings which are present in the foregoing events can be denied only by exercising a most egregious form of willful blindness.

In addition to the foregoing considerations, let's engage in a certain amount of critical reflection concerning the way in which certain elements in America have busied themselves with the process of wiring the kill grids that have been, and are continuing to be, constructed throughout the United States. This topic was introduced and discussed, somewhat, during the latter part of the Chapter 8 but some of those themes can be further developed.

In 1958, President Dwight Eisenhower authorized Neil McElroy, Secretary for the Department of Defense, to issue Department of Defense Directive 5105.15 which established the formation of the Advanced Research Projects Agency. The Agency was assigned the task of, among other things, putting together a computer network which was supposed to help the United States to stay technologically ahead of the Soviets and prevent future repetitions of events like Sputnik being able to take American political and military leaders by surprise.

Virtually everything that the government does involves dimensions of dual usage. One kind of usage has to do with the narratives surrounding various forms of technology that are generated for public consumption and which seek to offer limited hangouts (and, therefore, often contain elements of truth) to account for why certain things are being done by the government, while the other kind of government activity has to do with the military uses to which technology can be put, and these uses often are quite different from the narrative that have been offered for public consumption concerning the nature and use of a given kind of technology.

What follows is a narrative which provides an account concerning the development of computer networking. For example, let's begin in 1969 (some eleven years after ARPA was formed) when Lawrence Roberts and Leonard Kleinrock used a packet-switching network technology which had been invented to transfer information from a computer at one site to a computer at another site.

Packet-switching technology is a process that breaks up a message into manageable packets and, then, later enables those packets to be reassembled into the original message once again. As a result, the ARPANET – or, at least, its first incarnation – was established.

In 1974, Vint Cerf and Bob Kahn developed a set of protocols which enabled computers to communicate with one another by using a common coding system that allowed information to be sent and received by those computers. This was known as TCP/IP (transmission control protocol)/Internet Protocol.

The TCP protocol organized how data moved through a network. The IP aspect of things enabled data to be able to find the destination for which it was intended through assigning such destinations with unique addresses.

Local area networks (LAN) began to form. However, as more computers were added to those networks, people were having difficulty keeping track of the IP numbers associated with so many computers.

Consequently, in 1983, DNS – or Domain Name System – was invented by Jon Postel and Paul Mockapretis. This enables IP number addresses to be converted into simple names.

Six years later, in 1989, while working at CERN, a British scientist, Tim Berners-Lee, developed an automated system for sharing information that enabled scientists around the world who were hooked into that system to be able to communicate with one another. By integrating computers, data networks, and hypertext markup language (i.e., html), a global information system had been established.

ARPANET was discontinued in 1990. The Internet – or the network of networks – replaced it.

Thus, over a period of just twenty years, a network of networks had been established. That journey went from packet-switching technology and ARPANET, through the advent of TCP/IP systems and LAN -- Local Area Networks – as well as the emergence of DNS -- Domain Name Systems – and, finally, hypertext markup language.

In the early 1990s, a college student -- who worked in the same department as I did within the University of Toronto library system -- created a local area network web page for me. I do not recall if any people actually found their way to the page, but such LANs gave expression to distributed forms of networking that began to entangle more and more people in a system of wiring that, over time, evolved from actual wires to wireless connectivity.

What also came into being during the aforementioned twenty year period was the advancement of a technology which was turning human beings into nodes on a net just as computers had been turned into nodes on a net. Whether the people who helped develop the foregoing network system understood the implications of what they were doing is neither here nor there because the bottom line is that there were people working in government who saw the possibilities of computer networking and how the protocols of networking could be applied to human beings.

ARPA was renamed DARPA (the Defense Advanced Research Projects Agency) in 1972. The agency went back to being known as just ARPA between 1993 and 1996 before returning to the acronym DARPA which remains to this day.

Whether the institution was known as ARPA or DARPA, there were people working at that institution who were involved in dual-usage research concerning computer networking. In other words, one story was given to the public concerning the nature of a given technology, but the military dimensions of that technology were hidden.

Evidence which helps establish a proof-of-concept notion concerning the foregoing claim was provided in Chapter 8. This is especially the case in conjunction with the research of Katherine Watt which has shown -- convincingly I believe -- that Operation Warp Speed was, from beginning to end, a military operation directed against most of the American people, as well as the vast majority of people of the world.

A cover story had been generated for public consumption indicating that a vaccine had been developed to protect people against an alleged virus (SARS-CoV-2) which no one had proven actually existed (like HIV). Parallel to, but hidden within, the foregoing cover story was a military operation in which toxic jabs were being used to transition human beings into becoming nodes on a network that could be controlled and manipulated according to the wishes of the overlords of the Warp Speed system.

Such overlords had the capacity to turn genes off and on via various forms of frequency following behavior. Through the use of the foregoing system of synthetic, arbitrary, artificial epigenetics, the

overlords – or their paid acolytes -- could generate chronic illness, death, or increased vulnerability/susceptibility to the dynamics of mind control by using button-clicking devices that sent frequencies to designated human addresses which could turn genes on and off.

The process of wiring the kill grid began with the advent of personal computers in the 1970s. In different ways, personal computers were used as a grooming tool that played upon various potentials for addictive behavior within human beings.

Gaming programs were one such grooming stream. However, there were other addiction-inducing dimensions to personal computers.

Up until the 1990s, personal computers were fairly limited in the way they could connect or wire people. Nonetheless, they were pulling and pushing people in certain directions, and these dynamics were iterations of a set of grooming and wiring processes.

When the World Wide Web came into being in the 1990s and began to evolve in a variety of ways, computers – and their operators – were (slowly but surely) induced to become nodes on various networks of connectivity that were being shaped in different ways by both the participants, as well as by shadowy elements within an array of military, intelligence, scientific, and corporate entities, both domestic and international in scope. E-mails, cyber communities, chat rooms, browser portals, search engines, web pages, blogs, social media, podcasts, streaming services, operating system updates, and so on all served as mediums through which people became connected and wired together, but these different dimensions of Internet activity also were mediums through which people were becoming groomed and taught how to serve as nodes on a network.

Search engine algorithms distorted the internet playing field in various ways. Videos and individuals could be artificially induced to go viral and become influential. The data that users gave the Internet could be used to frame what people saw and experienced. Trends could be generated, modulated, and terminated. Themes that were being discussed during conversations being held near to computers suddenly showed up in the form of product advertisements.

Choices that we might have thought were our own often were a function of subtle, and not so subtle, forms of manipulative communication which were modulating, shaping, orienting, and coloring our consciousness. In different ways, many people were being reduced to the status of nodes through which data were being routed in order to induce each node or human being on the network to operate in certain ways and, thereby, serve the purposes of the network.

Besides computers and the Internet, a third-prong of the wiring attack process involved different modalities of mobile phone technology which came into play toward the end of the 1970s. Although a cell phone prototype had been developed in 1973 and the citizens of Japan had had access to 1G technology as early as 1979, the first commercially available mobile phone product did not appear in the United States until 1983, and, a few years later surfaced in Canada.

Such phones were limited in the amount of battery-backed airplay they possessed (30 minutes or so). They also took a long time to charge, offered poor sound quality, were vulnerable to hacking because they had no encryption protocols, were marred by slow download speeds (2.4kbs), and provided no roaming coverage.

2G was introduced in 1991. Improvements were made in conjunction with all of the problems that plagued 1G devices – including sound quality, download speeds, encryption – and, in addition, 2G technology allowed for a limited amount of data transfer which, among other things, permitted text messaging to take place.

3G technology substantially increased data transfer capabilities (4 times such capabilities in 2G phones). This made services such as video streaming and chatting possible.

In addition, 3G technology -- which surfaced in 2001 (Blackberry went public in 2002 and the first iPhone emerged in 2007) -- possessed e-mail functionality and permitted users to access data from almost anywhere in the world. Moreover, although 2G had a limited capacity to access the internet, the download speeds of 3G technology made surfing the Internet a fairly streamlined experience and introduced the first early renditions of smart phone capabilities.

Toward the end of 2009, what was referred to as 4G technology began to appear. Technically speaking the early editions of these phones were not able to meet the technical specifications for 4G phones (which required download speeds that had been set at 12.5 Mbps by ITU-R, the organization that oversees radio communication dynamics) and, therefore, were actually high-end 3G phones.

Eventually cell phones became sufficiently advanced that they were able to perform in accordance with the technical specifications that had been set for 4G devices by the ITU-R. These capabilities enabled true 4G phones to run HD videos, offer on-line gaming, and provide high quality Internet access.

The networks on which 4G phones were running had reached their limits with respect to the rate at which data could be transferred. Consequently, in 2019, 5G networks began to emerge in various major cities and countries, beginning, first, in South Korea.

5G networks operate in the millimeter bandwidth range of electromagnetic radiation. Originally – and, in many ways, this continues to be true – 5G is at the heart of a set of military weapons.

Initially, it was employed in various kinds of radar systems, and many individuals who operated that equipment suffered from microwave radiation sickness. Today, 5G is being utilized by the military and militarized police forces in active denial systems and beam forming technologies.

5G technology is the gateway to phenomena such as readily accessible AI capabilities, cloud computing, and various iterations of the Internet of Things which not only will automate many aspects of social life via computer to computer communication, but, as well, will advance machine to human communication and, in the process, help close the circuit on the kill grid that was being built over the last 40 years, one technological innovation at a time.

Previous generations of cell phone technology groomed the public to be ready to embrace the 5th generation edition of such technology. The earlier generations of cell phones served as a form of scaffolding (paid for – through product purchases and taxes -- by the public) that permitted millimeter-based, military-oriented technology to not only

be built but to be seen as something that was beneficial to humanity and, therefore, desirable.

Arthur Firstenberg, author of *The Invisible Rainbow: A History of Electricity and Life*, does the voice over for a video which includes a short vignette that follows the actions of a small species of monkey of some kind that is seeking to eat some peanuts that are in a container. However, when the monkey places his or her hand into the container to grab a handful of peanuts and, subsequently, tries to withdraw the hand from the container, the opening of the container is not wide enough to permit the monkey to withdraw a hand that is filled with peanuts.

The monkey is likely to starve to death rather than consider the possibility that by releasing some of the peanuts that are held in the monkey's hand, the monkey is more likely to be able to successfully navigate the hand's passage through the container's opening and, thereby, acquire some of the peanuts that were initially sought. In the matter of cell phone usage, Arthur Firstenberg likens the behavior of human beings to the behavior of the foregoing monkey.

More specifically, many human beings have become so addicted to their cell phones that despite the existence of all manner of experimental evidence indicating that such technology is not only making them ill and killing some of them, but, as well, is implicated in generating adverse effects to many levels of life in the surrounding ecology. All too many humans appear to be intent on holding tightly to their phones even if -- like the previously noted monkey and the peanuts anecdote -- holding onto those phones increases the likelihood that illness and/or death will follow.

Real community involves people connecting directly with other people. Today, in all too many locations on Earth, there is no natural form of community in the foregoing sense, but, rather, everything is being mediated through electronic networks in which human beings are serving as nodes in the service of a purpose that is governed by data processing of one kind or another, and the data being processed involves setting up kill boxes by means of our cars, houses, bodies, and medical treatments.

Toxic knowledge -- packaged in alluring forms of technology (e.g., computers, smart phones, the Internet, AI) -- is being used to induce

people to become active agents in their own demise. A tipping point has been reached in which many avenues of escape have been shut down, made inaccessible, or removed entirely.

According to its own web page, the IEEE – the Institute of Electrical and Electronics Engineers – is an international, non-profit, professional organization that is committed to the sort of technical research and co-operative public policy initiatives which seek to benefit humanity through advancements in technology. Furthermore, the Code of Ethics to which each of the members of the aforementioned organization is required to subscribe as a fiduciary-like responsibility that is inherent in IEEE membership includes principles which not only consider the welfare, safety, and health of the general public to be of paramount importance, but, as well, that Code of Ethics requires all members to behave in a manner which adheres to rigorous standards of integrity in order that the activities of those members might avoid injuring people in the general public.

Although the IEEE organizes thousands of conferences every year, publishes millions of research papers, as well as provides an array of resources in support of more than a thousand active projects being conducted in 175 countries, perhaps one of its most critical functions comes in the form of the more than 1,100 standards that have been generated through an array of working groups which establish protocols and practices that are to govern how various aspects of electrical and electronic technologies will operate in any given human context. For instance, one of the working groups that have been initiated by IEEE members is designated 802.15 (WPAN) which focuses on wireless (W) transmission technologies involving various kinds of Personal Area Networks (PAN).

Subsumed within 802.15 are such categories as: IEEE 802.15.1 (Bluetooth); IEEE 802.15.4 (Low-Rate WPAN); IEEE 802.15.5 (Mesh networks), as well as IEEE 802.15.6. (Body Area Network, BAN). The last designation – namely, Body Area Network, refers to the network of wearable, implanted, ingested, and/or nano-technological devices which are capable of gathering information about, and making computations concerning, the way a given organism – for example, a human being -- is functioning.

Such information gathering and computational generating devices are also known as body sensors. Various kinds of body sensors gather different sorts of information and make computations concerning that information which are unique to, and reflective of, the kind of sensor being used.

IEEE.15.4 (Low-Rate Wireless Personal Area Network, WPAN) concerns the technical standards that govern the operation of sensors and devices which engage in radio transmission dynamics that are based on systems which operate with low power. Among other things, the standards for IEEE.15.4 specify the MAC or Media Access Control properties which regulate certain aspects of the communication process that are used in conjunction with the transmission medium that is present in a given WPAN system.

Zigbee, for example, constitutes a set of high-level communication protocols or IEEE.15.4 standards that govern wireless communications and which enable smart devices to "talk" with one another while only requiring low power to function. Zigbee is a mesh network technology (IEEE.15.5) which indicates that it has the capacity to operate in a non-hierarchical and self-organizing manner.

The Body Area Network which is governed by IEEE.15.6 standards or protocols is just one of many networks which exist. Starting on the nano-level and working one's way outward, we are sort of dealing with a foot bone is connected to the ankle bone which is connected to the leg bone, and so on, kind of scenario.

In other words, within the Body Area Network are Nano-scale networks which involve, among other things, the graphene-based and hydrogel-based materials that are being dumped on us through chemtrails and jabbed into us through so-called vaccines, and which are gaining entry into our bodies through the air we breathe, the water we drink, the food we eat, and the medicines we are being prescribed. Outside of the Body Area Network one encounters, for example, PANs, or personal area networks which connect the electronic devices (e.g., printers, scanners, speakers, and so on) that populate a person's work space, and based on the Nano-scale networks which have been forced upon us in a variety of ways, the BAN – that is our bodies – are also one of the electronic devices which can be connected to a given Personal Area Network.

Beyond Personal Area Networks are LANs or Local Area Networks. These are computer networks which connect computers and computer networks (such as Personal Area Networks) within an office building, institution, educational facility, hospital, set of laboratories, and so on.

Thanks to the Nano-scale computing networks which have been imposed on human beings through pharmaceuticals, vaccines, mRNA shots, chemtrails, food, air, and water (and the existence of such networks have been established as being very real through the research of people such as: Ana Mihalcea, David Nixon, Robert Young, Mateo Taylor, Len Ber and others), not only can our Body Area Networks be connected to Personal Area Networks, but, as well, we also can be connected to the aforementioned Local Area Networks by way of our Body Area Networks and the Nano-scale Networks that are present in those Body Area Networks. Similarly, due to the presence of Nano-scale Networks within our Body Area Networks, we also can be connected to: CAN (Campus Area Networks, which involve groups of Local Area Networks); MAN (Municipal Area Networks, which consist of city-wide wireless networks), and WAN (Wide Area Network, which extends over a wide geographic range.

The Internet is considered to be a WAN. This means that as a result of the Nano-scale Computer Networks which have been imposed on us without our informed consent and which are capable of sending and receiving sensory, computational, routing, and actuating data, we can be connected to the cloud, and this means that we are just nodes on a set of interlinking computer networks that can be used for purposes of sending and receiving data according to the likes and dislikes of whoever has operational control of such interlocking computer networks.

In 2020, Researchers at Purdue University (Shreyas Sen, Shovan Maity, and Debayan Das) invented a way of transmitting telemetry data through the human body which, among other things, lessened the likelihood that such data would be hacked and, possibly, compromised in some fashion. This method is referred to as “electro-quasistatic human-body communication”.

Rather than using wires to transmit data, the aforementioned system of communication uses the system of interstitial fluids that surrounds cells and which flow through the body. This marsh-like

system of fluidic movement contains all manner of substances – from: Nutrients, to: salts, hormones, proteins of various kinds, and other molecules which are essential to healthy biological functioning.

When water is left to its own devices, it tends not to be a good conductor of electricity. However, if a person adds different electrolytes and other kinds of molecules to that medium, then the conductive properties of water increase dramatically.

Obviously, given the foregoing considerations, intercellular fluids can serve as an electrical conductor capable of transmitting data from any given point within the body to any other point within that same body. This property of conductivity in intercellular fluids enables electrical circuits to be created.

The process of electro-quasistatic human-body communication takes advantage of a phenomenon which is usually a problem in certain contexts – namely, parasitic capacitance. This is the tendency of two electronic components which are near to one another -- but which involve different voltages -- to give rise to unwanted forms of capacitance or the storage of certain kinds of electrical charge in such components or circuitry which can lead to dysfunctional dynamics.

In other words, when one is considering adjacent conductors or circuits with respect to forms of communication involving (relatively speaking) higher currents within the human body, then, parasitic capacitance can interfere with the transmission and reception of data. However, electro-quasistatic human-body communication operates through low currents (involving about .01% of the energy required by Bluetooth) and actually enables circuitry to operate in a functional manner by virtue of the phenomenon of parasitic capacitance (as occurs with touch screen technology) and, thereby, preserves the character of what is being transmitted and/or received with only a low loss of data by helping to maintain a closed circuit.

The aforementioned Purdue University researchers indicate that by turning the human body into a communication channel through the use of electro-quasistatic human-body dynamics, the distance within which data transmission can be hacked has been reduced from between: 15 and 32 feet, or so, when Bluetooth is being used, down to about 15 centimeters or 5.9 inches when their method is used. Nonetheless, one might note in passing that the aforementioned

Purdue way is not only impinging on a human being's biofield (the nearly six inches of energy extending out from the body is being generated through biological dynamics) but, as well, the Purdue method has not eliminated the possibility of hacking but, instead, merely has made this harder to accomplish by decreasing the amount of space/volume that is vulnerable to hacking … as if military-intelligence personnel (along with many money-loving DARPA-funded technologists) wouldn't be intrigued by this sort of a challenge.

Furthermore, the materials in chemtrails also feed into the foregoing intercellular fluids circuitry system. Mark Steele, a British weapons expert, indicates that military researchers discovered, long ago, that heavy metals like aluminum, barium, and strontium could be used to paint targets more effectively on the battlefield. Consequently, when, through whatever means, such metals find their way into human beings, those metals can play different roles involving detection, sensory telemetry, and conductivity within the human body which can be tapped into by people (such as the military and the medical industry) which has the right tapping equipment.

In addition, the presence of meta-materials -- such as graphene and other manifestations of nano-scale technology which are present in chemtrails, vaccines, mRNA jabs, as well as various pharmaceuticals – also have the capacity to take advantage of the properties of the foregoing sorts of heavy metals and other nano-scale components. For example, researchers (such as Ana Mihalcea, David Nixon, Len Ber, Robert Young and others) have shown that when the forgoing sorts of heavy metals and nano-scale materials are present, then, sensor-like, transmitter-like, router-like, and actuator-like devices are able to form through processes of self-assemblage thanks to the nano-scale components that have been, and are being, imposed on us through chemtrails as well as through, among other mediums, vaccines, mRNA treatments, and pharmaceuticals.

Thus, although the idea of electro-quasistatic human-body communication can seem as if it were a boon to human beings, it also harbors a dark potential or underbelly. In other words, that technology can be leveraged for injurious purposes by toxic forms of knowledge which do not have the best interests of human beings in mind.

Given that electro-quasistatic human-body communication impinges on, and takes advantage of, the human biofield, one might be inclined to ask whether, or not, impinging on the biofield in accordance with Purdue University technology being outlined here is a good thing. Unfortunately, while the research of many of the scientists and engineers who seek to discover technologies which can be applied to the human being rely on, and presuppose, the existence of the human biofield, few of those individual ever appear to stop to consider what adverse ramifications their technologies might have for the health of the biofield with which they are interfering, and one very fundamental reason for such an oversight is that they actually have very little understanding of the biofield except for the part of that phenomenon which those individuals are seeking to exploit in some fashion.

The foregoing situation brings to mind a Shania Twain song. For instance, one stanza of her song reads: "Now every woman sees with every 'pretty please' there's a pair of lying eyes and a set of keys. He says 'come be a star' – Ohh! – in the back seat of my car," and the eventual, appropriate response is: "If you're not in it for life, if you're not in it for love … I'm outta here." There appears to be so much of the research involved in nanotechnology, synthetic biology, transhumanism, and modern precision medicine which seems to indicate that the people uttering the sweet nothings that are intended to entice the potential marks in the public to crawl or jump into the backseats of their offices, labs, and operating theaters might not be engaged in public health and medicine for purposes of either life or love.

If such people cannot be bothered to take the time to become familiar with my biofield and try to understand how what they are doing might adversely affect it, then, really, how sincere can those individuals be when they claim they want to make me a star in the back seat of their medical or health production? How can such individuals possibly be of help to me when they are reluctant – if not fiercely resistant -- to become epistemologically and morally intimate with that – namely, the biofield -- which has the potential to play such an important role in a person's life?

The IEEE Code of Ethics claims that its 460,000 members in more than 190 countries are committed to principles of character, such as integrity, which prevents those members from behaving in ways that might be injurious to the public or which could place the safety and health of the public in jeopardy. Yet, apparently, one is expected to believe that the nearly half a million electronic and electrical wizards working around the world are so woefully ignorant of what is taking place that they do not realize that their standards – such as IEEE 802.15 – are enabling all manner of injuries to take place to human beings (e.g., the tens of thousands, if not millions of people who are targeted individuals and have become subject to forms of torture which IEEE standards have, in part, made possible), and such standards or protocols are helping to place the health and safety of much of the world's population at the mercy of individuals who are abusing various protocols or standards that, according to the IEEE's web page, have been introduced for the purpose of benefitting humanity.

There are those who believe that there are many members among the IEEE -- as well as among other technically oriented corporations, institutions, military groups, and academic facilities -- who know exactly what is taking place and precisely how IEEE standards (as well as similar sorts of protocols devised elsewhere) are helping to create conditions which are conducive to the generation of human misery and tragedy. However, like the previously noted anecdote concerning a monkey that could not overcome base emotion and permit reason and/or character to rule behavior in conjunction with the problem of withdrawing a hand-full of peanuts through a container opening which was too narrow to permit the monkey's hand to be withdrawn as long as the hand remained filled with peanuts, so too, we seem to be surrounded by hundreds of thousands of individuals who appear to be incapable of allowing their base emotions to be regulated by science, reason, and character – the very principles which the members of the IEEE are supposed to endorse – and, as a result, apparently would rather allow themselves, and most everyone else, to perish, instead of actually abiding by the IEEE Code of Ethics that is supposed to govern their behavior.

IEEE protocols and standards appear to be helping to wire the kill boxes towards which everyone is being herded. As a result toxic forms of knowledge are being used to modulate the shape of things to come in a dystopian direction.

The notion of a Digital Twin was first introduced in 2002 by Michael Grieves, Chief Scientist for Advanced Management at the Florida Institute of Management, during a conference which had been sponsored by the American Society of Mechanical Engineers. He had proposed the idea of a Product Lifecycle Management program that focused on studying the way in which information might flow between a physical space and a virtual space when examining issues that were relevant to making decisions concerning the management of a product's lifecycle. Given the nature of the sponsor and the background of the individual who introduced the Digital Twin term, one should not be surprised to learn that, in the beginning, this idea tended to be defined as a digital representation, replica, or copy of a given product or physical asset.

However, over the last five years, or so, the notion of a Digital Twin has begun to show up in discussions and presentations which seek to apply the idea to human beings. For example, on June 10, 2019 the Nippon Telegraph and Telephone Corporation in Tokyo, Japan announced a Digital Twin Initiative which was an offshoot of its Innovative Optical and Wireless Network (IOWN) Initiative.

NTT was interested in exploring how high-speed broadband communications networks, along with information systems that were secure and safe, might be used to resolve various problems through the process of establishing what were referred to as "smart societies" which would be able to generate simulations based on the acquisition of digital information that would be rigorously precise in the manner in which that sort of information reflected real world objects such as: economies, things, humans, and societies.

Of course, the extent to which one can precisely reflect the complex dynamics to which economies, societies, and human beings give expression, let alone be able to generate simulations which would be capable of providing one with the sorts of understandings and insights that would enable one to effectively realize such "smart

societies," is a considerable challenge. Interestingly, but also vaguely, in its June 10, 2019 statement, NTT indicated that skills involving 'decision making' and 'consensus building' were more conducive to the establishment of advanced social communications than traditional approaches involving 'human collaboration' and 'knowledge sharing' were, but since none of the foregoing four phrases were defined, characterized, outlined or discussed, in the aforementioned NTT release, one has difficulty understanding what NTT perspective might actually involve.

The foregoing sorts of announcements often are couched in the language of allusion in which ideas are mentioned that appear to suggest grand possibilities. Whether, or not, that to which such allusions are being made can ever be realized in concrete, effectively functional terms tends to be another matter altogether.

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A summary of a relatively recent presentation entitled: 'Internet of Things and Digital Twin' which was given by Professor Coallier indicated that his address would explore the idea that "The Internet of Things (IoT) is an enabler of 'smarter' environments in multiple sectors. Together with Digital Twin (DTw) technologies, it is demonstrating an evolving potential to not only optimize existing services but also create new ones." The foregoing presentation was going to focus on the health sector.

To be sure, if one had been able to attend that presentation, then one might have developed a better appreciation with respect to the details to which the foregoing description was alluding. However, having missed the presentation, I remain hopeful that he might have discussed in some detail: (1) The nature of the criteria which determine what constituted a "smarter environment;" (2) provided a comprehensive discussion that clearly delineated the reasoning which would justify using those sorts of criteria in defining what was meant by "smarter environments, and (3) indicted precisely how the Internet

of Things has enabled such "smart environments to emerge across multiple sectors", and whether, or not, the sectors being referenced entailed explorations dealing with the considerable evidence which indicates that viruses do not exist and that a pleiomorphic approach to microorganisms is a much more defensible scientific perspective than is the monomorphic approach to microorganisms which governs much of the modern health sector.

One might also anticipate that the kind of presentation being described above would provide evidence capable of indicating how Digital Twin technologies, in conjunction with the Internet of Things have been able to demonstrate an evolving potential to "optimize" existing services. Presumably, such a presentation also would have included an in-depth account of how existing services have been optimized and why people listening to such a presentation should accept Professor Coallier's notion of optimization with respect to those existing services.

In March 2022, Roberto Saracco presented a 30-plus page paper entitled: "The Personal Digital Twin" as part of a workshop on Personal Digital Twins that was being sponsored and organized by the European Union. During his presentation, he indicated that the 'Digital Reality Initiative' of the IEEE was working on a tool called "KAAS" – that is, "knowledge as a service" which was committed to addressing the issue of what might be involved in the idea of a Personal Digital Twin.

The problem of "knowledge" has existed for thousands of years. Moreover, while one can appreciate the concept of "knowledge as a service," nonetheless, depending on how the issue of knowledge is being used, such an exercise might not be considered that much of a service if the people to whom that "knowledge" is applied are expected to comply with such a notion without being given the opportunity to exercise informed consent … an opportunity which is, to a large degree, entirely absent from the dynamics surrounding the current imposition of the Internet of Things on the members of various societies … perhaps I missed the memo.

During the aforementioned presentation concerning "The Personal Digital Twin" which was given at a EU workshop, Roberto Saracco indicates how most proposals concerning the idea of 'Digital

Twin' are not directed toward the whole person but tend to only focus on specific, narrowly defined aspects human functioning. Such a narrowing of perspective is understandable given that the challenge of creating a 'Digital Twin" for the "whole person" is quite daunting, and, yet, one might simultaneously begin to critically reflect on the possibility that by restricting one's Digital Twin models to just some small part of the whole person, one is actively removing considerable context from one's explorations and in doing so one might be distorting the small part that one is seeking to model.

For example, one can restrict one's Digital Twin model to features involving: Certain metabolic properties, specific ionic channels, itemized voltage measurements, particular forms of gene expression, and the like. However, by limiting one's focus in this manner, one is missing many biological considerations which are entailed by, for example, the biofield within which all of the foregoing events are taking place, and, therefore, good science might suggest that one ought to raise at least some questions about the extent to which a narrowing of focus of the foregoing sort is capable of distorting one's understanding of what is actually taking place because one has left an array of elements out of the frame through which one is engaging, and trying to understand the nature of, human functioning in conjunction with the human biofield.

On December 19, 2022 Dr. Michael Miller released a technical report for which he was the principle investigator. The report was titled: "Air Force Twin and Modeling Guidebook".

Dr. Miller is a member of the Department of Systems Engineering and Management at the Air Force Institute of Technology located at Wright–Patterson Air Force Base in Ohio. Although his report could have been about some sort of traditional Product Lifecycle Management project of the sort that had been proposed by Dr. Michael Grieves back in 2002, Dr. Miller actually addressed the idea of a Human Digital Twin.

On page 7 of his report, he offers a definition concerning the aforementioned notion. He indicates that a human digital twin gives expression to some sort of integrated model which will provide a way to enhance the process of characterizing, understanding, and/or making predictions with respect to one, or more than one, property of

either a human being or a class of human beings while the individual or group of individuals being studied is engaged in some sort of real-world activity within a given environment.

The number of themes which are included in the integrated model to which Dr. Miller is alluding is fairly extensive and complex. For example, he contends that a human digital twin model should include data dealing with: Cognitive abilities, qualities of personality, physical properties, behavioral characteristics, emotional orientation, physiological functioning, ethical considerations (including beliefs), and perceptual capabilities. Nevertheless, he omits from his paper any exploratory discussion that outlines the assumptions, biases, political considerations, and philosophical-scientific theories, and so on through which one will go about characterizing, representing, measuring or evaluating any of the categories out of which a Human Digital Twin is to be constructed.

Complexity is not a synonym for clarity. Moreover, complexity can be used as a way to camouflage what one is actually intending to do.

According to Dr. Miller, a Human Digital Twin model should be sufficiently comprehensive and reflective of the individual or group of individuals that is being represented through the model that a change in either the model or its real world subject will be able to lead to a corresponding change in its counterpart. However, what might be meant by the notion of a "corresponding change" is uncertain, and, moreover, why one would want to change some dimension of a person or group of people should be viewed through the lens of the organization – namely, the United States Air Force – which has assigned a military researcher to explore the idea of producing models that are so complete that if one makes a change in the model, then, such a change is capable of becoming manifest in the real-world counterpart to that model.

The foregoing project has something of a voodoo-like quality to it. In other words, one creates an image (Digital Twin) of some given subject and invests that subject with certain qualities that when appropriately manipulated, then, the real world counterpart will manifest or experience or feel that same quality or property.

If the foregoing sounds as if it is a rather fanciful way of characterizing the Digital Twin agenda, there is something which one

might want to keep in mind as one reflects on whether, or not, the foregoing voodoo allusion is as fanciful as one might initially suppose. There are hundreds of thousands, if not millions, of people in different parts of the world who are targeted individuals.

As a result, various data bases of feature values (the quantitative counterpart to the complex set of categories mentioned by Dr. Miller in the previously mentioned Air Force Report) concerning a target (feature values that are being stored in massive data bases in highly secure facilities) are acquired. Next, the individuals and organizations that are busy capturing such data will sell or freely give those feature value-laden data bases to someone who has been authorized (by the: Military, a corporation, a hospital, an intelligence agency, a university, a police department, or federal facility) to press a button on a console, computer, smart pad, or phone which has the capacity to set an app on such devices in motion.

The people toward whom the foregoing sorts of frequency are directed will experience excruciating pain, or hear voices, or become emotionally upset, or be adversely affected cognitively in some fashion. I know of a number of individuals who are being, or have been, manipulated in the foregoing ways.

For instance, William Binney, Katherine Horton, Ana Mihalcea, and Len Ber have all been subject to the voodoo-like connection being outlined. Except the voodoo being practiced is not a matter of casting occult spells but is, instead, a function of science, electromagnetic frequencies, digital twin creations, and a set of programs which are run on devices such as cell phones, smart pads, and laptop computers and can be directed toward individuals who, unknowingly, have been provided with the biosensors or other technological anchor points that make them unwilling recipients of incoming frequencies that do damage to their minds, emotions, bodies, careers, finances, friends, families, and souls.

If the reader would like to learn more about the foregoing phenomenon, then, go to the web site for “targeted justice.” There is a lot of information, including videos, on that web page which indicate, among other things, that the foregoing voodoo allusions are not all that far afield.

On September 29, 2022, Rand Paul introduced into the Senate a bill (S5002) which is designated as the "FDA Modernization Act 2.0" The bill proposed that certain changes be made to existing legislation governing the FDA's practices with respect to issues of animal testing that regulated the manner in which the FDA investigated the effectiveness and safety of drugs being considered for approval. Among the changes proposed in the aforementioned bill is one that has to do with a pharmaceutical company or a vaccine manufacturer being permitted to substitute computer models for animal studies as a route to being granted exemptions in conjunction with safety and effectiveness investigations by the FDA in relation to various proposed drugs, pharmaceuticals, vaccines, and mRNA treatments.

In addition, the bill proposed that animal studies should no longer be required to procure a license for a given biological product that is considered to be interchangeable with, or biosimilar to, a drug or pharmaceutical that already had been approved. So, for example, if one mRNA treatment had been accepted, then, other mRNA treatments which were considered to be biosimilar to what already had been approved would not require animal studies in order to be approved by the FDA.

The foregoing bill was read three times before Senate members and was given unanimous consent by those same members without any amendments being made to the bill. President Biden signed the bill into law on December 29, 2022.

Aside from whatever comments already have been made, the foregoing bill is of interest because that legislation mentions, in passing, the notion of computer models. Such computer models are variations on the theme of Digital Twins.

For example, let us suppose that some given drug or pharmaceutical is run through such a Digital Twin. Let us also assume that whatever drug is being run through its paces within a given computer program is considered to have met certain bench marks of computer modeling. If such drugs or pharmaceuticals are considered to be Digital Twin safe and effective, then, even though such models might contain any number of imperfections and problematic representations in relation to the subject or subjects that are being

modeled, such drugs will be considered to have "proven" themselves to be safe and effective for all relevant public venues.

Computer models are notorious for their unreliable and problematic prognostications. For instance, one just has to think of Neil Ferguson at the Imperial College of Technology in England and his ridiculous models – which have been proven to be wrong again and again across a number of epidemic/pandemic issues -- that were used to provide a shoddy and ill-considered form of cover for bad political decisions during COVID-19.

Soon, if this is not already the case (and considerable evidence appears to back up this supposition), health practitioners will be able to press buttons on their consoles, smart pads, or computers and pass on certain frequencies to the individual who is being targeted by their button pressing that will effect changes – in a voodoo-like manner – in a given targeted individual irrespective of whether that individual wants such changes or not. There will be no informed consent because we live in a "brave new world," where toxic knowledge is the remedy du jour.

The following material is sort of a relatively brief addendum to "Chapter 9: Optogenetics in the Rear-View Mirror". That chapter gave expression to an article I had written about 11 or 12 years ago in response to a TED talk which explored research that was using optogenetics in conjunction with mice.

The foregoing TED talk explored how two researchers had surgically implanted a means of delivering laser stimulation to the hippocampus portion of a mouse's brain that also had been equipped with a genetically engineered 'sensor-switch. When such switches were turned on and off in different circumstances, memory pathways in the mice appeared to be affected.

There is no longer any need to engage in the sort of surgical interventions that were pursued by those two TED presenters back in 2012. Within a few years of the foregoing sorts of experiments being published in the journals, researchers had moved on to developing various kinds of pharmaceutical products which were capable of

targeting certain receptors in the brain, and, thereby, were able to bypass the need for surgical intervention.

Now, methods and technology exist which have dispensed with the need for even pharmaceutical inventions. If someone doesn't wish to take the foregoing sorts of drugs in order to prevent the dispenser of such drugs from gaining access to the receptors being alluded to above, then, one need not worry, because technology has been developed which makes such drug-taking a thing of the past.

For example, there is a family of proteins known as G-proteins. The name acknowledges the manner in which certain proteins have an affinity for guanine (G) nucleotides and can be used as switches that are capable of helping to turn certain genes on and off via the guanine nucleotide connection.

G protein coupled receptors (GPCR) constitute the largest protein family that is encoded by the human genome. They are capable of serving as transduction mediums through which various kinds of extracellular signals can lead to physiological effects.

As noted earlier, some pharmaceuticals had been developed that were capable of targeting such CPCR complexes. This is no longer necessary.

A few years ago, researchers discovered that neurons could be made responsive to the presence of light when those neurons are coupled with opsin proteins. Opsins represent a family of light-sensitive, retinal-binding proteins that are encoded by opsin genes.

For example, when opsins are stimulated by light of the right frequency, they absorb the energy from that light. Once absorbed, the light energy can be used to subsidize that protein's role either as a sensory receptor or, alternatively, the protein can use the absorbed light energy to subsidize its role as part of a process which can actively pump ions into a cell or induce ion channels to open up and, thereby, allow for ions to passively flow through those channels.

Opsins are present in eukaryotic and bacterial cells. However, there also are non-opsin-based optogenetic systems which use light-sensitive proteins that are present in cyanobacteria and plants.

Proteins also can change their conformational way of folding when they absorb light. The manner of these conformational changes will

depend on the frequency of the light to which such proteins are exposed.

Furthermore, complexes of molecules are possible in which photoreceptors are bound to a given protein 'A' and a potential binding partner for 'A' is bound to protein 'B'. Light can be used to determine where, when, and to what extent 'A' and 'B' will be bound together. By modulating the nature of the light which is present, one not only can control the quantities of the two proteins 'A' and 'B', but, as well, one can control the degree of affinity which will exist between the two proteins and how long that affinity will last.

A ligand can be defined as a molecule or ion that possesses a functional group (i.e., a chemical group that can bring about a change of some kind given the right circumstances). This functional group tends to bind to some form of an atom that has metallic properties and, in the process, creates what is known as a co-ordination complex.

Light-sensitive proteins (whether opsins or non-opsins) can be brought together with metals or metal-like structures, as well as various ions and molecules with biological functions of some kind, to form ligands. By linking proteins and other molecules that are not light-sensitive with proteins and molecules which are light sensitive, one can use light to activate and de-activate the foregoing sorts of complexes.

The molecules used in the foregoing complexes can be natural or synthetic in nature. The latter set of molecules gives expression to an array of nanotechnological possibilities.

Optogenetics encompasses a spectrum of arrangements which brings light together with various molecular complexes (both natural and synthetic). The foregoing interactive dynamic can be used to modulate what happens in conjunction with selected cells, tissues, receptors, and guanine-containing DNA.

Receptors can be activated or shut down. Ion channels can be opened and closed. Voltage potentials can be manipulated. The way in which proteins fold can be altered.

Genes can be turned on and off. Indeed, optogenetics is capable of using all kinds of synthetic, nanotechnological-based switches to turn various forms of gene expression on and off. The metals and other

nano-scale meta-materials which are present in chemtrails (and, therefore, the air we breathe, the food we eat, and the water we drink), as well as in vaccines, mRNA treatments, and various pharmaceuticals provide all of the building materials that are needed – when coupled with the energy that is being supplied by the human host – that can be induced to assemble an array of sensors, antennae, transmitters, routers, and switches which contain light-sensitive complexes that can be activated from without by directing the right frequencies to such synthetic, biological bots.

This is not emergent technology. The practitioners of optogenetics have been tapping into different dimensions of the foregoing potential for years.

As noted in a previous chapter, Robert Duncan -- who worked for DARPA, the CIA, and other, similar entities – indicates that the military is, generally speaking, 60 years ahead of what is known to, and accessible by, the general public. Consequently, one might reasonably conclude that the military – and, therefore, the government -- has been able to locate, tag, herd, trace, manipulate, control, injure, torture, and kill people through optogenetic tools for quite some time.

All they have to do is shine the right kind of frequency upon a given target. This has been happening to targeted individuals for decades, and, indeed, the existence of such individuals is the proof that such programs exist.

The experiences of targeted individuals have been, and are continuing to be, subject to a gas-lighting process engaged in by government officials, the judicial system, academia, the military, corporations, and scientists because if what IS going on were admitted to by the individuals who benefit (financially, socially, economically, legally, militarily, and politically) from its continued operation, then America – and, therefore, those people -- might have to change in fundamental ways. Too many people who are benefitting from the way things are operating appear to lack the coping skills that are needed to live life in a way in which everyone has the same opportunity for exercising sovereignty, and, consequently, a terrible, evil self-destructive inertia is running through, and has been running through, the United States for decades, if not centuries.

The notion of "full spectrum dominance" usually is intended to refer to the capacity of a given military force to exercise control over every dimension of one or more theaters of conflict with respect to a given enemy. Such dimensions include: Terrain, air, sea, space, weapons, resources, economics, financial dynamics, intelligence, supply lines, transportation, morale, cognition, information, and cyber-space.

The enemies over which the military-industrial complex and its governmental enablers seek to gain full spectrum dominance are "We the People." The theater of conflict in which the military-industrial-governmental complex is exercising its policy of full spectrum dominance is life itself.

As Katherine Watt has demonstrated through her research, public health has become militarized and is being used as a weapon against the general public. As Sabrina Wallace has documented through her research and life experiences, the biofield constitutes a theater of conflict over which the military-industrial-governmental complex is seeking full spectrum dominance. As the research of Ana Mihalcea, Len Ber, David Nixon, Robert Young, La Quinta Columna, Mateo Taylor, and Clifford Carnicom have established, there are tell-tale signatures within more and more people indicating that human beings are being, and have been, infiltrated by synthetic entities that are being deployed by the military-industrial-governmental complex. As the rigorous work of Béchamp, Enderlein, Rife, and Naessens has shown, Pasteur's monomorphic model of health and disease (on which much of modern medicine is based) is flawed in fundamental ways and that by continuing to deny the evidence which points to the validity of a pleiomorphic model of disease, health is being undermined, not promoted. As the collective efforts of: Tom Cowan, Andy Kaufman, Mike Stone, Stefan Lanka, Amanda Vollmer, as well as Mark and Sam Bailey have indicated, there is no reliable evidence capable of demonstrating that viruses exist.

If viruses don't exist, then, claims which maintain that the genomes of those alleged entities have been sequenced must be treated with considerable skepticism. Furthermore, if viruses don't exist, then, there are lots of diseases which are being referred to as viral in nature which have been misdiagnosed.

On the basis of the foregoing sorts of misdiagnoses, treatments which are rooted in problematic theories concerning the nature of the roles which viruses allegedly play in our lives are being promulgated to the detriment of patients. The foregoing problems have become exacerbated because technologies – such as synthetic biology and nanotechnology -- have the capacity to induce illness in people that are being improperly attributed to viral and bacterial infections but which, in reality, are entirely artificial and man-made in character (i.e., frequency following behavior shaped by toxic forms of knowledge).

The reason why various facets of the military, many corporations, much of the media (both mainstream and alternative), vast swaths of academia, and many facets of federal, state, and local government are seeking to establish full spectrum dominance over "We the People" is because those institutions tend to be bull-shit rich and character poor. Full spectrum dominance is a policy which tends to be pursued by those who need to establish complete control over people through oppressive means because when character and facts are absent, then, mechanisms of power and manipulation are all that remain.

The path to full spectrum dominance is now being run through technology in which buttons can be pushed and, among other things, genes can be turned on and off according to the light frequencies that are set in motion by button pushing. What is even more worrisome is that this activity of button pushing is being turned over to artificial intelligence, and, there are many events which indicate that an iteration of Skynet is already here … and, if not, then, surely, such an entity (a truly toxic form of knowledge) is fast approaching.

<u>Chapter 11</u>: Five Questions Concerning TIs

The following material encompasses an interview that was conducted by Dr. Len Ber of Targeted Justice -- https://www.targetedjustice.com/ -- in late January of 2024.

For those who are unfamiliar with the term, "Targeted Individuals" are people who are being terrorized everyday of the week by: Various government agents, would-be overlords of the corporate sector, medical people who lack ethics and integrity, academic experimenters who care only about their careers, military black operatives, abusers of the policing system (on a federal, state, and local level), as well as independent contractors who are willing to torture people for a buck.

These perpetrators use a variety of protocols governing wireless networks of energy that been have established by the IEEE (Institute of Electrical and Electronics Engineers) and which have enabled unscrupulous, greedy, and self-serving individuals to subject people all over the world (estimated to consist of some 6,000,000 individuals) to programs (operated both through systems of artificial intelligence as well as manual apps on mobile phones, smart pads, or computers) that seek to impose physical, emotional, and cognitive torture as well as mind-control programs on innocent people. The phenomenon of the Havana Syndrome is but one expression of the world-wide program of terror that is being run by people that many modalities of media are actively protecting and attempting to keep hidden from a more, wide-spread public awareness.

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1) Please tell us about your professional and spiritual journey.

Before I begin addressing your question, there are a few things that should be said. First, I have been informed that if I had the opportunity to do so, Sabrina Dawn Wallace wanted me to pass on the following message to you, Len, and I believe that the present time is such an opportunity. The message that Sabrina wanted me to pass on to you is: "May God Bless you and thank you for speaking up."

Secondly, whatever your audience might think about what is said during the following semi-oral-history, I want to acknowledge the tremendous sacrifices and suffering that have been endured by the

members of the targeted community. This acknowledgement is being given at the beginning of this presentation because I do not want it to get lost in the shuffle of other facets of what might be said by me.

Some Targeted Individuals have been targeted because they are whistleblowers of one kind or another.

Some Targeted Individuals have been targeted because of what they know about various topics – scientific, technical, or otherwise -- and the people who are operating the campaign of terror against such individuals of knowledge and understanding deeply fear what those Targeted Individuals know.

Some Targeted Individuals have been emotionally, mentally, and physically bullied because the people who are perpetrating the abuse have no respect for the race, ethnicity, religion, financial status, intelligence, character and/or political interests of such Targeted Individuals.

Other individuals have been targeted because, without their consent, they have been selected to be data points in a set of experiments designed to gather data about the dynamics of remote mind control, torture, and murder … data that will be used to shape what the torture overlords will undertake – perhaps in the not-too-distant future -- with respect to the rest of humanity.

Whatever the criteria are that have placed someone in the crosshairs of the terrorists who are getting paid to bring misery and pain into the lives of innocent individuals, nevertheless, because of the integrity, resilience, courage, strength, and perseverance of the members of the Targeted Individuals community, the members of that community have become the tripwire that has provided others, such as myself, with the very hard-won intelligence that there is something deeply corrupt, pathological, and evil which is taking place all around us in conjunction with an agenda that is seeking to make everyone but the terrorist overlords into Targeted Individuals.

I want to thank Targeted Individuals for their service to humanity. Indeed, there are Targeted Individuals all over the world whose lives are in on-going danger who have been fighting for many years against the war of terror that is being waged against the people of the world and who desperately have been trying to get people to listen to, and

learn from, the decades of difficult, painful experiences that have been endured by tens-of-thousands if not millions of Targeted Individuals around the world.

Targeted Individuals are the people who are manning the front lines and have been taking considerable punishment and going through incredible difficulties, and, in the process, they have provided the rest of us with a tremendous amount of direct, experiential evidence as well as some precious time of forewarning to, God willing, try to find ways of countering what is taking place – that is, as indicated earlier, a concerted attempt is being made with respect to the vast majority of the population – at least those who might survive – to turn the rest of humanity into Targeted Individuals.

Walter Lippmann, an American journalist and writer, who died in 1974 once said: "There can be no higher law in journalism than to tell the truth and to shame the devil." Targeted Individuals who have tried to make their life experiences known to the world are citizen journalists who exemplify, at considerable cost to themselves, the principles set forth by Lippmann – they have told the truth, and in doing so, they have shamed the devil, but, as usual, the devil is too narcissistically enamored with himself to understand the nature of the shame that has become the crown which is being worn on his head.

When Targeted Individuals share their life stories, their experiences bring to mind, and resonate with, some words of warning from Alexander Solzhenitsyn that were voiced in his work *Gulag Archipelago* – namely, "In keeping silent about evil, in burying it so deep within us that no sign of it appears on the surface, we are implanting it, and it will rise up a thousand fold in the future." If the general public continues to ignore the bearing of witness by, among others, Targeted Individuals, then the general public will be burying the truth about the presence of an overarching evil that will become implanted within the way that the general public goes about its business and, eventually, that evil will come back to haunt them in thousands of way in the not too distant future.

Having said the foregoing, I'll try to return to your original question, Len, concerning my professional and spiritual background. The story is a little complicated, but I believe that, in its own way, it

complements the concerns of the Targeted Individuals community, although it does so from a different direction.

I'm nearly 80 years old. My real education began a little over 50 years ago, but I would like to provide some context. Although I have gone through some periods of unemployment and homelessness during that period of time, I'm going to focus on just a few events in my life, but, unfortunately, this will take a little time.

I attended a high school in north-central Maine that had 44 students. Eleven kids were in my graduating class.

I grew up during the time of Sputnik. Americans had become panicked by the fact that the Russians had placed a satellite in space first, and, consequently, all manner of science and math programs were being developed in the United States. As a result, I participated in several programs in math and science that were offered by the Maine State Department of Education – in fact, I was one of the few first-year high school students in the state of Maine to do so and actually did fairly well and along with another first-year high school student placed in the top 12 among the hundreds of students who were taking the courses.

Between my junior and senior years of high school, I won a National Science Foundation scholarship to study the theory of semi-conductors at a university in New York City. Although I had a little game in science, eventually my heart was pulled in another direction.

One day, my mother sat me down and proposed that I apply to Harvard College. She said she had been reading some articles which indicated that I might be the sort of student for whom Harvard was looking. However, I have to confess that I really had no idea of who or what Harvard was … the university had not come across my radar back in the late 1950s and early 1960s.

One might say that my experience with respect to Harvard could be put forth as a new kind of proof concerning the existence of God … because, quite frankly, I would have a tough time explaining how I got into and out of Harvard without presupposing the existence of God. However, that entails a set of events that would take us beyond the thrust of this presentation.

I started out as a pre-theological student with the idea of working toward some kind of ministerial career. However, for a variety of reasons, I became dissatisfied with myself, and, as a result, I began to move in other directions – including physical science, philosophy, and finally, psychology – or, more specifically, Social Relations – an inter-disciplinary course covering topics in sociology, psychology, and anthropology. I wrote an undergraduate honors thesis which developed – or attempted to – a new theory concerning the phenomenon of anxiety.

After graduating college, I got a job at a youth detention center just outside of Boston. The Vietnam War had been heating up while I was going to college, and although the youth detention center job was a draft-deferrable kind of job, nevertheless, when the time came for my selective service physical exam, I refused to comply with a lot of the things that I was being asked to do by the military authorities during the physical exam process and, as a result, I ended up being interviewed by the FBI. Among other things, the FBI wanted to fingerprint me, but I refused, and, then, they wanted me to sign a card indicating that I refused to be fingerprinted, and I refused that as well.

When I showed up for work the next day, my employer (which was the State of Massachusetts) had already been contacted by the FBI. I was called into the supervisor's office and given an opportunity to sign a loyalty oath (which was done in those days in Massachusetts) and get back with the military program, or I would be fired, so, I chose to be fired.

I had no intention of being disloyal to the Constitution of the United States or trying to overthrow the federal government. Nonetheless, I wasn't going to be bullied into signing such a document.

Three or four months later I left for Canada with $50.00 to my name, no job, and no place to live. Eventually, I got a job as co-director of a youth haven house in Toronto, and when the money for that project ran out, I was hired by the Counseling and Development Center at York University where I: Did some research, helped run some sensitivity training groups, and did a little counseling.

After the Counseling and Development Job ended, I taught a course on the psychology of learning for the Education Ministry in Ontario that was being given to prospective counselors in the Ontario

provincial educational system, When the foregoing course ended, I taught a course in transpersonal psychology while serving as a college don at York University.

I started a graduate program in education at the University of Toronto, but before getting into this aspect of things a little, I should provide some context because it relates to the other part of your two-part question, Len, concerning my professional and spiritual background. I grew up in a Christian environment, and, indeed, as previously indicated, I began college with the idea of becoming a minister, however, I went through a period involving several years involving the dark night of the soul before finally beginning to pursue issues of spirituality once again.

I began to read widely about different mystical traditions. I was much taken with the work of Baba Ram Das – Richard Alpert – who had been a professor of psychology when I was at Harvard before he and Timothy Leary were fired from their professorships due to their activities involving psychotropic drugs. However, I also was intrigued by the writings of several of your former countrymen, Len, – P.D. Ouspensky and Georg Gurdjieff, and, eventually, I joined a Gurdjieff group in Toronto that was linked to Madam Walsh – whom I met -- whose husband had been the attending physician for Gurdjieff when he was in France.

When I was investigating different mystical traditions, there was a book store near the University of Toronto that was run by a couple who had converted to Buddhism. Initially, the store only carried works concerning different dimensions of the Buddhist spiritual tradition, but eventually, the store carried titles concerning all manner of mystical and spiritual issues.

I use to go there mainly to try to find books related to Gurdjieff, but, one day I came across a book by Rafael Lefort called: *The Teachers of Gurdjieff*. Among the teachers of Gurdjieff were individuals who were known as Sufis, a term that I had not heard of prior to reading the book … in fact, prior to seeing the term "Sufi" in the aforementioned book, my only fleeting contact with Islam -- which is the spiritual tradition in which the Sufi mystical path is rooted -- had been when I worked in a mental institution just outside of Boston

when I was an undergraduate, and a Muslim had had a very short stay in the facility at which I worked.

Now, as it turns out, the name Rafael Lefort is a pseudonym for an individual whose identity was never known. However, after reading the book bearing his name, I began trying to find books on the Sufi tradition, and back in the late 1960s, early 1970s, this was not always easy to do … and this is where the story gets a little interesting.

After the funding for the aforementioned youth haven in Toronto ran out, I applied for a similar job in a city that was a few miles outside of Toronto. I was called for an interview, and when I arrived at the potential job site, there were a lot of candidates waiting in line in front of me.

While waiting for my name to be called, I struck up a conversation with a young, extremely intelligent high school student who happened to be sitting next to me. He knew a great deal about mysticism, Gurdjieff, Ouspensky, and quite a few other topics. He was the sort of kid who belonged at Harvard rather than me.

Eventually, my name was called for an interview. Eventually, I found out that I didn't get the job.

However, following some gigs as an iterant bartender at different university functions, I began full-time employment at the bookstore at York University, and, a couple of years later became one of its textbook buyers. Whenever I got the chance, however, I would continue to return, on a fairly regular basis, to the Buddhist bookstore near the University of Toronto.

I had been frequenting that bookstore for several years, and would visit the store on different days of the week according to my work schedule. It was a relatively small, two room bookstore, and even on busy days – usually on Saturdays – there were rarely more than 6-10 people in the store.

I knew the owners and the clerks who worked there, often engaging them in conversation about various issues. One Saturday, some six months, or so, following my previously mentioned failed job interview in a near-by city, I went to the Buddhist bookstore on a

Saturday, and, surprisingly, no one, with the exception of me and another individual, the store clerk, was there.

The clerk who usually worked on Saturdays was not present. In his place was the young man with whom I had such a great conversation in another city prior to my failed interview. The usual clerk had been called away on some sort of family emergency and had asked the young man if he would fill in for the day.

He remembered me, and I remembered him. We struck up a conversation, and somewhere along the line I mentioned my budding influence in the Sufi mystical path.

He asked me if I wanted to meet a Sufi teacher. I answered affirmatively, and he wrote down a name and a number on a piece of paper before handing it to me.

We talked a bit longer, and, then, I left. The number and name I had been given led me to still another person with whom I met for a five or six hour meeting, and, while I was there his spiritual guide called. My name came up in the conversation, and a meeting with the teacher was arranged.

The second time that I interacted with the teacher was at a mosque during Ramadan, the month of fasting. It was also Christmas Eve.

The spiritual guide took me to a place in the middle of the mosque and instructed me on a zikr or chant. He started out, and I followed suit.

Not long after engaging the chant – or it engaging me -- a very pronounced state came over me. It continued on for a time even after the recitation came to a close, and, then, gradually, dissipated.

I stayed with the teacher for a while longer, and, then, asked for permission to leave, which was granted. A few months later, I became initiated into the Chishti Order of the Sufi mystical path, which I consider to be the servant's entrance to Islam, and, by the Grace of God, I have done my best to try to travel this path for the last 50-plus years.

I continued going to the Buddhist bookstore for several years following my Sufi initiation. I went to the store on different days and at different times of the day, but I never saw the young man in the store

again who had sent me on a journey that led to the best Christmas gift that I had ever received.

Not too long after becoming initiated, three things happened over the course of the next few years. One, I began a doctoral program in education at the University of Toronto; two, I became involved in a textbook-bias campaign concerning Islam with respect to the problematic contents of the books that were being used in grade schools and high schools across the Province of Ontario; three, I became involved in a student group's empirically-documented case concerning plagiarism that had been committed by a faculty member in the Department of Middle East and Islamic Studies at the University of Toronto.

This is where my professional and spiritual journey began to merge. Indeed, the spiritual part of the journey had a significant, if not dominant, shaping influence on what did, and didn't happen, in my professional career.

Before recounting what happened in my life as a result of the interaction of the foregoing three dynamics, I would like to mention something that, initially, might seem counter-intuitive. More specifically, although people who are Targeted Individuals have undergone, and are continuing to undergo, extremely painful forms of physical, emotional, and mental abuse, their intense difficulties are, in a way, a tremendous gift because as a result of such experiences, Targeted Individuals have: Direct knowledge about, understanding of, and insight into just how corrupt and evil certain segments of government, corporations, the media, psychology, the military, and the medical community have become.

Unfortunately, there are many people in North American society who are oblivious to the presence of the evil, pathological, psychopathic forces that are actively present within many aspects of government and social institutions. As a result, all too many people have been unable to acquire and exercise the gift of fear which is necessary to be able to sense, detect, and respond to the dynamics of terrorism that daily are being inflicted on, among others, Targeted Individuals.

I went to two of the best academic institutions in the world. Very expensive forms of education, and, yet, I was kept in ignorance by

those institutions and didn't begin to wake up to the way of power or the terror tactics that are employed by the way of power until I was brought into direct contact with how the way of power actually operates. The way of power that I experienced is not the same as what Targeted Individuals have had to endure, but, nonetheless, a certain amount of pain and difficulty still characterized my experiences.

Everything of value that I have learned in my life has come from outside of formal systems of education. As a result of such non-formal education, I have come to have an appreciation for, among other things, what Targeted Individuals have been, and are still, trying to tell people about what certain dimensions of the world are actually like, and, as a result of their testimonies concerning their experiences, I have developed some degree of a appreciation for the importance of the gift of fear in conjunction with the forms of terrorism directed toward Targeted Individuals and which are being exercised across many demographic strata of society … hearing the oral histories of Targeted Individuals has helped me to develop a healthy appreciation concerning the danger that exists amongst us.

By use of the term "fear" I am not alluding to some state of frenzied, unthinking panic, but, rather, I am alluding to people who have developed a deep, visceral and emotional understanding concerning the presence of evil in the world. For instance, Targeted Individuals have had considerable opportunity to acquire a justifiable sense of fear concerning the presence of evil and the sort of damage that such evil can inflict upon the lives of people.

When I use the term "gift of fear," I am talking about that term in the same way that Gavin de Becker. He wrote the book, *The Gift of Fear*, and he uses that phrase – that is, "the gift of fear" – to refer to the intuitive capabilities within human beings that are able – if we learn to listen to them -- to sense the presence of very real, and not imagined, dangers, and, as a result, try to develop methods for avoiding, escaping from, or surviving those dangers.

However, just as Targeted Individuals have had to pay a very difficult, painful – and, therefore, costly -- form of tuition in order to acquire insights concerning the methods of abuse, terrorism, and undue influence which are employed through the manner in which

many governmental agencies, as well as many social, medical, media, and military institutions, operate, I have had my own non-formal mediums of educational tuition that have had to be paid.

Nonetheless, with respect to that which is about to be said, I am not trying to say that whatever pain or difficulties I have had to endure is anything like what Targeted Individuals go through on a daily basis. At the same time, there has been a price that has had to be paid for acquiring some taste for, or sense of, the gift of fear that has begun to become established within me.

For example, doctoral degrees usually take between three and seven years to obtain. It took me seventeen years to obtain my doctorate, and upon hearing the foregoing, one might well conclude that either I'm one dumb doctoral candidate or, perhaps, there is something more to the story.

The "something more" which is being alluded to here has to do with, among other things, my participation in the aforementioned textbook bias campaign concerning Islam as well as my participation involving the student group that brought charges of plagiarism against a professor of Middle East and Islamic Studies at the University of Toronto. I'm going to outline just a few aspects concerning the plagiarism case which took place in the late 1970's, more than fifty years ago, because the case helps to demonstrate some of the reasons why Targeted Individuals have such difficulty getting people to really listen to what they are saying.

The professor in question was the editor of a textbook consisting of a series of articles concerning Islam and Muslims that had been written by various professors at different universities in Canada, including several articles by the editor of the foregoing textbook. The student group to which I belonged had received a tip from another professor that the two articles by the editor of the textbook might contain plagiarized material.

As a result, members of the student group began to do some research concerning the issue. Eventually, we came across evidence indicating that there was considerable plagiarized material in the two articles that we had been investigating.

We wrote a short report on the matter and forwarded our findings to the President of the University of Toronto. In addition, we released a small newsletter covering the issue and hand-distributed the material to professors and students across the campus.

We also prepared a package which contained a copy of our report accompanied by a questionnaire that asked a variety of questions that probed a person's judgment concerning the claims of plagiarism that were in our report. Among other things, the report contained side-by-side comparisons of the source material that had been plagiarized and the passages from the articles in the textbook that contained such plagiarized material.

The foregoing package (i.e., report, questionnaire, and covering letter) was sent out to a number of professors across North America who specialized in the areas of Middle East and Islamic Studies. We received back about 25 of the questionnaires, and the vast majority of them agreed that the excerpts from the two articles being probed constituted instances of plagiarism when compared against the original source materials, and, in fact, one professor from a university in New York indicated that he had come across other evidence that the professor who had edited the textbook and who had contributed several articles to that same book also had committed plagiarism with respect to another article that had been written on another occasion.

The student group to which I belong prepared a second newsletter containing the results that we had received from professors working at other universities in North America as well as our comments concerning a letter that the President of the University of Toronto had written in response to our initial report on the matter. We distributed this second newsletter to members of the University of Toronto community, including the President of the University, and, in addition, we released the material to a number of media outlets in Toronto.

The media's initial response to our package was quite enthusiastic. In fact, a newspaper with national prominence wanted to have an exclusive to the issue.

However, a week, or so, later, none of the media outlets were interested in pursuing the plagiarism case. We learned from sources

that some administrators and several professors from the University of Toronto had contacted the media to say that the student group to which I belonged was just a bunch of Muslims who were trying to create trouble for a respected member of the University of Toronto and that the media should drop the issue – which they did.

A short while after the plagiarism issue had been dropped, the professor who had committed plagiarism was appointed by the University to serve as faculty advisor to the university committee that investigated and made deliberations concerning potential violations -- such as plagiarism -- involving the student honor code. A little later on, I came across a newspaper story about some graduate student who had been denied his doctoral degree at the University of Toronto, or who had had the degree revoked, because, according to the aforementioned honor committee, that individual had committed plagiarism.

In the aftermath of the plagiarism case, the University did not withdraw administrative recognition from the student group to which I belonged. Furthermore, none of the individuals in our group were called before the university administration and officially reprimanded for our actions.

However, in its own underhanded manner, the University administration did find a way to exact punishment. Not too long after the foregoing events had transpired, I was approached by my thesis advisor. He wanted to know what I was up to because the Minister of Education for the Province of Ontario had contacted the Director of the Institute where I was enrolled and wanted to know why I was still being allowed to attend the University of Toronto.

Subsequently, whenever I tried to get together with my purported thesis advisor to discuss my dissertation, the professor was never available for consultation and discussion. This dynamic continued to take place for quite some time.

Eventually, the clock was run out on my doctoral program. Although, on my own – that is, without any help from my thesis advisor -- I had written a thesis and attempted to submit the document prior to the doctoral program deadline, my department wouldn't accept the dissertation, and, as a result, I entered what was called "lapsed candidacy status," and this status did not permit me to use

university facilities or have access to faculty members, but it did carry the possibility of allowing me to re-enroll at some later time should I ever complete a dissertation and, thereby, be eligible to go through the oral examination process if I could get the appropriate people at the University to agree to what I was doing in the way of a dissertation.

To make a long story much shorter, it took me ten years to figure out a way to become re-enrolled in the doctoral program and be given the opportunity to formally defend my dissertation through the required oral examination. I had written another dissertation on the hermeneutics of understanding, and my oral examination committee consisted of: A quantum physicist; a biophysicist; several experts in the philosophy of science; a linguist; a historian, and a specialist in adult education.

The latter individual said that he had never previously encountered a dissertation like mine and hoped to never do so again, but he voted in favor of accepting the dissertation. In fact, every member of the oral examining committee voted in favor of accepting my dissertation.

Prior to going before the oral examination committee, I had met my previous thesis advisor – the one who always found a way, or excuse, for not being able to meet with me. He told me that a number of students prior to me had tried to do what I was trying to do and they had all failed.

After I successfully defended my dissertation, I went back to my academic department. There were a number of professors milling about and fully expecting my news to be that my dissertation had been rejected, and, when, I gave them the "good" news, their jaws visibly dropped.

Despite obtaining my doctorate, due to the period of 17 years that were required to get the degree, any potential career that I might have had was pretty much ruined. However, the looks of shock on the faces of the professors when they discovered that I had been successful in my oral defense was nearly worth the price that had to be paid for going through such a 17-year ordeal.

To add a further embellishing detail to the foregoing saga, I should indicate that when the time came for the diploma ceremonies to take

place during which successful candidates would receive their signed doctoral degrees, the University library system in which I worked was on strike. As a result, I refused to cross the picket line and missed the diploma ceremonies despite having waited 17 years for such an opportunity.

In the end, all we really get to keep is the integrity with which we try to live life. As the Tracy Chapman song goes: "All you have is your soul," and for seventeen years I struggled to maintain some degree of integrity in the foregoing matter and to keep a tight watch over my soul.

Targeted Individuals face a problem that is very similar to the one which I have outlined in the foregoing account of my pursuit to get a doctorate – although – to be sure -- the problems which Targeted Individuals face are much more painful, difficult, and intense than my foregoing experiences. Nonetheless, on many levels, the lives of Targeted Individuals have been made extremely difficult and filled with one obstacle or attack after another.

As I discovered in my own case, government officials ignore the plight of Targeted Individuals. The media turns a blind eye to the abuses being perpetrated against Targeted Individuals. Academics refuse to carry out research which would demonstrate that the problems experienced by Targeted Individuals are real and not imagined. Finally, the general public is propagandized via government officials, so-called journalists, and academics to believe that all is well that and there is no malignant cancer eating away at the fabric of society.

Some people might wonder why I even bothered pursuing a doctorate for seventeen years – especially given that I earlier said that the most important facets of life are learned about outside of formal educational processes. There are two reasons.

The first reason had to do with the fact that my spiritual guide had wanted me to pursue such a degree, and he had helped me in a variety of ways to work toward realizing such a project. Although he had passed on before I got my doctorate, I wanted to complete the process he had encouraged me to pursue.

The second reason had to do with a certain stubborn streak that exists within me. I wasn't about to let educational psychopaths get away with trying to bully me into submission, and I suspect that there are a lot of people among Targeted Individuals who have similar feelings and aren't about to let psychopaths bully them and will find whatever way they can to fight back, and based on my own experience, I have a lot of respect for, and compassion for, such individuals.

I haven't had much of a career. As an adjunct professor in both Canada and the United States, I have had to scramble to be able to teach courses covering: Introductory psychology, abnormal psychology, social psychology, transpersonal psychology, philosophy, criminology, diversity, and life-span development. However, adjunct professors are the migrant workers of the educational system … they are very poorly paid, provided with no benefits, and have few, if any rights, within the academic community.

Eventually, I resigned from teaching and decided to concentrate on writing books. Some 45, or so, books have been written over the last two decades, and many of them are floating about somewhere in the Widener Library system at Harvard University.

The topics range from: Education, to: Evolution, philosophy, psychology, cosmology, religion, quantum physics, medicine, Tolstoy, constitutional philosophy, government, sovereignty, Islam, and the Sufi path. Although over the years, thousands of copies of the books have been sold, presently, all of the books are available for free at my web site.

Len – Second Question

2.) I learned that you consider the claims of Targeted Individuals to be legitimate from a preview of the book you are writing. It was mentioned in the chapter appropriately called "Phenomenology Hijacking". Not every day you meet a person who is not a Targeted Individual, but understands the reality of the Targeting Program. What events in your history led you to this belief, while most of the people do not take our claims seriously?

If there is one consistent theme in American history, the phenomenon of Targeted Individuals is it. What makes the Targeted Individuals of today different from Targeted Individuals of the past is the extensive role that technology plays in carrying out such a targeting process.

Indigenous peoples of North America were the original Targeted Individuals. They were abused in every possible way conceivable, and, yet, here we are today, many centuries later, and, for the most part, government officials, media representatives, religious authorities, academics, and large swaths of the general public still tend to resist listening to the litany of abuses which, for centuries, have been directed against indigenous peoples or resist acknowledging that every treaty ever signed with indigenous peoples has been broken by the United States.

The next set of Targeted Individuals in America were slaves – both black and white (many people forget that slavery did not involve just people of color) -- who were subject to all manner of physical, emotional, mental, financial, political, social, and spiritual abuse. Slavery might have officially ended, but a great deal of the aforementioned abuse continues against individuals who are targeted because they do not exhibit the right race, ethnicity, socio-economic status, or religious affiliation.

Throughout American history: The poor, women, as well as people of Hispanic, Irish, Chinese, Jewish, Japanese, Italian, East European, and Asian ancestry have all taken their turn as Targeted Individuals in America. Moreover, some members of the aforementioned groups continue to be targeted for abuse of one kind or another.

In the late 1800s and early 1900s, Smedley Butler, who -- until Audie Murphy came along in the Second World War – had been the most decorated soldier in U.S. military history, has written a book called: *War Is a Racquet*. Among other things, the book outlined his account of how his military service had largely been in the service of vested corporate and banking interests rather than in the service of the people of the United States.

Corporations and bankers identified individuals who stood in the way of their financial and economic agendas and, as a result, such individuals became Targeted Individuals. Consequently, thousands of

people died in various parts of the world because the U.S. military was authorized to serve the interests of corporations and banks through eliminating Targeted Individuals who stood in the way of increased profits, greed, and control.

Smedley Butler also thwarted a plot by fascist-oriented business people in the United States to remove FDR from power in the early-to-mid 1930s. The business people disliked Roosevelt's New Deal and believed that there dislike entitled them to target individuals for the purpose of illicitly and illegally taking over the government of the United States.

With the full support of the United States government, Palestinians have been Targeted Individuals for 75 years. Indeed, the inhabitants of Gaza in occupied Palestine, as well as Palestinians in the West Bank, are serving as Targeted Individuals as we speak.

In 1953, the American CIA helped to finance a coup and to overthrow the democratically elected government of Mohammed Mossadeq in Iran. Thousands of people became Targeted Individuals and they were either killed or were: Tortured, imprisoned, or displaced as a result of the Shah of Iran having been placed in power.

In 1954, the CIA helped to overthrow the democratically elected government of Jacobo Árbenz Guzmán in Guatemala. Some 50,000 Guatemalans became Targeted Individuals and were killed during the coup.

Martin Luther King, whose memory was commemorated just a few days ago, was a Targeted Individual for much of his adult life. One of the reasons that he was targeted was not because he was black but because he was opposed to the Vietnam War and indicated in reference to the war that "the United States was the greatest purveyor of violence in the world."

The violence that was being committed by the United States in Vietnam was not just the result of collateral damage. There was a CIA- and military run-program of targeted killing which took place in Vietnam that was known as the Phoenix Program, and as a result hundreds of thousands of people were tortured and/or killed because they had become Targeted Individuals. Moreover, the many different

highly toxic colored chemical compounds beside Agent Orange that were used in Vietnam have targeted many Vietnamese and either led to the death of such individuals or left them with incurable illnesses, disabilities, and birth defects.

From 1965 through 1973, Cambodia was bombed repeatedly. The U.S. war in Vietnam was not going well, and as a result, decisions were reached by U.S. officials which turned Cambodians into Targeted Individuals, and hundreds of thousands of people lost their lives due to the aforementioned bombing campaign, and, in addition, this helped set the stage for the Killing Fields involving individuals who had been targeted by Pol Pot's government a few years later.

In 1989, the U.S. government targeted individuals in Panama. As a result, hundreds of thousands of Panamanian people were killed, maimed, and displaced – not because the later individuals had done anything wrong but because the United States had a desire to be able to demonstrate full spectrum dominance over Panama in order to further America's political agenda in the region.

Former U.S. government officials Bill Richardson and Madeline Albright both said that despite the fact that 500,000 children had been killed during the first Gulf war which began in 1990-91 in Iraq and continued on, to some extent, during the Presidency of Bill Clinton, nonetheless, according to Albright and Richardson, the U.S.-led intervention had been worth it … but, worth it for whom? Millions of Iraqi people died, or were maimed, or were imprisoned, or tortured, or displaced because they had become Targeted Individuals as a result of a manufactured, false story by the daughter of a Kuwaiti government official concerning premature Kuwaiti babies that allegedly had been smashed on a hospital floor by Iraqi soldiers.

The Iraqi people again became Targeted Individuals beginning in 2003 and continuing to this day. This time, the sin of the Iraqi people was manufactured by American government officials who claimed – without verified evidence -- that Iraq had played a role in the September 11, 2001 tragedies in New York, Washington, and Pennsylvania, and as a result, millions more Iraqis were killed, maimed, imprisoned, tortured, robbed, and/or displaced through the targeted efforts of the United States government.

Beginning in 2014, the United States designated people of Yemen as Targeted Individuals du jour. As a result, more than 500,000 people from Yemen were killed over the next 6-7 years with the full support of the United States government.

The United States has identified a litany of Targeted Individuals in a variety of countries in Asia, Africa, the Middle East, and elsewhere. Drones have been dispatched -- in progressively increasing numbers -- by Presidents: Bush, Obama, Trump, and Biden to kill certain Targeted Individuals without due process, and, as a result, thousands of innocent individuals – many of them children -- have been killed.

Throughout many of the foregoing periods of time, mind-control programs like MK-Ultra were being run by the U.S. government. For instance, private individuals had been targeted by psychologists, government officials, and intelligence operatives in Canada and the United States to become unwitting participants in government-run experiments involving LSD and other psychotropic drugs.

I was familiar with many of the revelations that were made during the Church Hearings that took place in the mid-1970s which disclosed, with much fanfare, some of the programs and weapons that had been developed by the CIA and other intelligence or governmental agencies. Although the people who were killed, injured, or experimented on during such programs were not generally known as Targeted Individuals at that time, nonetheless, that is what they were.

In addition, people -- such as Cathy O'Brien, Janet Phelan, and others -- also provided considerable testimony concerning how, without their informed consent, they had been illegally forced to become Targeted Individuals within government-sanctioned and operated mind-control and behavior controlled programs.

Some time ago, I remember discovering Catherine Horton's testimony with respect to the way in which she had become a targeted individual, first in England and later in the United States. For a while, I followed her internet program which explored the topic of Targeted Individuals, but, then, lost track of her for a few years.

A number of months ago, I happened on an interview involving whistleblower Bill Binney and Katherine Horton. I was surprised to

learn that Bill Binney, a man of considerable integrity, had also become a targeted individual, and I was even more surprised – and quite happy to discover – that Bill Binney and Katherine Horton – who is a woman of considerable integrity -- had somehow come together and become man and wife.

And, of course, Len, we can't leave your testimony out of the discussion. In fact, I first set eyes on you and listened to you when both you and Robert Duncan – a former creator of mind-control programs – did an interview about the issue of Targeted Individuals on the show that used to be known as Koncrete (now, the Danny Jones Podcast). I subsequently read Duncan's book "*Soul Catcher*" concerning the government's research and operation of programs involving Targeted Individuals.

A little while after listening to you and Robert Duncan, I stumbled upon – and, it was a matter of either blind luck or the result of forces above my pay grade – the work of Sabrina Wallace, another targeted individual. She has generated a lot of very highly intelligent, insightful technical information that delineates the research and implementation of programs over the last 25-plus years involving not only Targeted Individuals but, as well, how all of that research is in the process of being used to transform much of the rest of humanity into Targeted Individuals as well.

Late last year I finished a book: *David Icke's Perspective: A Sufi's Meditative Reflection* concerning the first 60, or so, pages of David's book entitled: *Everything You Need To Know But Have Never Been Told*, and in my book I talked a little about the issue of frequency following behavior that is at the heart of what is going on with Targeted Individuals. I was very surprised when you contacted me through academia.edu and expressed interest in some of the things that were said in the book. I was surprised with your interest in my work not only because I admired the testimony that you gave during the aforementioned interview on Koncrete, as well as some of the other research you have been doing with blood analysis involving nanotechnology, but, as well, here you were, making contact with me.

I just never imagined that such a meeting might take place. Usually, when it comes to the Internet, I watch the people on the

screen, and the people on the screen don't tend to talk back to me … so to speak.

In any event, to sort of sum up my response to your earlier question, I became interested in the issue of Targeted Individuals through a variety of different research avenues and as a result of that research have come to understand that Targeted Individuals have been a common, persistent theme in American history. The biggest difference between the Targeted Individuals of the past and the Targeted Individuals of the present is the way in which technology is being used to try to interfere with, control, disable, or eliminate the lives of the individuals who are being targeted, and it is precisely because of the way in which technology has increased the scale level which is being applied to the phenomenon of Targeted Individuals that has set my Spider Man-like Sensors to begin tingling and sounding the alarm of danger with respect to what is going on not only in the United States but all around the world in conjunction with the Targeted Individual phenomenon.

3.) There are a lot of Targeted Individuals whose families, friends, colleagues, loved ones rejected them, don't believe them, consider them mentally off. Do you have any advice to TI's who are struggling from social isolation due to the problem that I just described?

Some singers put together two or more songs and refer to the bringing together of elements from different songs as a process of mashup. I'm not going to sing – and, believe me, I am doing everyone a favor by not singing – but rather, I'm just going to juxtapose or mashup a few lines from three different songs and throw out a few comments as a way of kicking off my response to your question, Len.

The first line comes from the work of the relatively recently deceased Canadian, Gordon Lightfoot which is entitled: 'The Wreck of the Edmund Fitzgerald' and provides an account concerning the sinking of a freighter ship during a storm that hit Lake Superior in 1975, with the loss of all 29 members of the crew. The line I have in mind is:

"Does anyone know where the love of God goes when the waves turn the minutes to hours?"

A second set of lines comes from the Tracy Chapman song that, earlier, I referred to in passing – namely, "All you have is your soul." At one point in the song, she says:

Don't be tempted by the shiny apple; don't you eat of the bitter fruit;

Hunger only for a taste of justice, hunger only for a world of truth.

And, finally, I will add a couple of lines from one of my favorite Paul Simon songs:

We're working our jobs; collect our pay.

Believe we're gliding down the highway

When in fact we're slip-sliding away.

What do we make of the events of life? If an individual believes in a Divinity of some kind, then, such a person tends to hold to the idea that what takes place in life has value and meaning, even if one doesn't necessarily understand the nature of the value or meaning which is entailed by whatever events are taking place in one's life – especially if such events are painful and debilitating. On the other hand, if an individual does not believe in a Divinity of some kind, then, such a person might consider events to be random and, yet, still makes choices concerning what meaning and value the person feels should be assigned to life's events in a way that assists that individual to cope with "the slings and arrows of outrageous fortune."

Irrespective of whether, or not, a person believes in God, nevertheless, when, in Gordon Lightfoot's words: "the waves turn the minutes to hours" the question to ask is not: Where does the love of

God go? Rather, the question becomes what a person is going to do "when the waves turn the minutes to hours." For those who do not have beliefs in a Divinity, the first part of the Gordon Lightfoot song line is a non-starter, but the last part of the foregoing question persists – namely, when the "waves turn the minutes to hours" how is one to proceed?

For those who do have a belief in God, then, one should know that one's existence, intelligence, and emotion have all been shaped by God and that they are gifts for which to be grateful and are manifestations of God's presence. Then, like the individual who does not believe in God, the problem remains the same – when the waves turn the minutes to hours, how is one to proceed?

Whether we like it or hate it, life is full of trials. All trials are about a test of character, and this remains the case whether one believes in God or not.

Every day, Targeted Individuals – irrespective of their beliefs about God -- are faced with the question of what to do when the waves of strife, pain, and loss of control come crashing down on their lives, threatening to sink their existential ships in one of life's storms. So, what is one to do?

According to Tracy Chapman one should keep the following perspective in mind:

Don't be tempted by the shiny apple; don't you eat of the bitter fruit;

Hunger only for a taste of justice, hunger only for a world of truth.

The people who get paid to make the life of Targeted Individuals miserable or the people who have set AI programs running to make the lives of Targeted Individuals miserable are trying to break human beings. Seeking to break human beings is the purpose of every form of torture, abuse, and system of control.

Among other things, the computer program: Spells, demons or algorithmic protocols that are run against Targeted Individuals use the

dynamics of classical conditional and operant conditioning, and, therefore, employ techniques of both negative and positive strategies of reinforcement in the attempt to induce people to move in different emotional and conceptual directions. Targeted Individuals are flooded with all manner of input that is intended to confuse and disorient them, to induce their minds to dissociate and, in the process, such minds become vulnerable to whatever ideas, thoughts, or emotions are being directed toward Targeted Individuals. During such a state of confusion, uncertainty and vulnerability, the purveyors of torture and abuse against Targeted Individuals want a person to either be tempted by whatever shiny apple is projected into one's consciousness or such purveyors of chaos want their targets to eat and consume, as well as be consumed by, the bitter fruit of the ordeal in which an individual, through no fault of one's own, has become entangled.

Tracy's advice – and it is good, sound advice – is to aspire to a quality of character that maintains that no matter how one is being treated – and Targeted Individuals are treated abysmally by people without conscience and by people without any regard for another human being. Nonetheless, Tracy says that one should: "hunger only for a taste of justice; hunger only for a world of truth." The advice is not easy to follow, but it is the only path forward.

To seek justice is to struggle toward coming to an understanding that justice can only be done when one chooses, as best one can, to live in accordance with the truth in relation to oneself and in relation to others. Alternatively, to seek truth is to struggle toward coming to an understanding about how truth can only be realized when one chooses, as best one can, to do justice to the evidence that is available … to be fair – and to keep working to refine one's sense of fairness – with respect to one's assessment and judgment concerning the nature of experience – whether one's own, or that of someone else.

Of course, every boxer has a plan going into a fight, but, often times, as someone has said, that plan goes out the window, the first time one gets hit with a solid left or right. Targeted Individuals are in the fight of their lives, and as the blows rain down on them on a daily basis, such individuals have to try to keep going back to the plan – keep hungering for character; keep hungering for justice; keep

hungering for truth; keep hungering to be committed to one's essential identity.

The essential self – irrespective of whether, or not, one is a believer in God – is all about sovereignty … about the capacity to make choices that assist one to seek out truth, justice, character, and identity. Sovereignty is also about having the right to resist whatever seeks to interfere with one's essential desire to realize truth, justice, character, and essential identity in one's life. The purveyors of torture and abuse toward Targeted Individuals are trying to induce Targeted Individuals to cede their essential agency, their essential sovereignty, to the torture/abuse program of mind control that is being administered, and as Tracy Chapman points out, one needs to remember that in the final analysis of things – all a person has is one's soul.

Every day that an individual manages to struggle to survive to enable one to be able to fight another day against the slings and arrows of outrageous fortune is a victory. Irrespective of whether, or not, one is a Targeted Individual, the problem for all of us remains the same: What to do when the "waves turn the minutes to hours'.

Courage is not a function of the absence of fear. Rather, courage is the ability to cede one's agency to truth, justice, identity, character, and sovereignty while standing in one's fear.

I remember – although it is possible that in my old age I am not remembering things correctly – that when I lived in Canada years ago and was working on this or that project late at night, in the background I would hear an American television station sign off in a manner which often included lines from a poem by Eva Merriam which goes:

"Frightened, you are my only friend. And frightened we are everyone. Someone must take a stand. Come coward, take my coward's hand."

Many individuals who are not Targeted Individuals have lost contact with the nature and purpose of life – that is, the need: To seek the truth; to seek justice; to seek character; to seek sovereignty; to

seek essential identity. Targeted Individuals are brought face-to-face with the importance of the foregoing needs every single day of their lives, and this brings us to the aforementioned lines from Paul Simon's song:

"We're working our jobs; collect our pay.
Believe we're gliding down the highway
When in fact we are slip-slidin away."

Having a job at which to work is important, and having some pay to collect is also important, and there have been times in my life when I have had neither a job nor pay, and, there also were a few times when I was homeless. However, if our lives are nothing more than working our jobs and collecting our pay, then, there is a very good chance that we are, in fact, slip-slidin away even as we believe we're gliding down life's highway.

The people who are responsible for the torture and abuse of Targeted Individuals are working their jobs and collecting their pay and believe that they are gliding down the highway, when, in fact, they are slip slidin away. They have ceded their essential agency to the most despicable dimensions of human potential, and irrespective of whether, or not, one believes in God, every day that the purveyors of torture and abuse cede their agency to their most despicable dimensions and potential, they have abandoned truth, justice, character, identity, as well as the principles of sovereignty and, as a result, their essential selves are slip-slidin away, and, consequently, they are losing everything of value entailed by the opportunity that life affords a human being.

Targeted Individuals might be the ones whose lives are in pain and turmoil. Yet, however small and limited the knowledge of such individuals might be, they know far more about the importance of the principles that are given expression through the essence and constructive potential of life than do those who are occupied with bringing misery into the lives of their fellow human beings.

The experience of being a Targeted Individual tends to be inherently isolating. This is because part of the experience of being

Targeted is fraught with difficulty involving the problem of how to go about finding people that one can trust because of the way the targeting programs are set up – that is, part of the targeting process is often intended to instill paranoia and/or distrust of not only other human beings but of oneself, and, of course, this leads to being isolated … being isolated from others and being isolated from oneself.

Unfortunately, a lot of the general public has been programmed by: The media, the government, the medical system, and academia to cede their agency to a condition of "willful blindness" in which despite having a subliminal sense of the truth of things, many members of the general public will deny, or fiercely resist acknowledging, the presence of the terrifying truth – which is the evidence to which the experience of Targeted Individuals is giving expression -- that one's government is not dedicated to one's well being and, in fact, it is busily engaged in taking away everyone's: Sovereignty, truth, justice, identity, and all semblance of character … such a possibility is very traumatic and threatening for many people because the educational system has failed to provide human beings with the kinds of social, emotional or psychological skills that are necessary to deal with such difficulties.

The foregoing sort of willful blindness also tends to isolate Targeted Individuals because many people really don't want to know the truth of things. As a result, they will try to remove themselves as far as possible from the experiences and testimonies of Targeted Individuals.

All a person can do is to stand in one's: Essential truth, justice, character, identity, and sovereignty as best one can. Don't let others gaslight one, but don't permit or enable yourself to gaslight yourself either.

The people who are around Targeted Individuals tend to need as much help, if not more so, than is needed by those who have been targeted. Being in a condition of willful blindness is a very debilitating condition in which to be, and, the advantage that Targeted Individuals have in this regard is that notwithstanding the pain and other difficulties that go with being targeted, Targeted Individuals are more intimately connected to certain truths than are the people who are not targeted. However, due to the manner in which the latter individuals

have ceded their agency to a condition of willful blindness, they are deeply mired in a false existence.

Targeted Individuals should have compassion for their own condition and the condition of other Targeted Individuals but they should also have compassion for the condition of those who are thoroughly entangled in a web of willful blindness. One should try to help such people if one can, but one might keep in mind a principle that athletes often mention.

More specifically, one has to wait for the game to come to you and, then, one needs to learn how to recognize what the game offers and, then, go with what one is given. But, if one tries to force oneself on the game, the game will always be beyond one's reach.

The foregoing dynamic requires patience and discernment. These are not easy qualities of character for any of us to acquire, but one has to keep trying to develop such qualities as best one can because these sorts of qualities of character are among the keys that will help one to struggle in a more effective way toward realizing one's essential potential.

4.) What would be your message to people who do not take TI claims seriously?

This is a hard question to try to answer simply because there are so many dynamics in play that seek to control what people think or what they think about. In this respect, some observers speak of the "Overton Window" which alludes to the way in which discourse is permitted to take place only within prescribed limits of discussion.

Within the Overton Window – which is set and shaped by the media, corporations, government agencies, financial interests, schooling, academia, and politicians -- people are permitted to say whatever they like – pro or con – concerning a given topic. However, once someone begins to color outside the lines set by the Unofficially Official Overton Window that governs thought and speech, then, terms such as "conspiracy theory," "disinformation," "anarchist," "trouble maker," "anti-democratic," "demagogue," "insurrectionist," "breach of national security," and so on, begin to be directed toward whomever

doesn't wish to be controlled by the way in which people with self-serving agendas want to control thought, speech, or what is written.

All one has to do is think about the cases of William Binney, Julian Assange and Chelsea Manning to begin to have a sense of what is at stake when Overton Windows are set by those in control and who are maneuvering to enforce what can and can't be communicated. Overton Windows are tactics of control, and when one complies with those tactics and does not raise questions about their legitimacy, then, pretty soon, one can't distinguish between truth and falsehood.

Targeted Individuals who have spoken out have violated the Overton Window that has been established for handling such topics. The powers that be simply can't have citizens talking about the possibility that the government has taken tax payer money and used it to do research – such as is the case with DARPA (the Defense Advance Research Agency Projects Agency) – that will enable the government to enslave its citizens by controlling what people think, say, and do.

When Targeted Individuals speak up, they are like the Toto-character in *The Wizard of Oz*. Toto had the gift of fear and also was sufficiently intelligent, insightful, courageous, and protective of his companions that he was able to pull back the curtain to reveal what was actually taking place. The operator of the controls – that is, the master of the Overton Window that had been established in the *Wizard of Oz* – tries to save the situation and says: "Pay no attention to the man behind the screen."

This is the kind of situation with which Targeted Individuals are faced. They have tried, as best they can, to pull back the curtain in relation to government duplicity, and the guardians of the Overton Window concerning Targeted Individuals have said to the public: "Pay no attention to the man behind the curtain," and, unfortunately, most people have paid attention to what the "Wizard" said rather than what is being revealed by the pulling back of the curtain of secrecy with respect to government corruption and its programs of abuse, torture, and control.

George Orwell used another term in his novel *1984* to describe what is going on – namely, Newspeak. The whole idea of Newspeak is a way of referring to a psychological dynamic in which language can be

used as a weapon that undermines, and interferes with, the process of thought altogether.

For example, if whenever the term “peace” is used one means “war” or “violence” or “subjugation,” then, a person begins to have difficulty trying to figure out what someone is actually talking about. If a person is exposed to this psychological dynamic long enough, eventually, the individual loses the ability to think about peace in any other way than as a vehicle of violence, war, and subjugation.

In a sense, Newspeak is a way of narrowing the Overton Window. By setting words against themselves, then, thoughts soon are set against themselves and emotions are set against themselves, and, as a result, an individual becomes psychologically incapable of thinking about things in any other way than the confused, self-contradictory dynamic which has been brought about through the mind-killing and soul-killing rules of syntax and semantics to which Newspeak gives expression … all contrary thoughts and alternative ways of thinking have been eliminated and have disappeared into the black hole of Newspeak.

So, what happens when the government is successful in establishing the kind of Overton Window or form of Newspeak that has been weaponized against the American people? Despite considerable evidence to the contrary, the events that took place in places such as Maui, Hawaii or Paradise, California are nothing more than unfortunate sets of circumstances and have nothing to do with the use of directed energy weapons … move along folks, there is nothing to see here. Or, notwithstanding the considerable documented evidence brought forth by Katherine Watt and Sasha Latypova which demonstrates how public health has been weaponized by the military against the American people, instead, any discussion of evidence concerning such information is labeled as propaganda, misinformation or disinformation or mal-information.

The term mal-information is an interesting expression of the Overton Window and the active presence of Newspeak. Something constitutes mal-information when it is true but steps on the toes of vested interests and, therefore, runs the risk of threatening those interests and, consequently, should not be permitted.

Julian Assange and Chelsea Manning were guilty of spreading mal-information. The problem with their actions wasn't that what they were revealing was untrue, but, rather, what they were disclosing was entirely true and for that reason had to be shut-down … it was mal-information.

In 1948, Harry Truman signed into law the Smith-Mundt Act which originally had been introduced into Congress in 1945. The provisions of the Act were intended to: (a) establish a framework for regulating how the State Department would be permitted to disseminate broadcast information to foreign countries; (b) prohibit the American government from broadcasting such information to the citizens of the United States.

In 2012, the Smith-Mundt Modernization Act removed the prohibition against the American government propagandizing Americans in the same way that people in other countries are propagandized. To refer to the Smith-Mundt Act of 2012 as a matter of "modernization" rather than a repealing of the prohibition against propagandizing Americans is another expression of the Overton Window and Newspeak at work.

Most of the people who interact with, and surround, Targeted Individuals are all influenced by the ramifications of the Smith-Mundt Modernization Act of 2012. Most of the people who interact with and surround Targeted Individuals have been exposed to the gaslighting dynamic set in motion by the aforementioned Modernization Act in which actual evidence is turned into some sort of "conspiracy theory" or "mal-information."

As a matter of public record, conspiracy theories are introduced into federal and state courts by prosecutors every week of the year. All R.I.C.O. cases – that is, cases which are advanced under the Racketeer Influenced and Corrupt Organizations Act -- are conspiracy theories.

The fact that the government gets to say what is, and what is not, a prosecutable conspiracy theory is part of the Overton Window and also an expression of Newspeak. Conspiracies both exist and do not exist at the same time.

When government officials speak in terms of conspiracies then conspiracies are real. When anyone else other than the government introduces the idea of a conspiracy, then, conspiracies are mere fantasies.

The notion of conspiracy theory was initially introduced by a CIA agent acting on behalf of a government agency that wanted to weaponize the idea of conspiracy and induce people to dismiss any research which had to do with alternative accounts of what happened in Dealey Plaza in Dallas on November 22, 1963. Of course, if the foregoing account is true, then the CIA agent who leaked the idea on behalf of his superiors is, along with his controllers, guilty of violating the law which prevents CIA agents from operating within the United States.

William Colby, former director of the CIA, intimated during the Church Senate Committee Hearings in 1975 that, at the very least, the CIA often plants stories with domestic media people … stories that are intended to shape the understanding of the American public. Colby also has stated that the CIA owns anyone of any significance within the American media.

This sort of assertion seems to indicate that CIA agents are carrying out assignments within the territorial United States in order to influence the American public. If so, then, those kinds of actions are in violation of the laws that supposedly govern where and with whom the CIA can conduct its activities.

Many people have been so indoctrinated and propagandized that if one were to mention to them the names: Frank Olson, John Kennedy, John Kennedy Junior, Robert Kennedy, Sirhan Sirhan, Fred Hampton, John Hinckley, John Lennon, Mark Chapman, Paul Wellstone, Bruce Ivins, Danny Casolaro, Malcolm X, Marvin Gaye, Sam Cook, Gary Webb, Jamal Khashoggi, Qassem Soleimani, Vince Foster, Barry Seal, Udo Ulfkotte, Julian Assange, Chelsea Manning, Seth Rich, Andreas Noack, as well as 16 year old American, Abdulrahman al-Aulaqi -- and assuming the person to whom the foregoing names have been mentioned had even heard of some of those people, then, the circumstances surrounding the foregoing names tend to be perceived by many, if not most individuals, as being unrelated to one another rather than, possibly, serving as narratives which have been clothed in

ways that often are nothing more than what are termed by intelligence agencies as "limited hangouts" – that is, stories developed by government officials and released to the media to be sold to the public as something relatively innocuous and peripheral in order to try to forestall or discourage most people from looking more deeply and carefully into the lives of people who have been targeted for assassination or people who have had their lives turned upside down by governments, corporations, and intelligence agencies that feel threatened by the activities of the foregoing individuals.

Most people in the United States do not know that the third leading cause of death – and, according to some measures, constitutes the leading cause of death in the United States -- is the result of preventable medical errors. Every year between 300,000 and 600, 000 people die due to iatrogenic causes – that is, preventable but medically induced deaths.

In other words, each decade, somewhere between 3 million and 6 million people die unnecessarily at the hands of the medical industry. This has been going on for decades.

19 Arabs were held responsible for the tragedies that took place on September 11, 2001 which resulted in the death of over 2,000 people. As a result, two countries – Afghanistan and Iraq -- which had nothing to do with the September 11th events were attacked by the United States and decimated, with millions of people being killed, maimed, displaced, imprisoned, or tortured.

However, when the medical system is shown to be responsible for the unnecessary deaths of thousands of times as many individuals as died on 9/11, nothing is done. All one has to do is look at who the advertisers are for news programs on television or what vested interests contribute money to various news programs, and one understands why the media is relatively silent about the third leading cause of death in America year after year after year, decade after decade.

Moreover, given the foregoing considerations, no one should be surprised that the National Childhood Vaccine Injury Act of 1986 was signed into law by Ronald Regan. This Act not only removed the issue of liability from the process of manufacturing vaccines, but, as well, turned the United States Justice Department into an agency, paid for

by taxpayers, whose primary mission turned out to be a process of placing all manner of legal and financial obstacles in the way of citizens who were seeking compensation, under the law, for possible vaccine-caused injuries.

The liability issues that were removed from the table in 1986 were further expanded through the PREP Act of 2005. According to this legislation, when a health emergency is declared by the Federal government, then, no one who is operating under the provisions of emergency authorization can be held liable – either financially or criminally -- for what they do, even if what they do causes death or injury.

I could go on, but I believe the gist of my position is clear. Given the tremendous forces of propaganda, censorship, indoctrination, intimidation, media manipulation, and so on that are in play with respect to Targeted Individuals, finding effective leverage points through which to pry open the informational bubbles in which so many people are wrapped becomes akin to Hercules' task of cleaning out the Augean stables. However, I believe that more programs like the one we are doing – involving a variety of other individuals -- might have some degree of constructive impact on the foregoing problem

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5.) Any predictions about where this is going, at the level of the general population, and with the Targeting Individuals in particular?

There is a short answer and a long answer that can be given to your question, Len. I'll try to provide you with both.

The short answer is of a religious, spiritual, or mystical nature – some might wish to describe it as a theological sort of response. I suspect that your audience consists of people who operate out of a variety of backgrounds, not all of which are religious or spiritual in nature, and, consequently, this part of my answer is not intended for them. I do believe, however, that they might be much more interested in the second, longer part of my response and, so, I will ask for their patience while I outline my initial perspective.

I am not a Christian, but I have love for Jesus or Isa (peace be upon him), and, in many ways, he – not the New Testaments account -- has helped shape my life. I am deeply inspired by his example and his character. Furthermore, along with Christians, Muslims believe there will be a second coming of Jesus (peace be upon him), and during this second coming, all outstanding accounts will be settled, and, as a result, ultimately, evil will not prevail.

When that time will arrive, no one knows. I live in the here and now, and should the second coming not occur in my lifetime then I will have to deal with whatever comes my way as best I can.

My efforts might succeed in some ways, and they might fail in some ways. However my actions are evaluated, I'm likely going to die -- sooner rather than later, and to use a sport's analogy, my mission or task or challenge is to try to leave everything that I have to offer – which might not be all that much -- on the playing floor of life.

There is no shame in losing. There is only shame in not trying as best one can, and, so win or lose, I know that evil has been set loose in the world, and I know that Targeted Individuals have sort of been canaries in the coal mine in this respect, and they have helped to warn me concerning one of the faces of the hydra-headed monster that walks among us.

What, if anything, I might be able to do about the foregoing problem remains to be seen. One of the reasons why I agreed to speak with you, Len, on this program is because I wanted to try to do something rather than nothing, small though that "something" might be.

Did I have a certain amount of trepidation concerning appearing on the show? Yes, I did, but if what various members of the Targeted Individuals Community are saying is true – individuals such as you, Len, Sabrina Wallace, Ana Mihalcea, Katherine Horton, and Bill Binney -- then, really, there is no such thing as being able to hide from the evil that is stalking us, and since I am inclined to accept their perspective on this issue, then, whether I appeared on this show or I didn't appear, nevertheless, in many ways, the problems that I will face in the future are likely to be pretty much the same.

The foregoing considerations remind me of a fairly well-known story involving a man who had been told that as long as he stayed away from the city of Samarkand he would be able to continue to live. Consequently, the man arranged his life in a manner that was designed to keep him far from the aforementioned city.

One day, however, he saw Death in his vicinity and Death gave him a very strange look. The man panicked and began riding blindly just to get away from Death.

Somehow, he ended up in Samarkand where Death was waiting for him. Before Death took him away, the man asked about the strange look that had been on the face of Death when the two met in another city, and Death replied that since he had a fast-approaching appointment with the man in Samarkand, he was surprised to see the man in another city.

Now, I can follow the example of the man in the story and become panicked and begin galloping every which way in an attempt to escape what cannot be escaped. Or, I can accept that my time of death has already been arranged, and, consequently, I need to try to work my way toward that date with as much character as I can muster … which, sometimes, doesn't seem all that much.

I see hopeful signs concerning some people's willingness to take on the evil that is polluting our world, but I also see some very troubling signs in that regard as well. As a result, I am uncertain about how things will turn out in the short run, but I am very confident that in the longer run – that is, whenever Jesus (peace be upon him) might return – then, at that time, evil will be dealt with appropriately in one way or another.

My longer answer begins with something that might appear to be religiously oriented. Nevertheless, in reality, as I hope soon will become clear, that which is being alluded to here is a point of view that is quite different from what first impressions might conclude.

So, let's begin with a definition of religion. Religion is a process of searching for the truth concerning the nature of one's relationship with Being or Reality.

If one looks at the etymological roots of the term religion, there are certain themes which have prominence. First, the dynamics of religion are such that there is a dimension of conceptual and emotional binding which tends to tie one to whatever one considers the truth concerning the nature of one's relationship with Reality to be.

Secondly, in addition to a conceptual and emotional bond that ties one to a particular way of engaging what one considers to be the truth concerning the nature of one's relationship with reality, there is also some sort of moral compass that is present in such a perspective which addresses the issue of what one considers to be the truth with respect to how a person should conduct one's relationship with whatever one considers the truth to be.

Irrespective of whether one is a believer, agnostic, or atheist, I find it interesting that when matters of character are to be reflected upon there seems to be a great deal of overlap among the different positions. On the constructive side of the ledger, most people, irrespective of their hermeneutical orientation concerning the nature of life, would consider qualities of: Honesty, sincerity, patience, courage, generosity, gratitude, kindness, humility, perseverance, integrity, compassion, love, friendship, discipline, forgiveness, nobility, tolerance, fairness, and equanimity to be desirable qualities, whereas on the negative side of the ledger, most people, irrespective of their hermeneutical orientation concerning the nature of life, would consider qualities of: Dishonesty, insincerity, cowardice, unfriendliness, meanness, arrogance, flightiness, animosity, intolerance, hard-heartedness, indifference, stinginess, ungratefulness, intemperateness, ignobility, impatience, sloppiness, unfairness, and a tendency to hold grudges to be undesirable qualities.

People might disagree about how to go about giving expression to constructive qualities or avoid giving vent to negative qualities. However, there are degrees of freedom surrounding what might be acceptable examples of either various constructive or problematic qualities.

For example, how to give expression to the quality of love has been addressed in very different ways through poetry, literature, philosophy, and psychology. There is no one way to give expression to love, humility, courage, compassion, and so on, just as there is no one

way to indicate that certain acts necessarily give expression to meanness, or arrogance, or cowardice, or dishonesty. Qualities of character are principle-governed and not rule-based.

Having said the foregoing, consider the following. The first amendment says that:

"Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof."

What does this mean?

Before attempting to address the foregoing question, one should know that George Mason, a delegate from Virginia, argued during the Philadelphia Constitutional Convention of 1787 that some sort of a Bill of Rights should be introduced into the document that was being constructed, and he made some concrete proposals in this regard. His suggestions were all turned down by the other delegates, and as a result, he voted against the Constitution prior to its release, first, to the Continental Congress, and, then, subsequently, to the people in the 13 states for purposes of being discussed in different sessions of the ratification conventions that were held.

During the ratification meetings that took place in various states between 1787 and 1790, there were repeated calls from delegates to add some sort of Bill of Rights to be included in the Constitution prior to its being ratified. These overtures were repeatedly frustrated and rejected by federalist forces who also were serving as delegates during the ratification conventions.

After the Constitution was ratified by the different states and Congress had begun its first session, James Madison was approached by various individuals and reminded of promises which had been made during different ratification conventions that a Bill of Rights would be added to the Constitution once it was ratified. Initially, Madison resisted these reminders, but, eventually, he relented and put together a series of proposals that were brought before Congress, discussed, rewritten somewhat, and, then, approved.

What did the people in Congress mean by the notion of religion that appears in the first amendment? Some people in Congress were

Christians, but there were different denominations of Christians. Some people in Congress were Deists. Some people in Congress were not all that religiously oriented.

Many of the people in Congress were sufficiently educated, well-read and worldly to be aware of the existence of Jews, Buddhists, Hindus, Muslims, and, as well, to be aware that indigenous peoples had a variety of religious orientations. Consequently, one might suppose that the general sense of the term religion in the first amendment that was acknowledged by the members of Congress was likely to be fairly broad, and, in fact one might suppose that their understanding of the term could be similar to the definition which I outlined earlier – namely, religion gives expression to an individual's search concerning the nature of one's relationship with Being or Reality.

I feel that anyone who would like to dispute the foregoing contention is going to have a very difficult time demonstrating that some other notion of religion was intended by the members of Congress who voted on, among other things, the first amendment, and which was signed into law by a President who also was a Freemason, which has its own notion of divinity. If the foregoing contention turns out to be true, then, the first amendment raises some very difficult questions.

For example, if religion gives expression to a person's search for the truth concerning the nature of one's relationship with Reality or Being, then, economics, politics, philosophy, science, and law all satisfy the conditions that constitute religion as previously defined. This means that almost everything that Congress does tends to be a violation of the first amendment because virtually all Congressional legislative acts are either engaging in a process of establishing a religion or prohibiting the free exercise thereof.

Moreover, all of the legislation that is advanced for purposes of creating different departments – from: Defense, to: the Interior, Treasury, Energy, Environment, Education, Immigration, Health, Justice, Housing, as well as subsets of those departments such as the CIA, NSA, FBI, CDC, FDA, FEMA, and the EPA – have questionable constitutional provenances because every governmental department and subset agency is seeking to put forth a perspective that gives expression to one, or more, person's search for the truth concerning

the putative nature of a human being's relationship with Reality or Being.

Like religion, laws are meant to be conceptually and emotionally binding. Like religion, laws possess a moral compass that is intended to direct how people are to live their lives.

The Department of Defense, DARPA, the CIA, NSA, and the FBI are government organizations which have helped – each in its own inimitable style -- to make the lives of thousands of Targeted Individuals a living hell. In effect, those agencies have sought to impose their form of religion onto Targeted Individuals and, as well, have prohibited Targeted Individuals from being able to freely exercise their own approach to religion, and, as such, all of the foregoing government agencies have been permitted to violate the first amendment rights of Targeted Individuals.

Let's take a look at the Judiciary. For instance, there is nothing in the 1787 Constitution which entitles or requires that the members of the judiciary should be the ones who determine what the Constitution, or any of its amendments, means. One cannot possibly have three equal but separate branches of government as long as only one of those branches gets to say what the Constitution supposedly means.

The Constitution indicates that power is to be invested in the judiciary in conjunction with all cases of law and equity that arise under: The Constitution; the laws of the United States; treaties that are made; cases involving ambassadors, public ministers, consuls, as well as cases touching upon matters of admiralty and maritime jurisdiction. In addition, Constitutional power is invested in the judiciary to deal with cases of controversy involving: The United States; disputes between two, or more, states, or between a state and one or more citizens of another state, or between citizens of different states, as well as between a state or the citizens of a state and one, or more, foreign governments.

According to the Constitution, the judiciary shall have original jurisdiction with respect to those cases that concern ambassadors, public ministers, consuls, as well as states. In all other cases, the judiciary shall have appellate jurisdiction both with respect to fact and

law unless some other kind of alternative arrangement is established through congressional action.

Given the foregoing guidelines, an appropriate question to ask is the following: Whether power is exercised through original or appellate jurisdiction, how is that power to be exercised? In other words, what principles should serve as the metric or standard for evaluating and deciding cases?

The only directional guidance that is given in the Constitution concerning the power of the judiciary is found in Article IV, Section 4 of that document. The aforementioned section stipulates that the United States government guarantees a republican form of government to the states and their citizens.

Republicanism was a moral philosophy that emerged during the Enlightenment. This philosophical perspective attracted a great deal of interest and many adherents among Americans throughout the 1700s.

Republicanism required those individuals who wished to comply with that moral, philosophical framework to operate through principles of: Integrity, honesty, impartiality, humility, financial independence, objectivity, non-partisanship, honor, compassion, reason, judiciousness, egalitarianism, and a willingness to avoid circumstances in which one would be serving as a judge in matters that involved one's own causes.

The moral philosophy of republicanism was at the heart of a revolutionary approach to the idea of governance that was being discussed in the homes, taverns, and tea houses throughout the colonies. Under republicanism, government officials would be required to act in accordance with the moral principles that were at the heart of that philosophical orientation.

In other words, republicanism required that those with political authority could not conduct themselves according to their own personal likes, dislikes, and/or interests as, generally, had been the case in most political environments throughout history. Instead, public officials would be required to abide by a set of moral principles that actually would serve the public rather than the self-serving machinations of government officials. (If interested, one can learn more about the origins, development and impact which republicanism

had on colonists with respect to their way of life in Gordon Wood's Pulitzer Prize-winning book: *The Radicalism of the American Revolution*).

Given the foregoing considerations, the power that is invested in the judiciary by the Constitution is predicated on the idea of acting in accordance with the principles of republicanism. As a result, the sole focus of the federal judiciary should be to ensure that the behavior of public officials – whether state or federal – which involved cases that came to the courts through original or appellate jurisdiction would be judged in accordance with the principles of republicanism that had been guaranteed to the states and the citizens of those states by the Constitution.

For members of the judiciary to busy themselves with discerning, or trying to discern, the meaning of the Constitution would be to engage in something that was antithetical to republicanism – namely, that the courts would be acting in a manner which involved the members of the judiciary serving as judges in their own causes. After all, whatever the meaning of the Constitution that was being advanced by members of the judiciary might be, such an interpretation would not give expression to anything but their own causes concerning their beliefs about the nature of the Constitution.

The possible meanings of the Constitution are not what should be the concern of the judiciary. Instead, what should have been at issue in any case before the judiciary is whether or not government officials had been complying with the moral requirements of republicanism that were constitutionally guaranteed to the people of the United States.

Consequently, the hundreds of books that contain judicial rulings concerning the alleged meanings as well as the decisions that established arbitrary precedents concerning such Constitutional meanings are, for the most part, null and void. The application of judicial power only extends to ensuring that the guarantee of republican government which is specified in Article IV, section 4 is being observed in the cases that the judiciary takes on through either original or appellate jurisdiction. Any other kind of judicial consideration or focus besides serving the requirements of the guarantee that is indicated in Article IV, section 4 is nothing but

invented legal fictions that have no actual standing or authorization within the Constitution.

For 236 years, the judiciary has continually exercised a form of power – involving meanings and precedents that shift with assumptions, values, and beliefs – to which it – that is, the judiciary -- is not constitutionally entitled. Moreover, like the Golum in J.R.R. Tolkien's *Lord of the Rings* trilogy, once members of the judiciary put on the ring of power, they become reluctant to take that ring of power off irrespective of what the corrupting ramifications of that ring might be for them or for others.

I attended the Zoom-meeting on Friday, January 12, 2024 concerning the Targeted Individuals legal case that is now waiting for the 5th Court of Appeals to set a date for hearing arguments concerning the illegality of the Terror Watch List. I also noted that a reference was made during the meeting concerning the existence of several Secret Categories of the Terror Data Base which also exist and do not seem to be covered by the present case, indicating that the underlying problem being faced by both Targeted Individuals and the rest of the citizenry might be systemic rather than being limited to a single agency or department of government.

My heart hopes that the foregoing legal case will be successful. Following 9/11, I was reported to the FBI by someone that I had thought was a friend.

My sins were that I was Muslim, had an as-seen-on-TV computer (with which to write books), and kept to myself because I had just moved to the area and didn't know very many people. There is a good chance that my name is in one, or more, of the data bases that were referenced during the aforementioned Zoom meeting, and, therefore, a victory in the foregoing legal case could have positive ramifications for me.

Notwithstanding the foregoing considerations, I believe that the problems facing the community of Targeted Individuals, as well as the rest of the general public, are not going to be resolved by a business as usual approach to such legal issues … that is, taking individual cases through the Appeal Courts, and, then, to the Supreme Court. There is a fundamental need for a constitutional re-visioning along the lines that have been expressed in the foregoing comments on the judiciary.

For example, the Ninth Amendment indicates that:

"The enumeration in the Constitution, of certain rights, shall not be construed to deny and disparage others retained by the people."

Yet, for 236 years, Congress, the judiciary, as well as the states (and state judiciaries) have been denying and disparaging the rights that are retained by the people even if such rights are not specifically enumerated in the Constitution but, as noted earlier, are alluded to by the word: "others" – that is, other rights – in the text of the Ninth Amendment.

For example, considerations of health, education, sovereignty, conscription, and religion are not among the enumerated rights that have been accorded to Congress. Therefore, every attempt by Congress to introduce legislation concerning such issues constitutes an attempt to deny and disparage the unenumerated rights of the people that are entailed by the Ninth Amendment.

Moreover, when state governments, via their legislatures and judiciaries, seek to co-opt issues involving, for example, health, education, sovereignty, conscription, and/or religion, then, state governments also are engaged in acts which seek to deny and disparage the unenumerated rights of the people. For example, the Tenth Amendment indicates that:

"The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people."

Consequently, the Tenth Amendment clearly indicates that states are not the only ones with Constitutional standing with respect to powers that have not been delegated to the United States, nor prohibited by the Constitution to the states. If this were not the case, then, there would have been no point for Roger Sherman to add the phrase "or to the people" to the original wording of that amendment.

In addition, seeking to withhold Constitutional standing from the people in conjunction with the sorts of powers that are being alluded to in the Tenth Amendment, would be another way of trying to deny and disparage the unenumerated rights of the people. After all, citizens

have a right – unenumerated though it might be -- to have access to the sorts of reserved, but unspecified, powers being alluded to in the Tenth Amendment which would enable those individuals to be able to actively realize their unenumerated rights under the Ninth Amendment.

The guarantee that is present in Article IV, section 4 of the Constitution not only requires the judiciary to ensure that all members of the federal government are acting in accordance with the moral principles of republicanism, but the array of cases which the judiciary has been given power to engage via Article III, section 2 of the Constitution indicates that the judiciary has the authority to ensure that cases involving states and citizens will be conducted in accordance with the requirements of the moral philosophy of republicanism as well. Consequently, for the last 236 years, the federal judiciary should have been actively restraining state governments from denying and decrying the unenumerated rights of citizens as well as actively upholding the Constitutional standing of the people concerning those powers that have not been delegated to the United States nor prohibited to the states and which, therefore, have been "reserved to the states respectively, or to the people."

Unfortunately, for some 236 years, the federal judiciary has, by and large, failed in its fiduciary responsibilities to the citizens of America when it comes to the issue of ensuring that no branch of government, whether federal or state, denies and disparages the unenumerated rights of individual citizens that are established through the Ninth Amendment. Furthermore, the judiciary has also failed to actively protect the Constitutional standing of individual citizens by reminding the federal and state actors in the cases before them about the unspecified, reserved powers under the Tenth Amendment that have not been delegated to the United States nor prohibited to the states or to the people.

Article IV, section 4 also requires the United States to protect the states against invasion. Yet, despite the fact that corporations were an anathema to the colonialists who were engaging in a revolution against not only England but the activities of the East India Company, nonetheless, the judiciary and members of Congress have enabled

corporations to invade the lives of people and to acquire substantial influence, if not control, over the lives of those citizens.

Corporations are legal fictions. Legal fictions are arbitrary ways that the courts invent in order to, supposedly, solve legal problems, with a wink and a nod, that could not be resolved if one were to abide by the law as it is written.

Corporations exist as a result of charters that give expression to a limited and temporary set of permissions which are granted by governments, and such charters set forth the understandings that are supposed to regulate the existence of those temporary and limited entities. However, starting with the '*Dartmouth College v. Woodward*' decision handed down in 1819 by the Marshall Court (a decision that the judiciary was not constitutionally authorized to make), corporations began to be treated as entities that had a form of life which had contractual rights independent of whatever charter permissions existed.

As a result, via the '*Dartmouth College v Woodward*' decision, the first will-'o-the-wisp apparition of the corporation as a shadowy, person-like entity with certain constitutional protections was, like Frankenstein's monster, given life. One might note in passing that John Marshall had an array of corporate entanglements in his legal past which induced him to look on corporations with favor and, therefore, aside from the fact that the Court had no authority to interpret the Constitution's meaning, he also was violating Article IV, section 4 of the Constitution in the '*Dartmouth College v Woodward*' decision because he was rendering a decision that allowed him to serve as a judge in his own cause – namely, his favorable opinion concerning the existence of corporations.

Corporations have no reality other than the fictional narrative or legal fiction that has been unconstitutionally assigned to them by the judiciary. Consequently, when the judiciary fails to observe its fiduciary responsibilities to the states and the people under Article IV, section 4, then, corporations are allowed to become person-like entities with rights rather than being restricted to being mere charters with limited and temporary permissions that, under the Ninth and Tenth Amendments, are subservient to the unenumerated rights and powers of the people, as well as the unspecified powers of the states.

Every policy of federal and state governments that seeks to deny and disparage the unenumerated rights of the people under the Ninth Amendment constitutes an act of violence against the people. As such, these acts violate Article IV, section 4 of the Constitution because the United States government is supposed to protect the states and their people against all forms of domestic violence, and, yet, neither the legislature nor the executive will make an application to the judiciary to protect the people in this regard, nor does the judiciary, on the authority of its own original jurisdiction, serve as protectors of, and advocates for, the unenumerated rights of the people under the Ninth Amendment.

Finally, the Executive branch of the United States is also constrained by the guarantee of republican government inherent in Article IV, section 4 of the Constitution. This means that whatever: Executive Orders, fast-tracked treaties, calls for martial law, national security directives, intelligence operations, and/or security classification schemes that are initiated, knowingly or unknowingly, through the Office of the President, or the President's representatives, all of the foregoing practices must (according to the guarantee of the Constitution) be in compliance with the principles to which the moral philosophy of republicanism gives expression.

The judiciary has original jurisdiction when it comes to the behavior of ambassadors, public officials, and consuls as well as cases in which states are involved. With respect to the issue of original jurisdiction, the Supreme Court does not have to be referred cases by lower courts to be able to investigate the conduct of federal employees but has the authority to do so without any such request in order to determine whether ambassadors, officials, consuls, and states are conducting themselves in accordance with the provisions of Article IV, section 4 of the Constitution.

Unfortunately, the Supreme Court has rarely exercised its fiduciary responsibility in matters of original jurisdiction when it comes to ensuring that ambassadors, public officials, consuls, and states are complying with the moral requirements of republican philosophy that are guaranteed to the states and the people by Article IV, section 4 of the Constitution. As a result, the CIA, the FBI, the NSA, the military, the IRS, the NIH, the CDC, the FDA, and an array of

intelligence agencies associated with different departments in the federal government have never been called to task for a multiplicity of breaches concerning the aforementioned Constitutional guarantee.

All branches and departments of the federal government as well as the branches and departments of many states have colluded, if not conspired, with one another to try to prevent the people from truly understanding: (1) the nature of the obligations that government officials have under the principles of the moral philosophy of republicanism which have been guaranteed to the states and their people in Article IV, section 4 of the Constitution; (2) the constraints involving religion that restrict the legislative activities of Congress under the First Amendment, and (3) the unenumerated and unspecified rights and powers that have been extended to the people through the Ninth and Tenth Amendments respectively.

However, as remiss as federal and state governments have been in attending to their fiduciary responsibilities to the people for 236 years, the people, themselves, have not made the effort or taken the time to properly understand the nature of the circumstances, opportunities, rights, and powers that have the potential to enable the people to realize their own sovereignty quite independently of federal and state governments. Neither the federal nor state governments have the Constitutional standing to deny and disparage the unenumerated rights and reserved, yet unspecified, powers of the Ninth and Tenth Amendments respectively, but people are going to have to actively seek the realization of such unenumerated rights and unspecified powers because, as history has clearly demonstrated, federal and state officials tend to become drunk on the power and rights that have been usurped from the people and, as a result, such officials will resist the people taking back what has belonged to the latter individuals since the amended Constitution came into existence in 1791.

Seeking the realization of unenumerated rights and unspecified powers is not a call for anarchy but a demand for sovereignty. Sovereignty is not about the unrestrained exercise of freedom that some libertarians might suppose is the case but, rather, sovereignty is about having the protected opportunity to seek to discover and realize the nature of one's essential nature.

Sovereignty is about decentralization of power rather than the centralization of power. However, sovereignty is also about ensuring that such decentralized power is capable of protecting everyone's opportunity to realize their unenumerated rights and unspecified powers in a manner that is mutually consonant with one another.

In whatever manner the foregoing issues are tackled, there is going to have to be some sort of institutional medium or dynamic through which people can come together to have an opportunity to explore, discuss, formulate, and actuate possible ways of resolving those matters. Whether this is in the form of grand jury-like bodies or is in the form of some kind of healing-circles, or in the form of some other alternative possibility, the institutional format or dynamic will be independent of federal and state governments but, at the same time, will have to find ways of working with those levels of governance.

The federal and state governments can help people with the sovereignty project. Nonetheless, those forms of governance cannot solve the challenges that are entailed by that project.

The sovereignty challenge can only be resolved by the people themselves. That challenge cannot be resolved through: Voting, elected representation, or the activities of various branches of government but, instead, must be engaged by the people themselves through: Discussion, debate, critical reflection, constructive exercises of character, reciprocity, compromise, and fairness in conjunction with the aspirations of the participants.

It is not enough for people to speak about freedoms and liberties. The people must come together in an array of settings to actively engage in the difficult, nuanced work that is entailed by the challenge of developing an understanding about what freedom looks like – in actual lived terms – within the context of a multiplicity of people that are each seeking and have a right to conditions and principles of sovereignty being applied to their lives.

The current Constitution does not have to be jettisoned to accomplish the foregoing project. Nonetheless, constitutional provisions that are present in Article IV, section 4, along with the First Amendment's restrictions concerning the establishment or prohibition of religion by Congress, as well as the authority inherent in the Ninth

and Tenth amendments concerning the sovereignty of the people must be acknowledged, honored, and judiciously protected as well as supported by federal and state forms of governance.

Unfortunately, for a variety of reasons, time is running out. If we, the people, do not act on the aforementioned sovereignty project soon, we might well lose the capacity to do so altogether or have that opportunity taken away from us by parties that have no interest in the people becoming truly sovereign.

Pursuit of the sovereignty project is the only way in which a sense of duty and obligation might arise in the context of the Constitution. Absent such a project, the potential of the Constitution that was introduced in 1787, ratified over the next several years, and amended in 1791, will continue to erode as it has been doing for the last 236 years.

If things continue on in the way they are going, then, at some point, a tipping point involving the American republic is going to be reached. When that happens, the promise and guarantee of abiding by the principles of republican moral philosophy will disappear and, as a result, complete tyranny or complete arbitrariness will reign.

We have a quickly evaporating opportunity to stop such a tipping point from taking place. The choice is ours, but without the establishment of an authentic sovereignty project, whatever decisions are made will come to nothing and our choices will do nothing but increase the distance between our existential circumstances and the possibility of leading sovereign lives.

Chapter 12: The Sovereignty Project

None of what follows should be understood as advocating for, or alluding to, the possibility that there is a legal pathway through which to free ourselves from the problems with which we are confronted. Most – perhaps all – of the members of the Supreme Court, as well as most, if not all, of the members of Federal Courts and State Courts are disinclined to recognize that they have no defensible form of "standing" with respect to determining the nature and scope of the unenumerated rights of the people that are acknowledged in the 9th Amendment. To whatever extent government officials were to claim that they have such standing in the matter of determining what constitutes the nature and scope of the unenumerated rights of the people would disclose that they have no essential understanding of what is meant by: (a) The idea that the unenumerated rights which people have cannot be denied or disparaged by the government – whether federal or state – or (b) that such unenumerated rights are independent from processes of governmental disposition. Sovereignty is not something that comes from law or legal systems, but, rather, sovereignty is an ontological orientation which predates legal systems but has the potential to make such systems worthwhile and workable. The discussions which follow use the Constitution as a frame of reference on which to critically reflect in an attempt to shed light on certain dimensions of sovereignty, but, ultimately, principles of sovereignty actually transcend the Constitution. A constitution has only as much value as the amount and quality of sovereignty that is present in such a constitutional arrangement. Sovereignty is the existential and moral responsibility of each individual and cannot be derived from forms of governance involving legislative dynamics, judicial judgments, or executive actions. A person has a choice: (a) To actively exercise sovereignty and accept the consequences for doing so, or (b) to be governed by something other than sovereignty.

Many people - on all sides of the issue - have been consumed with the: 'Who', 'why', and 'how' of the events on 9/11, but some fifteen years later those questions are not foremost on my mind. Instead, I am concerned with what the events of 9/11 have set in motion with respect to the systematic stripping of rights, freedoms, and

sovereignty that occurred in relation to American citizens, not to mention the millions of individuals who were adversely affected elsewhere in the world due to the collateral damage that ensued due to the forces given expression through the events of 9/11.

Americans - as well as individuals and communities elsewhere in the world -- have been swindled out of sovereignty by an array of scoundrels both known and unknown. America has become a failed nation because none of its essential institutions -- such as the three branches of federal government, the military, the Federal Reserve Bank, the media, and academia -- have, for the most part, done anything to prevent tyranny, oppression, and injustice from conducting a blitzkrieg of America, as well as communities elsewhere in the world.

While the events of 9/11 helped pave the road to the foregoing sort of dissolution, the problem actually began more than 225 years ago with the coup d'état that was set in motion in the summer of 1787 in Philadelphia when a group of people -- sometimes referred to as the 'Founding Fathers' or 'Framers' -- decided to swindle Americans out of the opportunity to work toward establishing something that was far better than a republic or a democracy. Those individuals helped to establish a republic, and, unfortunately, almost from the very beginning, they began to betray the idea of a republic by failing to live in accordance with the moral principles of republicanism that are at the heart of the form of governance that was manipulated into existence through the process of ratification by the 'Founding Fathers' (For details concerning the foregoing claims, please refer to one, or more, of the following works: *Beyond Democracy*, *The People Amendments*, *The Quest for Sovereignty*, and *Sovereignty: A Play In Three Acts.)*

From there, things went from bad to worse. The so-called 'Founding Fathers' -- especially James Madison who came up with the Virginia Plan that served as the template for the Constitution - were appalled by the idea of democracy because, among other things, that mode of government often tended to oppress minorities in order to appease majorities who were inclined to operate out of arbitrary, volatile perspectives. Indeed, it is important to understand that the mode of government known as a republic is not at all synonymous

with the notion of a democracy ... representative or otherwise.

However, by the mid-to-late 1790s, democracy had overrun republicanism as the form of governance that became dominant in America, and one of the signs of this transition was the formation of political parties ... something that was actually inconsistent with the moral principles of republicanism (enshrined in Article IV, section 4 of the Constitution) that required people in government to be impartial, objective, and unbiased in their deliberations and, therefore, indicates that belonging to a political party constitutes a conflict of interest with the moral duties of someone in government as far as the political philosophy of republicanism is concerned.

Relevant to the foregoing considerations is something that might be referred to as: The *Anaconda Principle.* This notion refers to the way in which most, if not all, governments engage in a process of increasingly and progressively squeezing the political, emotional, spiritual, social, educational, economic, and physical life out of citizens over a period of time. More specifically, each time the citizenry exhales in relief from having survived some arbitrary, unjustified, problematic exercise in public policy that was imposed on those citizens by government, the coils of power become wrapped even more tightly about the people through the next round of arbitrary and unjustified policies that are leashed upon the people.

Since 9/11, we have witnessed the introduction of: The Patriot Act (2001 - plus its reauthorization in 2005 that made many of its provisions permanent); The John Warner Authorization Act (2006); the Military Commissions Act (2006); as well as the National Defense Authorization Acts of 2010, 2011, 2012, 2013 and continuing on. In addition, there have been a slew of Executive Orders (e.g., 10990, 10995, 10997, 10998, 10999, 11000, 11001, 11002, 11003, 11004, 11005, 11921, and more) that authorize the government to control virtually every aspect of American society whenever the government deems this to be appropriate.

The Anaconda Principle is being applied ever more rigorously and persistently to the American people. In the process whatever constructive elements of republicanism and democracy that still were hanging on for dear life after several hundred years of abuse have been squeezed, for the most part, from political existence.

The following set of principles outline a possible social/political framework of self-governance that goes beyond the possibilities inherent in tyrannies, republics, and democracies. The time for change is upon us, and I believe that the kind of change to which I am alluding - monumental though it might be - can be accomplished peacefully and without violence.

I invite you to reflect on the principles of sovereignty that are briefly noted below. Then, I invite you to reflect on the form of governance in existence today and compare it with the principles of sovereignty.

Sovereignty does not require force. It requires the broadening and deepening of a person's understanding concerning the human condition, and when understood, sovereignty has a natural appeal to human beings because it reflects something that is integral to their own identity and sense of being human.

There is a significant difference between, on the one hand, the ways of republicanism, democracy or power and, on the other hand, the way of sovereignty. We each have a duty of care to carefully and critically reflect on the nature of the choices we might make with respect to the foregoing possibilities

The following principles are in response to a question that someone once asked me - namely, "What is sovereignty?"

(1) Sovereignty is indigenous to, and inherent in, the potential of human beings. It is not derived from society or governments but, in fact, exists prior to, and independently of, the formation of society and governments.

(2) Sovereignty is the right to realize essential identity and constructive potential in ways that are free from techniques of undue influence (which seek to push or pull individuals in directions that are antithetical to the realization of sovereignty) but, as well, in ways that do not infringe on the like rights of others.

(3) Sovereignty entails the human capacity (and corresponding duties of care) to be able to push back the horizons of ignorance concerning the nature of reality.

(4) Sovereignty encompasses the right to the quality of food, shelter, clothing, education, and medical care that are minimally

necessary to realize identity and constructive potential through the process of pushing back the horizons of ignorance.

(5) Sovereignty is rooted in the duties of care that are owed to others to ensure that those sovereignty rights are established, protected, and nurtured.

(6) Sovereignty is the right to choose how to engage the dynamics of: 'neither control, nor be controlled'.

(7) Sovereignty entails establishing local councils that constructively promote and develop principles of sovereignty and, if necessary, those councils would help mediate disputes that arise along the boundary dynamics involving the principle of: 'Neither control nor be controlled'. The composition, selection, and nature of the council would be similar to that of a grand jury.

In other words, council members would not be elected but chosen through an agreed-upon random-like process and, then, subject to a vetting process to determine the suitability of a given individual for taking on the responsibilities of the aforementioned council ... much like prospective jurors go through a voir dire process. In addition, the length of service would be for a limited time (6 months to a year) before new members would be selected through the sort of non-manipulated manner and vetting process that was noted earlier. Like a grand jury, the members of a local sovereignty council would be empowered to investigate whatever issues and problems seem relevant, but, unlike a grand jury, that council would have the authority to research issues, subpoena witnesses, and present their results directly to the community for further deliberation without having to go through the office of a prosecutor or attorney general.

(8) Sovereignty is the responsibility of individuals to work toward realizing their own individual sovereignty within a collective context that gives expression to the idea of sovereignty being writ large for the community as a whole.

(9) Sovereignty is rooted in economic activity that serves the principles of sovereignty, not vice versa. Corporations should be permitted to exist only as temporary charter arrangements devoid of any claims of personhood and they should be designed to serve specific purposes of value to both individual and collective

sovereignty. Whatever profits accrue from corporate activity should be shared with the communities in which the corporation operates.

(10) The constructive value of money is a function of its role in advancing the principles of sovereignty for everyone. The destructive value of money is a function of the way it undermines, corrupts, and obstructs the principles of sovereignty.

Money acquires its value through the service it provides in relation to the establishment, enhancement, and protection of sovereignty. The money-generating capacity of banks should serve the purposes of sovereignty both individually and collectively. Banks should be owned and regulated by local communities as public utilities. Moreover, whatever profits are earned in conjunction with bank activities should be reinvested in the community.

(11) Capital refers primarily to the constructive potential inherent in human beings and only secondarily to financial resources. The flow of capital (in both human and financial terms) should serve the interests of sovereignty, both individually and collectively.

(12) Sovereignty is not a zero-sum game. It is about co-operation, not competition.

(13) Sovereignty is rooted in the acquisition of personal character traits involving: Honesty, compassion, charitableness, benevolence, friendship, objectivity, equitability, tolerance, forgiveness, patience, perseverance, nobility, courage, kindness, humility, integrity, independence and judiciousness.

(14) Sovereignty is not imposed from the outside in but is realized from the inside out through struggle by the individual to come to grips with the meaning of the idea of: 'Neither control nor be controlled'.

(15) Sovereignty is rooted in struggling against: Dishonesty, bias, hatred, jealousy, greed, anger, selfishness, intolerance, arrogance, apathy, cowardice, egocentrism, duplicity, exploitation, and cruelty.

(16) Sovereignty is the process of struggling to learn how not to cede one's moral and intellectual agency to anything but: Truth, justice and character in the service of realizing one's identity, and constructive potential, as well as in the service of assisting others to realize their identity and constructive potential.

(17) Sovereignty can never be defended, protected, or enhanced

by diminishing, corrupting, co-opting, or suspending the conditions necessary for the pursuit, practice, and realization of sovereignty. Sovereignty should not be subject to the politics of fear.

(18) Sovereignty is rooted in the principle that no person can represent the sovereign interests of another individual unless the sovereign interests of everybody are equally served at the same time.

(19) The activities and purposes of: Governments, nations, institutions, and corporations should always be capable of being demonstrated -- beyond a reasonable doubt - to be the service of the sovereignty of the people, taken both collectively and individually.

(20) Sovereignty is rooted in the principle of de-centralization whenever doing so would serve the interests of sovereignty better than some form of centralization would be able to accomplish in a clearly demonstrable manner.

(21) Efficiency and wealth should be measured in terms that enhance the way of sovereignty, not the way of power.

(22) The principles of sovereignty should be rooted in the notion of sustainability, and those principles should not be pursued or realized at the expense of destroying the environment ... either with respect to the short term or in conjunction with the long term.

(23) Sovereignty is rooted in the cautionary principle. In other words, if there is a reasonable doubt about the safety, efficiency, judiciousness, or potential destructive ramifications of a given activity, then that activity should be suspended until a time when those doubts have been completely, successfully, and rigorously addressed.

(24) The defense of sovereignty is best served through the co-operation of de-centralized communities of sovereign individuals ... with only occasional, limited, and secondary assistance from centralized institutions and groups.

(25) Standing armies do not serve the interests of sovereignty but, rather, serve the interests of the bureaucracies that organize, fund, equip, and direct those standing armies. Being able to defend one's country and communities from physical attack does not require standing armies but, instead, requires sovereign individuals who understand the value of defending the principles of sovereignty that help a community and network of communities to flourish.

(26) The police should serve and protect both individual, as well as collective, sovereignty. The police should not be the guardians and enforcers of arbitrary laws that are designed to protect centralized governments, corporations, institutions, and other bodies that tend to operate in accordance with the way of power and, therefore, in opposition to the way of sovereignty.

(27) When done correctly, the practice of sovereignty creates a public space or commons that is conducive to the pursuit and realization of the principles of sovereignty by everyone who is willing to struggle toward that end.

(28) Sovereignty is rooted in the principle that the commons - that is, the resources of the Earth, if not the Universe - cannot be proven, beyond a reasonable doubt, to belong to anyone. Therefore, the commons should be shared, conserved, and protected by all of us rather than be permitted to be treated as individual, institutional, corporate, or government forms of private property.

(29) Whatever forms of private property are considered to be permissible by general consensus, that property should serve the establishment, enhancement, and protection of the principles of sovereignty, both individual and collective.

(30) Aside from what is necessary to operate a business in an effective and productive manner, as well as what is necessary in the way of resources to be able to improve that business through research and development, and/or is necessary to provide a fair return for the employees of such a business for their collective efforts, then any profits that are generated by a business should be shared with the community or communities in which that business resides. The shareholders of a business should always be the entire community in which a business is located and not just a select number of private shareholders.

In exchange for foregoing kind of arrangement, there should be no taxes assessed in conjunction with businesses. At the same time, both businesses and the community become liable for whatever damages to individuals, the environment, or other parts of the community that are adversely affected by the activities of those businesses.

(31) A market in which all of its participants are not sovereign

individuals is not a free market. Markets that exploit the vulnerabilities of participants are not free. Markets that are organized by the few in a way that undermines, corrupts, or compromises the principles of sovereignty are not free.

Markets in which the participants are all equally sovereign are free. Nonetheless, the freedom inherent in those markets should serve the interests of sovereignty for those who are both inside and outside of those markets.

(32) Sovereignty is only realizable when it is rooted in a collective, reciprocal, guarantee that we will all treat one another through the principles of sovereignty.

(33) Violations of sovereignty are an impediment to the full realization of the principles of sovereignty. However, those violations should not be primarily or initially be subject to punitive forms of treatment.

Instead, violations of sovereignty should be engaged through a process of mediated, conflict resolution and reconciliation intended to restore the efficacious and judicious functioning of sovereignty amongst both individuals and the collective. This mediated process is, first and foremost, rooted in a rigorous effort to determine the facts of a given situation before proceeding on with the process of mediation, conflict resolution, or reconciliation.

A community has the right to defend itself against individuals who violate, and show a disregard for, the sovereignty rights of other individuals. The aforementioned right to self protection might assume the form of: Treatment, exile, incarceration, paroled supervision, community service, and other forms of negotiated settlement with respect to those who undermine the principles of sovereignty.

(34) Alleged scientific and technical progress that cannot be rigorously demonstrated beyond a reasonable doubt to enhance the pursuit and realization of principles of sovereignty by everyone is subject to being governed by the precautionary principle.

(35) Sovereignty is not a form of democracy in which the majority rules on any given issue. Rather, sovereignty is a process of generating consensus within a community that can be demonstrated, beyond a reasonable doubt, to serve the sovereignty interests of everyone.

(36) Sovereignty is rooted in the principle that with respect to any given practice, then, before making a community decision concerning that practice, then a community should take into consideration what the impact of that practice is likely to be on generations seven times removed from the current one.

(37) Everyone should underwrite the costs of pursuing, establishing, enhancing, realizing, and protecting sovereignty - both individually and collectively -- according to his or her capacity to do so.

(38) Sovereignty is not a function of political maneuvering, manipulations, or strategies. Rather, sovereignty is a function of the application of: Reasoned discussion, critical reflection, constructive reciprocity, creative opportunities, and rigorous methodology in the pursuit of pushing back the horizons of ignorance and seeking to establish, enhance, realize, and protect sovereignty, both individually and collectively.

(39) Sovereignty is not about hierarchy or leadership. Advisors and technical consultants who are capable of lending their expertise and experience to a given project that serves the interests of sovereignty in a community are temporary facilitators whose responsibilities do not extend beyond a given project or undertaking. Those facilitators often tend to arise in the context of a given need and, then, are reabsorbed into the community when a given need has been met.

(40) Education should serve the interests of establishing, developing, enhancing and protecting the principles of sovereignty - both individually and collectively - and not serve the interests of the way of power. Education should not use techniques of undue influence that push or pull individuals toward accepting, or rejecting, specific philosophical, political, economic, or religious perspectives.

(41) To whatever extent taxes are collected (and the issue of taxes needs to be considered and justified - to the extent that this can be accomplished - in a critically, rigorous fashion), those taxes should be assessed only on a local basis and only after all sovereignty needs of an individual for a given period of time have been addressed. Those taxes should be proportional -- within generally agreed upon specific limits -- to a person's capacity to pay those taxes without undermining a person's ability to fully pursue realizing the principles of sovereignty.

Whatever taxes are collected can only be used in conjunction with projects of which the individual taxpayer approves. Disputes concerning the issue of taxation should be handled through mediated discussions and not through punitive or coercive policies.

The foregoing statements of principle concerning the idea of sovereignty mark the beginning of the exploratory process, not the end. We all need to critically reflect on the foregoing set of principles because what we have today is working for just a very small number of individuals that follow the way of power and, as a result, seek to prevent people in general from being able to pursue, establish, enhance, realize, and protect the principles of sovereignty.

Sovereignty is not something new. The idea of sovereignty has been inherent in human beings for a very, very long time, but, unfortunately, as events have demonstrated again and again for thousands of years, people's aspirations for sovereignty have been thwarted persistently and rigorously by the way of power at nearly every juncture of history.

A person can commit one's moral and intellectual agency to the cause of sovereignty or an individual can cede that moral and intellectual agency to those who belong to the power elite - economically, militarily, socially, intellectually, politically, and religiously. A great deal hangs on the nature of the judgments one makes with respect to the issue of how one decides to cede one's moral, intellectual, and spiritual agency.

What is the nature of a person’s obligation or duty today with respect to the Constitutional arrangements that were initiated through the Philadelphia Convention of 1787 and which were further realized by means of the ratification conventions that were held during the several years following the foregoing gathering in Philadelphia? The only honest and defensible answer is: None.

The 1787 Constitutional Convention was entirely extra-legal. In other words, not only did those proceedings fail to abide by -- as well as went beyond -- the provisions and requirements inherent in the Articles of Confederation but, in addition, the 1787 meetings in Philadelphia generated a document which sought to supplant those

Articles in a manner that was not recognized as being an expression of the rule of law that had been established by means of the Articles of Confederation.

Of course, one might note in passing, that the aforementioned Articles of Confederation were provisions for governance that had not been agreed to by the American people either, but, instead, those principles constituted a system of power that was imposed on the general colonial populations that, under the control of vested financial and political interests, were turning themselves into self-proclaimed sovereign states that ruled over populations according to the likes and dislikes of a group of political elites with entrenched interests. Both the Articles of Confederation and the 1787 Constitution were arbitrary ways of organizing a system of governance, and this quality of self-serving arbitrariness is just one of the factors which tend to undermine anyone's attempt to claim that the 1787 Philadelphia Constitution and associated ratification conventions possess any sort of moral authority over the people of the United States.

The 1787 Philadelphia Convention, along with the ensuing ratification conventions, served as the Trojan horse through which a coup of the American people was engineered. Indeed, many tricks were played on the American people by way of the ratification process (For example, read Pauline Maier's work: *Ratification*), and this all resulted in a "way of power" taking control of the United States rather than resulting in the founding of a republic which, according to Ben Franklin, supposedly had been established … if we could keep it, and, as it turns out, almost from the very beginning, the republic has been lost.

The claims of the foregoing paragraphs are stated as declarative sentences. However, the arguments and evidence in support of those claims can be found in a number of books (e.g., *Beyond Democracy*, *Quest for Sovereignty*, *Sovereignty and the Constitution*, *Sovereignty: A Play in Three Acts*, as well as *The People Amendments*) that have been written and which are available for free at https://www.billwhitehouse.com/press.htm .)

The primary means through which the American people are currently attached to the Constitution is by an array of stick-and-carrot inducements that are applied in the form of: Judicial force,

political force, economic force, religious force, educational force, corporate force, media force, institutional force, military force, medical force, and/or the force of incarceration. One is required to comply with the so-called "rule of law" that has official oversight concerning behavior in the United States not because anyone (including lawyers, jurists, or politicians) can plausibly or justifiably demonstrate why the people of today have an indisputable duty and obligation to subjugate themselves to the alleged rule of law that was set loose in 1787, but, rather, one is required to comply with the legal fiction known as the "rule of law" because, if one does not do as one is told, one is likely to become the focus of the way of power's inclination to resolve all of its problems via violence of one kind or another (i.e., force) instead of by means of critical reasoning, fairness, character, and a recognition that all human beings have an inherent sovereignty that cannot be abrogated by any form of governance.

America does not operate in accordance with the rule of law but via the rule of force. Indeed, the notion of the rule of law is just a euphemistic cover-story which is intended to veil the wielding of violent power, and this has been true since the founding of America.

In response to the foregoing considerations, the ensuing discussion will be restricted to topics and issues concerning the First, Ninth, and Tenth Amendments. In addition, the provisions of Article IV, section 4 of the Constitution will be critically reflected upon … at least to a degree.

To begin with, we will assume – for the sake of argument – that the 1787 Philadelphia Constitution, along with the Bill of Rights, has some sort of moral claim on the people of today. What follows is a brief overview which indicates that almost nothing that is being done today within the halls of American governance can be reconciled with the original Philadelphia document and its first ten amendments.

Therefore, even if there were some dimension of the 1787 Constitution plus the Bill of Rights that had a moral claim on our allegiance (and, as individuals such as Lysander Spooner and others have pointed out, there is no such dimension), nonetheless, what has been transpiring in government for the last 236 years, or so, has no demonstrable moral or constitutional standing and, consequently, cannot be justified or defended as a basis for governance of sovereign

individuals. What is being presented here are just a few of the most important considerations which, for those who are willing to take the time, can be explored in more detail via the list of books that were mentioned previously.

Let's start the discussion by taking a look at the judiciary. For instance, there is nothing in the 1787 Constitution which entitles or requires that the members of the judiciary should be the ones who determine what the Constitution, or any of its amendments, means. One cannot possibly have three equal but separate branches of government as long as only one of those branches gets to say what the Constitution supposedly means.

The Constitution indicates that power is to be invested in the judiciary in conjunction with all cases of law and equity that arise under: The Constitution; the laws of the United States; treaties that are made; cases involving ambassadors, public ministers, consuls, as well as cases touching upon matters of admiralty and maritime jurisdiction. In addition, Constitutional power is invested in the judiciary to deal with cases of controversy involving: The United States; disputes between two, or more, states, or between a state and one or more citizens of another state, or between citizens of different states, as well as between a state or the citizens of a state and one, or more, foreign governments.

According to the Constitution, the judiciary shall have original jurisdiction with respect to those cases that concern ambassadors, public ministers, consuls, as well as states. In all other cases, the judiciary shall have appellate jurisdiction both with respect to fact and law unless some other kind of alternative arrangement is established through congressional action.

Given the foregoing guidelines, an appropriate question to ask is the following: Whether power is exercised through original or appellate jurisdiction, how is that power to be exercised? In other words, what principles should serve as the metric or standard for evaluating and deciding cases?

The only directional guidance that is given in the Constitution concerning the power of the judiciary is found in Article IV, Section 4 of that document. The aforementioned section stipulates that the

United States government guarantees a republican form of government to the states and their citizens.

Republicanism was a moral philosophy that emerged during the Enlightenment. This philosophical perspective attracted a great deal of interest and many adherents among Americans throughout the 1700s. Republicanism required those individuals who wished to comply with that moral, philosophical framework to operate through principles of: Integrity, honesty, impartiality, humility, financial independence, objectivity, non-partisanship, honor, compassion, reason, judiciousness, egalitarianism, and a willingness to avoid circumstances in which one would be serving as a judge in matters that involved one's own causes.

The moral philosophy of republicanism was at the heart of a revolutionary approach to the idea of governance that was being discussed in the homes, taverns, and tea houses throughout the colonies. Under republicanism, government officials would be required to act in accordance with the moral principles that were at the heart of that philosophical orientation.

In other words, republicanism required that those with political authority could not conduct themselves according to their own personal likes, dislikes, and/or interests as, generally, had been the case in most political environments throughout history. Instead, public officials would be required to abide by a set of moral principles that actually would serve the public rather than the self-serving machinations of government officials. (If interested, one can learn more about the origins, development and impact which republicanism had on colonists with respect to their way of life in Gordon Wood's Pulitzer Prize-winning book: *The Radicalism of the American Revolution*).

Given the foregoing considerations, the power that is invested in the judiciary by the Constitution is predicated on the idea of acting in accordance with the principles of republicanism. As a result, the sole focus of the federal judiciary would be to ensure that the behavior of public officials – whether state or federal – which involved cases that came to the courts through original or appellate jurisdiction would be judged in accordance with the principles of republicanism that had

been guaranteed to the states and the citizens of those states by the Constitution.

For members of the judiciary to busy themselves with discerning, or trying to discern, the meaning of the Constitution would be to engage in something that was antithetical to republicanism – namely, that the courts would be acting in a manner which involved the members of the judiciary serving as judges in their own causes. After all, whatever the meaning of the Constitution that was being advanced by members of the judiciary might be, such an interpretation would not give expression to anything but their own causes concerning their beliefs about the nature of the Constitution.

The possible meanings of the Constitution are not what should be the concern of the judiciary. Instead, what should have been at issue in any case before the judiciary is whether or not government officials had been complying with the moral requirements of republicanism that were constitutionally guaranteed to the people of the United States.

Consequently, the hundreds of books that contain judicial rulings concerning the alleged meanings as well as the decisions that established arbitrary precedents concerning such Constitutional meanings are, for the most part, null and void. The application of judicial power only extends to ensuring that the guarantee of republican government which is specified in Article IV, section 4 is being observed in the cases that the judiciary takes on through either original or appellate jurisdiction. Any other kind of judicial consideration or focus besides serving the requirements of the guarantee that is indicated in Article IV, section 4 is nothing but invented legal fictions that have no actual standing or authorization within the Constitution.

For 236 years, the judiciary has continually exercised a form of power – involving meanings and precedents that shift with assumptions, values, and beliefs – to which it is not constitutionally entitled. Moreover, like the Golum in J.R.R. Tolkien's *Lord of the Rings* trilogy, once members of the judiciary put on the ring of power, they were reluctant to take that ring of power off irrespective of what the corrupting ramifications of that ring might be for them or for others.

Let's consider, for a moment, or so, the powers of Congress. For example, the First Amendment stipulates that: "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof …" Although there might be many ways to talk about religion, in essence, religion appears to refer to any conceptual-emotional undertaking that seeks to determine – and, then, as a matter of duty or obligation, require one to act in accordance with -- what one considers to be the truth concerning the nature of one's relationship with Being or Reality.

Notwithstanding the manner in which any given individual might conceive of the notion of a Divinity, religion doesn't require that individuals believe in such a notion. Religion is the existential orientation which generates one's sense of duty and obligation in relation to whatever it is that one considers the truth to be concerning the alleged nature of one's relationship to reality or ontology.

Although words such as: Economics, politics, law, physics, cosmology, philosophy, technology, psychology, morality, evolution, epistemology, education, mythology, history, and medicine are used as if they were referring to fields of study that are quite apart from the idea of religion, nonetheless, such a perspective does not really seem to be all that tenable. Each of the words which were mentioned earlier entails conceptual and methodological activities that purport to map out the alleged truth concerning the relationship between, on the one hand, individuals and, on the other hand, the nature of reality.

Furthermore, the sub-text of those sorts of perspectives tends to be that one should act in a manner that reflects, or is consonant with, those alleged truths. Consequently, practices that pursue issues of truth and that entail a sense of obligation concerning those truths but which go by any name other than religion would not only smell as sweet but would, as well, tend to satisfy the essential conditions that constitute what makes a rose a rose or makes a religion a religion.

Therefore, any legislation that is introduced into Congress which seeks to induce citizens to pursue: A particular course of action, a set of policies, or a way of life that gives expression to what members of Congress believe to be the truth concerning the nature of an individual's relationship with Reality is a violation of the First Amendment. Such legislation is both an attempt to make laws

"respecting the establishment of religion" – that is, to impose a conception of truth and obligation onto citizens -- as well as an attempt to "prohibit the free exercise thereof" in the case of individuals who do not agree with the notion of reality that is being proposed by government officials.

In light of the foregoing considerations, almost all legislation that has been introduced and passed by one congressional session or another across the 236-plus years of the American republic has been in violation of the First Amendment. In addition, if the judiciary had been doing the one job that its members actually had been authorized to do by the Constitution, then, over the years, the members of Congress would have told, time and time again, by the judiciary that Article IV, section 4 of the Constitution prohibits such congressional actions – that is, the members of Congress have been violating the guarantee of republicanism that had been given to the states and its citizens by the Constitution when Congress seeks to impose on citizens ideas which the members of Congress believe to be the nature of truth -- and, therefore, the source of obligation or duty -- because by passing such legislation the members of Congress are seeking to be judges in their own causes … actions that are inconsistent with the moral philosophy of republicanism that has been guaranteed to the states and their people.

Congress is not free to do whatever it would like to do. Rather, the activities of Congress are constrained by the moral requirements of republican government that have been constitutionally vouchsafed to the states and their citizens and, as well, Congress is constrained by the very clear prohibitions that are stated in the opening part of the First Amendment concerning the establishment of religion or the prohibition of the free exercise thereof.

In addition, the Ninth Amendment indicates that "The enumeration in the Constitution, of certain rights, shall not be construed to deny and disparage others retained by the people." Yet, for 236 years, Congress, the judiciary, as well as the states (and state judiciaries) have been denying and disparaging the rights that are retained by the people even if such rights are not specifically enumerated in the Constitution but, as noted above are alluded to by

the word: "others" – that is, other rights – in the text of the Ninth Amendment.

For example, considerations of health, education, sovereignty, conscription, and religion are not among the enumerated rights that have been accorded to Congress. Therefore, every attempt by Congress to introduce legislation concerning such issues constitutes an attempt to deny and disparage the unenumerated rights of the people that are entailed by the Ninth Amendment.

Moreover, when state governments, via their legislatures and judiciaries, seek to co-opt issues involving, for example, health, education, sovereignty, conscription, and/or religion, then, state governments also are engaged in acts which seek to deny and disparage the unenumerated rights of the people. For example, the Tenth Amendment indicates that: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people." Consequently, the Tenth Amendment clearly indicates that states are not the only ones with Constitutional standing with respect to powers that have not been delegated to the United States, nor prohibited by the Constitution to the states. If this were not the case, then, there would have been no point for Roger Sherman to add the phrase "or to the people" to the original wording of that amendment.

In addition, seeking to withhold Constitutional standing from the people in conjunction with the sorts of powers being alluded to in the Tenth Amendment would be another way of trying to deny and disparage the unenumerated rights of the people. After all, citizens have a right – unenumerated though it might be -- to have access to the sorts of reserved, but unspecified, powers being alluded to in the Tenth Amendment which would enable those individuals to be able to actively realize their unenumerated rights under the Ninth Amendment.

The guarantee that is present in Article IV, section 4 of the Constitution not only requires the judiciary to ensure that all members of the federal government are acting in accordance with the moral principles of republicanism, but the array of cases which the judiciary has been given power to engage via Article III, section 2 of the Constitution indicates that the judiciary has the authority to ensure

that cases involving states and citizens will be conducted in accordance with the requirements of the moral philosophy of republicanism as well. Consequently, for the last 236 years, the federal judiciary should have been actively restraining state governments from denying and decrying the unenumerated rights of citizens as well as actively upholding the Constitutional standing of the people concerning those powers that have not been delegated to the United States nor prohibited to the states and which, therefore, have been "reserved to the states respectively, or to the people."

Unfortunately, for some 236 years, the federal judiciary has, by and large, failed in its fiduciary responsibilities to the citizens of America when it comes to the issue of ensuring that no branch of government, whether federal or state, denies and disparages the unenumerated rights of individual citizens. Furthermore, the judiciary has also failed to actively protect the Constitutional standing of individual citizens by reminding the federal and state actors in the cases before them about the unspecified, reserved powers that have not been delegated to the United States nor prohibited to the states or to the people.

Article IV, section 4 also requires the United States to protect the states against invasion. Yet, despite the fact that corporations were an anathema to the colonialists who were engaging in a revolution against not only England but the activities of the East India Company, nonetheless, the judiciary and members of Congress have enabled corporations to invade the lives of people and to acquire substantial influence, if not control, over the lives of those citizens.

Corporations are legal fictions. Legal fictions are arbitrary ways that the courts invent in order to, supposedly, solve legal problems, with a wink and a nod, that could not be resolved if one were to abide by the law as it is written.

Corporations exist as a result of charters that give expression to a limited and temporary set of permissions which are granted by governments, and such charters set forth the understandings that are supposed to regulate the existence of those temporary and limited entities. However, starting with the '*Dartmouth College v. Woodward*' decision handed down in 1819 by the Marshall Court (a decision that the judiciary was not constitutionally authorized to make),

corporations began to be treated as entities that had a form of life which had contractual rights independent of whatever charter permissions existed.

As a result, via the '*Dartmouth College v Woodward*' decision, the first will-'o-the-wisp apparition of the corporation as a shadowy, person-like entity with certain constitutional protections was, like Frankenstein's monster, given life. One might note in passing that John Marshall had an array of corporate entanglements in his legal past which induced him to look on corporations with favor and, therefore, aside from the fact that the Court had no authority to interpret the Constitution's meaning, he also was violating Article IV, section 4 of the Constitution in the '*Dartmouth College v Woodward*' decision because he was rendering a decision that allowed him to serve as a judge in his own cause – namely, his favorable opinion concerning the existence of corporations.

Corporations have no reality other than the fictional narrative or legal fiction that has been unconstitutionally assigned to them by the judiciary. Consequently, when the judiciary fails to observe its fiduciary responsibilities to the states and the people under Article IV, section 4, then, corporations are allowed to become person-like entities with rights rather than being restricted to being mere charters with limited and temporary permissions that, under the Ninth and Tenth amendments, are subservient to the unenumerated rights and powers of the people, as well as the unspecified powers of the states.

Every policy of federal and state governments that seeks to deny and disparage the unenumerated rights of the people under the Ninth Amendment constitutes an act of violence against the people. As such, these acts violate Article IV, section 4 of the Constitution because the United States government is supposed to protect the states and their people against all forms of domestic violence, and, yet, neither the legislature nor the executive will make an application to the judiciary to protect the people in this regard, nor does the judiciary, on the authority of its own original jurisdiction, serve as protectors of, and advocates for, the unenumerated rights of the people under the Ninth Amendment.

Finally, the Executive branch of the United States is also constrained by the guarantee of republican government inherent in

Article IV, section 4 of the Constitution. This means that whatever: Executive Orders, fast-tracked treaties, calls for martial law, national security directives, intelligence operations, and/or security classification schemes that are initiated, knowingly or unknowingly, through the Office of the President, or the President's representatives, all of the foregoing practices must (according to the guarantee of the Constitution) be in compliance with the principles to which the moral philosophy of republicanism gives expression.

The judiciary has original jurisdiction when it comes to the behavior of ambassadors, public officials, and consuls as well as cases in which states are involved. With respect to the issue of original jurisdiction, the Supreme Court does not have to be referred cases by lower courts to be able to investigate the conduct of federal employees but has the authority to do so without any such request in order to determine whether ambassadors, officials, consuls, and states are conducting themselves in accordance with the provisions of Article IV, section 4 of the Constitution.

Unfortunately, the Supreme Court has rarely exercised its fiduciary responsibility in matters of original jurisdiction when it comes to ensuring that ambassadors, public officials, consuls, and states are complying with the moral requirements of republican philosophy that are guaranteed to the states and the people by Article IV, section 4 of the Constitution. As a result, the CIA, the FBI, the NSA, the military, the IRS, the NIH, the CDC, the FDA, and an array of intelligence agencies associated with different departments in the federal government have never been called to task for a multiplicity of breaches concerning the aforementioned Constitutional guarantee.

All branches and departments of the federal government as well as the branches and departments of many states have colluded, if not conspired, with one another to try to prevent the people from truly understanding: (1) the nature of the obligations that government officials have under the principles of the moral philosophy of republicanism which have been guaranteed to the states and their people in Article IV, section 4 of the Constitution; (2) the constraints involving religion that restrict the legislative activities of Congress under the First Amendment, and (3) the unenumerated and

unspecified rights and powers that have been extended to the people through the Ninth and Tenth Amendments respectively.

However, as remiss as federal and state governments have been in attending to their fiduciary responsibilities to the people for 236 years, the people, themselves, have not made the effort or taken the time to properly understand the nature of the circumstances, opportunities, rights, and powers that have the potential to enable the people to realize their own sovereignty quite independently of federal and state governments. Neither the federal nor state governments have the Constitutional standing to deny and disparage the unenumerated rights and reserved, yet unspecified, powers of the Ninth and Tenth Amendments respectively, but people are going to have to actively seek the realization of such unenumerated rights and unspecified powers because, as history has clearly demonstrated, federal and state officials tend to become drunk on the power and rights that have been usurped from the people and, as a result, such officials will resist the people taking back what has belonged to the latter individuals since the amended Constitution came into existence in 1791.

Seeking the realization of unenumerated rights and unspecified powers is not a call for anarchy but a demand for sovereignty. Sovereignty is not about the unrestrained exercise of freedom that some libertarians might suppose is the case but, rather, sovereignty is about having the protected opportunity to seek to discover and realize the nature of one's essential nature.

Sovereignty is about decentralization of power rather than the centralization of power. However, sovereignty is also about ensuring that such decentralized power is capable of protecting everyone's opportunity to realize their unenumerated rights and unspecified powers in a manner that is mutually consonant with one another.

One way of engaging the foregoing issues can be accessed for free through https://www.billwhitehouse.com . Just go toward the bottom of that web page and click on the link entitled "Sovereignty".

In whatever manner the foregoing issues are tackled, there is going to have to be some sort of institutional medium or dynamic through which people can come together to have an opportunity to explore, discuss, formulate, and actuate possible ways of resolving those matters. Whether this is in the form of grand jury-like bodies or

is in the form of some kind of healing-circles, or in the form of some other alternative possibility, the institutional format or dynamic will be independent of federal and state governments but, at the same time, will have to find ways of working with those levels of governance.

The federal and state governments can help people with the sovereignty project. Nonetheless, those forms of governance cannot solve the challenges that are entailed by that project.

The sovereignty challenge can only be resolved by the people themselves. That challenge cannot be resolved through: Voting, elected representation, or the activities of various branches of government but, instead, must be engaged by the people themselves through: Discussion, debate, critical reflection, constructive exercises of character, reciprocity, compromise, and fairness in conjunction with the aspirations of the participants.

It is not enough for people to speak about freedoms and liberties. The people must come together in an array of settings to actively engage in the difficult, nuanced work that is entailed by the challenge of developing an understanding about what freedom looks like – in actual lived terms – within the context of a multiplicity of people that are each seeking and have a right to conditions and principles of sovereignty being applied to their lives.

The current Constitution does not have to be jettisoned to accomplish the foregoing project. Nonetheless, constitutional provisions that are present in Article IV, section 4, along with the First Amendment's restrictions concerning the establishment or prohibition of religion by Congress, as well as the authority inherent in the Ninth and Tenth amendments concerning the sovereignty of the people must be acknowledged, honored, and judiciously protected as well as supported by federal and state forms of governance.

Unfortunately, for a variety of reasons, time is running out. If we, the people, do not act on the aforementioned sovereignty project soon, we might well lose the capacity to do so altogether or have that opportunity taken away from us by parties that have no interest in the people becoming truly sovereign.

Pursuit of the sovereignty project is the only way in which a sense of duty and obligation might arise in the context of the Constitution. Absent such a project, the potential of the Constitution that was introduced in 1787, ratified over the next several years, and amended in 1791, will continue to erode as it has been doing for the last 236 years.

If things continue on in the way they are going, then, at some point, a tipping point involving the American republic is going to be reached. When that happens, the promise and guarantee of abiding by the principles of republican moral philosophy will disappear and, as a result, complete tyranny or complete arbitrariness will reign.

We have a quickly evaporating opportunity to stop such a tipping point from taking place. The choice is ours, but without the establishment of an authentic sovereignty project, whatever decisions are made will come to nothing and our choices will do nothing but increase the distance between our existential circumstances and the possibility of leading sovereign lives.

Chapter 13: Reflections on the Devil's Dictionary, from A to Z

The following material consists of definitions and relatively brief responses concerning some of the key terms concerning the technologies, mechanisms, systems, dynamics, processes, and networks that can, will, and/or have been used to: Control, manipulate, surveil, track, trace, alter, exploit, oppress, subjugate, sicken, digitalize, and destroy human beings.

"**5G**" – This technology was touted as a way to increase the speed of downloads and streaming, as well as to reduce latency intervals [the time it takes for a packet of data (say a request or gaming move) to make the round trip from one's computer to the aspect of the Internet from which one wants some sort of response and, then, back to one's computer.] In addition, one of the alleged advantages was the way in which 5G supposedly would enable a greater connectivity among all electronic devices, computers, and the Internet relative to 4G networks.

Aside from asking whether, or not, having greater connectivity is necessarily a good thing (e.g., what adverse impacts might 5G have on problems surrounding the way in which digital identification is a tool of oppression, control, and security for those who have power), one might also inquire into whether, or not, the ways in which 5G is going to connect people (medically, politically, economically, socially, epistemologically, and educationally) is necessarily desirable, as well as, whether, or not, the problematic kinds of biological effects that can be documented to be caused by 5G radiation (not only in relation to human beings but with respect to the environment as a whole) are worth the technological advances which 5G makes possible.

"**Actuator**" – This a machine-like component which is capable of transducing energy into torque, movement, or force and can either be controlled from without, or is part of a system of artificial intelligence which uses its own algorithmic programming to direct the nature of the torque, movement or force that is generated. Increasingly, self-assembling, nano-scale soft-actuators (used in organisms) are being

found in the bodies of human beings who did not ask for, or consent to, the presence of the foregoing sorts of nanobot-components being placed in their bodies.

"**Adjuvant**" – A poison; the etymology of this word comes from two Latin words ('ad' and 'juvare') which, when combined together, mean: "Help towards." Adjuvants help a vaccine towards undermining the terrain of an organism by exploiting TLRs (that is, toll-like cell-receptors which constitute a major family of proteins believed to be responsible for recognizing the presence of organic regularities). When exploited by adjuvants, TLRs are able to play a role in the recognition of PAMPs (pathogen-associated molecular patterns), especially when the pathogen to be recognized is the human body. Researchers have discovered that each kind of tissue has its own set of TLRs, and, therefore, this allows adjuvants to target every kind of tissue as a potential pathogen.

"**AI**" -- a system of logic-like coding based on assumptions, biases, and arbitrary ideas concerning the nature of any given topic that enables computations to be made mindlessly at light-like speeds, and, in the process, generate obfuscating data as to whether one is dealing with properties of 'garbage in' and/or 'garbage out.' A technology that is designed to extinguish a person's right to informed consent and sovereignty.

"**Architecture**" – Architecture places limits on what is, or can be, done with structure. Computer architecture indicates what one can, and can't, do with the properties of the structure that give expression to features inherent in a given form of hardware design. Analogue structure gives expression to one set of structural limitations and possibilities, while digital structures give expression to a different set of structural limitations and possibilities.

Medicine operates according to one set of architectural limits and possibilities. The human body operates according to its own set of architectural limits and possibilities.

Whether the two forms of architectural design are homologous and dynamically compatible with one another is not a straight-forward issue. A lot depends on the hermeneutical orientation of the person (or persons) who is (or are) doing the comparative evaluation.

"**Augmentation**" – Refers to a condition in which human beings are transitioned into something less than they might otherwise be. This process operates out of an arbitrary and flawed system of assessment which confuses superficial changes with essential potential.

"**Autonomous Weapons Systems**" – The Department of Defense directive 3000.09 turns over decisions involving the use of injurious and lethal force to processes that have been designed by people with questionable character and whose understanding concerning notions of "peace," "truth," "reason," "justice," and "sovereignty" are filled with epistemological and moral lacunae that have been passed on to the autonomous weapon systems.

"**Bail-In**" – The new form of bail-out in which banks no longer look to the government to be made whole again due to the financial mismanagement or the many improprieties that are inherent in the banking system but, instead, those institutions have been empowered by the government to abscond with the deposits of its unsecured creditors – i.e., general customers -- should the need arise to do so.

"**Beam Steering**" – a technique for re-directing radio frequencies, as well as optical and acoustic forces, toward unsuspecting targets by changing relative phases in the frequencies and forces that are chosen to better reflect the fluctuating interests, motives, attitudes, desires, values, politics, and fears of the operators.

"**Biodigital Convergence**" – a dynamic through which greed, the desire for control, and psychopathy come together in a harmonious fashion by imposing (forcefully if necessary) artificial, synthetic non-

living digital technologies onto natural, organic living systems of life for purposes of creating hybrid entities that are imprinted with an imperative to eliminate or subjugate all non-hybrid entities.

"**Bioelectromagnetism**" – There are two kinds of electromagnetism that are capable of affecting biological systems: natural and synthetic. Natural electromagnetism is produced by dynamics which occur within cells, tissues and organisms. This is known as bioelectromagnetism. Synthetic electromagnetism is artificially produced outside of organisms and has the capacity to interfere with, alter, suppress, and undermine natural biological processes by interacting with them.

Some people refer to this latter phenomenon in which synthetically produced electromagnetism interacts with natural forms of bioelectromagnetism to be a form of bioelectromagnetism. However, the latter form of electromagnetism is being imposed (and is often injurious to organisms), whereas the former modality of electromagnetism is indigenous to organisms and part of normal, healthy, biological functioning.

"**Biofield**" – This is a vibrant, powerful, multi-dimensional human resource which is crucial to life and is the possession of the individual who gives expression to that biofield. Those who have corruptible, vested interests have made unilateral declarations which claim that biofields constitute a legitimate target for economic, political, medical, social, legal, and scientific exploitation irrespective of the wishes of the individual to whom the biofield belongs. The biofield is a resource that is mined by forces of biological colonialism and biological imperialism that seek to justify their invasion, exploitation, suppression, and extinction of the biofield as being a revolutionary way of overthrowing principles that stand in the way of someone's morally-challenged notion of economic, political, medical, and technological progress.

"**Bioinformatics**" – the misuse of: Chemistry, biology, physics, mathematics, statistics, and computer science in conjunction with

agenda-driven forms of evaluating large, complex data sets which can be parsed in ways that serve governmental, institutional, corporate, media, and/or military agendas which are designed to undermine human sovereignty. Bioinformatics is a set of techniques that can be used to arrange information in ways that will be pleasing to the people paying for, or having control over, such computational processes. Bioinformatics is set of techniques that is quantity-rich and quality-poor.

"**Biosensors**" – This term refers to the ubiquitous set of nano-particles, atoms, molecules, particulates, chemicals, synthetic materials, and self-assembling complexes that have been intentionally sprayed, dumped, poured, injected, and placed in the air, water, foods, clothes, vaccines, and pharmaceuticals to which human beings are exposed. These materials are capable of receiving and sending all manner of data that is capable not only of compromising human privacy right down to the levels of nucleic acids and thoughts, but, as well, the foregoing processes are taking place without the informed consent of the individuals on which such entities are being imposed. Any biosensor that is on, or within, a human being, irrespective of its location, is a "wearable."

"**Blockchain**" – A money-laundering system; a method for inducing human beings to become enrolled in: (1) A distributed, ledger system that: Cannot justify the systems of valuation which use such a ledger system; (2) a digital system which enables banks, governments, corporations, and individuals to be able to keep both laudatory and questionable aspects of their activities hidden; (3) a system that is incapable of existing independently of sources of energy that are needed to maintain it (if the grid goes does, then so does the ledger system); (4) a system which has the potential for enabling the harvesting of human energy as a way of anonymously mining crypto-value even if humans do not wish to be harvested in this fashion; and, (5) system that is as artificial a framework as fiat currency is with respect to the process of establishing a basis for the generation of "sound money" that cannot be manipulated (that is, bid up and down in value).

"**Body Area Network**" – A context that wirelessly embeds nucleic acids and other bio-molecules into an electronic framework in which all dimensions of that dynamic operate in accordance with the principle of "see something, say something" and, then, use prefabricated or self-assembling forms of telemetry to transmit that surveillance to external data bases of dubious provenance. Body Area Network is a process for organizing human beings -- both individually and collectively -- into sets of nodes that are linked together according to the medical, political, economic, and social philosophies of the people who have appointed themselves as regulatory overlords with respect to such networks.

"**Brain to Brain Interface (B2BI)**" – A form of computer technology which enables neurological phenomena to be translated into frequencies that can be read from, or written into, brains with, or without, the permission of the brains being linked through such an interface and which actually doesn't need a second brain to be able to capture or alter the frequencies that are associated with a given person's phenomenology.

"**Capacitive coupling**" – This involves the use of displacement currents within a network to induce a transfer of energy, information, signals, meanings, attitudes, or ideas from one node to another irrespective of the consent or wishes of the node. A process that enhances, filters, and/or blocks the flow of energy/information through a network according to the intentions of the regulators of that network. Nodes are at the mercy of the dynamics of capacitive coupling that are imposed on a given network.

"**Central Banks**" – This is a system for leveraging nothing into indebtedness; a way to separate money from depositors.

"**Communication -- OSI Model**" – Depending on one's point of view, OSI stands for Open Systems Model or Overlord's Standards Initiative. It controls (via standards protocols) the way in which

systems are connected and is characterized by seven layers – Physical, Data Link, Network, Transport, Session, Presentation, and Application – any one of which can be compromised in any number of ways for the sake of the system (or its overlords) and at the expense of users.

"**Consensual Validation**" – This is a process in which people seek the opinions of others (a consensus) in order to arrive at an understanding (validation) concerning some aspect of experience. However, when the information, opinions, ideas, thoughts, and data which other people have to offer is problematic, misguided, insincere, self-serving, and so on, then, one must be careful not to cede one's agency to forms of framing the perceptual process which are rooted in compromised forms of consensual validation. Consensual validation is only of value when the information one receives is reliable and credible.

"**Corona**" – A CIA and military program for gathering information via satellites that was said to be directed toward the Soviet Union and China but actually was capable of surveilling whatever targets were programmed into it and, over time, was transformed into a set of classified, stealth operations known as Keyhole which the military and the CIA used to gain access to whatever information the technology permitted. Corona was a dual-use technology that was publically described as having one purpose but which had other uses that were not disclosed to the public. National and corporate interests might be well-served by secrets and classified programs but the sovereignty of the people from whom such secrets are being kept is rarely well-served by those kinds of dynamics.

"**Corona Phase Molecular Recognition (CoPhMoRe)**" – This is a dual-use targeting system which enables nanoparticle surfaces to recognize specific analytes or chemicals for purposes of measuring, analyzing, or acting upon them. The devil is in the details.

"**Corona Routing**" – This is a technology which: (1) can be introduced into biological systems; (2) operates on the nanoscale; (3)

is used to shape the manner in which paths can be generated among the nodes of a nanoscale network by using pre-selected anchor points as a frame of reference for defining, or programming, the ways in which those nodes are able to transmit packets of information; (4) has a very low packet loss rate, and (5) can operate independently of the consent of the organism where such a routing system is being established.

"**CubeSat**" – Refers to satellites that have a cubic structure (6 square faces of equal size) whose sides measure 10 x 10 centimeters (3.94 x 3.94 inches) and weigh about 1 kilogram or 2.2 pounds. They either are launched as single units or as part of a group (up to 24 units) of such satellites. The exterior of these satellites is made largely of aluminum, and the interior of the satellites houses: (a) a power source of some kind (e.g., battery, solar panels); (b) an antennae for sending and receiving information; (c) a computer which has regulatory oversight of the satellite's components; (d) components such as sensors, instruments, and cameras which are constructed specifically to serve whatever the mission of the satellite might be.

As of 2024, there are more than 510 of these CubeSats in orbit, and, therefore, when assessing the possible value of such entities, one might reflect on the following considerations that are true for other satellites as well: (1) Notwithstanding "official" agreements which have been finagled in one way or another through meetings that are largely inaccessible to the vast majority of people on Earth, satellites and satellite-related technology occupy, travel through, and use space which does not belong to the people, corporations, or governments that launch those objects; (2) to varying degrees, those satellites radiate people on Earth who did not ask to be radiated (especially those who have electro-sensitivities); (3) such satellites are filling the skies with increasing amounts of materials which, sooner or later, become dysfunctional junk that pollutes space and creates hazards for life on Earth, and although CubeSats are said to burn up upon re-entry, what is burning up does not disappear but merely transitions into a source of man-made nano-toxins which rain down on the Earth ; (4) those satellites are gathering data concerning human beings and the Earth that the vast majority of people on Earth did not give the

operators of those satellites permission to do; (5) those satellites have missions and purposes that are not necessarily in the interests of assisting people in general to enhance their own sovereignty; (6) such satellite technology is consuming trillions of dollars (due to: Development, building, launching, and operating) that, in the case of governments, might be better spent on feeding, housing, clothing, and educating people, (7) all too many of those satellites are part of the 5th generation netcentric (that is, network centered) warfare that is being waged against the vast majority of the people of the world by small groups of people who operate out of Napoleonic-like complexes (that is, people who like to dominate, defeat, and control others) or operate through various modalities of willful blindness (a form of observation in which people are aware that a problem exists but choose to turn a blind eye to that which is present in their awareness and, as a result, has become somewhat obfuscated due to choices such people have made which has ceded their epistemological, spiritual, and moral agency to forces of oppression).

"**Cyber Physical Systems**" – This is an interactive set of computational and physical elements that generates a complex system of information which can be used to forcibly or deceptively mold the lives of people as a function of the properties of the system rather than as a function of the potential for sovereignty which is present in the people who are being shaped by the aforementioned cyber physical systems. Cyber physical systems are technocratic operations which enable institutions, corporations, governments, organizations, and the military to harness the power of the internet and other forms of communication to facilitate the bullying, control, and oppression of individuals.

"**Cyber Security**" – A four-layered system which goes from: Intra-BAN (Body Area Network) involving biosensors and nanotechnology, to: Inter-BAN communication (via telemetry) with machines, recording devices, cell phones, pads, and the Internet, to: Beyond-BAN forms of communication involving encryption and decryption, to: Network Fabric mesh networks that are automated and ensure that the end-users or communication destination are the only ones who

can do whatever they like with the data received and also to ensure that the Intra-BAN aspect of the system can be targeted as necessary. Cyber Security is about making sure that human beings cannot escape from the system of security (the system's security, not that of the general public) into which they have been lured or forced.

"**D.A.R.P.A.**" – Among other forms of deviltry, 'The Devil's Advanced Research Projects Agency' has been busily involved (obviously idle hands are not the only portal through which deviltry enters the world) with the generating of increasingly sophisticated, faster, as well as more complex or enhanced, forms of brain-computer interfaces (a term first introduced in 1971 by Jaceques Vidal) that are capable of being used as instruments of egalitarian – i.e. dual-use -- weaponry which, therefore, can be directed against all parties, both foreign and domestic. D.A.R.P.A. is a publically funded program that, like other government institutions, is dedicated to enslaving the people who are funding it.

Currently, D.A.R.P.A. is deeply involved in experimenting with Next-Generation Nonsurgical Neurotechnology (known as N3). This is a euphemistic way of referring to the process of technologically augmenting human beings through acoustic, electromagnetic, and optical forces which, then, can be utilized to assist the process of taking control of governance, resources, and non-augmented human beings.

"**Derivatives**" – These are weapons of mass destruction; Derivatives are a framework for parsing everything into packages of tranches and truncheons of financial worth that are devoid of moral value.

"**Digital Twin**" – A digitized model that is built from acquiring data involving certain physical, emotional, and cognitive feature values associated with a human being, and, then, acting on those values – in best voodoo fashion – the operators of the Digital Twin alters, injures, exploits, shapes, sickens, controls, or kills the existential original from which the Digital Twin data was derived. Digital Twins are derivatives

in the sense that they give expression to ways of generating data sets which, for purposes of financial gain or political control, involve organizing and manipulating information concerning an underlying set of values or assets … i.e., human beings.

"**DNA Steganography**" – This is a branding technology (e.g., using variable regions of a genome such as single nucleotide morphisms) which is capable of inserting messages, barcodes, and watermarks (intellectual property rights) into the DNA of an organism in such a manner that the presence of the information cannot be detected unless appropriately decrypted and, thereby, indicate – or, so the corporate or institutional legal argument goes -- that the organism is the property of the brander.

Drones (Nano) – Although Nano Hummingbirds and Snipe Nanos -- which combine: Experimental wing architecture, software programming advances, and battery design breakthroughs to create Unmanned Aerial Systems -- were developed nearly a decade ago by D.A.R.P.A. and the military for purposes of reconnaissance, surveillance, and situational awareness, the new generation of drones are in the form of self-assembling nanobots that fly about, and within, the enemy like swarms of molecular structures that are undetected until it is too late, and the target lists for such drones have been expanded to include the general public.

"**Dual-Use Technologies**" – This is a strategy of misdirection which uses surface narratives that are seemingly constructive in nature in order to obfuscate the existence of programs that are to be used against those from whom such programs are being hidden.

"**Electromagnetic Communication**" – One of the ways in which cells, tissues, and organisms communicate with each other via the biofield is through electromagnetic communication, and all forms of synthetic electromagnetic signals tend to interfere with such forms of biological communication in one way or another. One of the gravest and most imminent threats to life on Earth is not a function of the

contrived threats concerning the non-existent crises of global warming but a function of the uncontrolled and improperly regulated introduction of all manner of synthetic forms of electromagnetism that are being pushed onto the world ecologies – especially so-called "smart" forms of such electromagnetism that are being introduced without the consent of those on whom they are impinging – by people who are suffering from a form of willful blindness that ignores the damage which they are inflicting on the world due to an apparently insatiable desire for money, control, and a lurid pleasure which is derived through inducing pain and injury in others.

"**Emergent Technology**" – The term that is used to camouflage the fact that what is said to be forthcoming at some point in the future is, actually, already present, operational, and adversely affecting our lives.

"**Energy Harvesting**" – Vampire Project – This is a technology that enables a network, system, corporation, institution, medical practitioner, or government agency to harvest energy from a human being's biofield in order to electrically subsidize or power that: Network's, system's, corporation's, institution's, medical practitioner's or government agency's hacking of other facets of a person's biological terrain. The notion of energy harvesting also refers to the capacity to use energy from human beings as a means of mining crypto-currency -- with, or without, the consent of the individual whose energy is being harvested.

"**Epigenetics**" – Refers to the dynamics that determine what, when, how, where, for how long, and in what sequence genes are expressed. Neither transhumanists nor technocrats understand those dynamics except in extremely limited ways and, yet, both groups of epistemologically challenged individuals want to suppress the manner in which nature has gone about the process of gene expression for thousands of years and which has helped human beings to survive amidst substantial changes in the environment. Instead, such groups insist on substituting their own agenda for the expression of genes,

and many – if not most -- of those modalities of substitution are either injurious or lethal to human beings in any number of ways.

"**Exceptionalism**" – This refers to the tendency of people to use their reflections in a 'house of mirrors' as reference points for what should be meant by the meaning of the word "exceptionalism."

"**Fact Checkers**" – These are people who are enamored with their own set of biases, prejudices, agendas, presuppositions, and blind spots. Fact checkers are individuals who use the political, religious, and philosophical lenses which frame their way of engaging questions of facticity in a manner that tips the hermeneutical scales in their own favor when applied to such questions.

"**FCC**" – (Federal Communication Commission) – The agency which claims to be protecting human beings against injurious forms of radiation but doesn't seem to understand the difference between ionizing and non-ionizing radiation or the nature of the damaging effects that both kinds of radiation have on the human body because of the FCC's failure to sincerely communicate and engage in a dialogue with people that actually have done the research on such issues (e.g., Arthur Firstenberg, Samuel Milham, Josh Del Sol, Beverly Rubik, Mark Steel, Olle Johansson, Daniel Debaun, and Martin Pall). The federal regulatory agency known as FCC has been captured by the corporate advocates of wireless transmission, and, in the process, has given those institutions, organizations, agencies, and corporations, a clean bill of health with respect to the dynamics of wireless transmission despite, apparently, not understanding (or caring about) the dual-use nature of that phenomenon.

"**FDIC**" (Federal Depositors Insurance Corporation) – This is the government agency which promises to cover all losses due to insolvency of the banking system but which has an extremely limited capacity to do so and, therefore, such promises mislead the public about the extent of the help that it can provide in times of emergency. The FDIC's promise relative to the foregoing problem is like bringing a

squirt gun to the site of a thermonuclear explosion and expecting full resolution concerning the latter problem.

"**Federal Reserve**" – This is a private banking consortium that: (a) Used underhanded and duplicitous tactics to gain control of the financial system in 1913; (b) bows to the likes and dislikes of the International Bank of Settlements, an organization which is beyond the reach of law or fairness … qualities which often also often characterize member banking systems, including the Federal Reserve; (c) funds all sides of wars to make money and create the sort of indebtedness through which it controls governments and citizens; (d) operates on a basis in which money it does not have is lent out at interest it does not deserve; (e) continually resists being properly audited; (f) has proven to be completely ineffectual in preventing the very kind of financial problems it was allegedly created to solve; and, (g) for more than a century, has proceeded to wield its power in ways which are economically, financially, politically, legally, and socially detrimental to the American people, and among these ways of wielding power is its unwillingness to help create the sort of public banking system (e.g., see the work of Ellen Brown and Muhammad Yunus) which would be beneficial to citizens (both individually and collectively) but fails to do so because satisfying its lust for money and control is far more important to the Federal Reserve system than is the sovereignty of the people that it claims to serve.

"**Full Spectrum Dominance**" – This is the goal of all entities, institutions, organizations, and forms of government that seek to suppress, oppress, or eliminate the existence of sovereignty, irrespective of whether, or not, sovereignty is considered individually or collectively. Since every dimension of existential space is considered to be a potential entry point for the emergence of sovereignty -- or information concerning sovereignty -- then, power brokers believe that unless full spectrum dominance is exercised over all actual or potential portals for that sort of activity and/or information, then, those who seek to exercise full spectrum dominance consider themselves and their system to be at risk. Full spectrum dominance is to engage in continuous forms of tyranny and terrorism

because the possibility that some facet of sovereignty might surface can never be dismissed.

"**Galvanic Coupling**" – This is a form of intrabody communication (IBC) that is induced from without by coupling low-frequency voltages with low-power sources to serve, potentially, low-down purposes.

"**Global Information Grid**" (GIG) – A network-centric system established by the Department of Defense to acquire any, and all, information that would help to sustain and/or improve the capacity of the military to wage war against all enemies, both foreign and domestic. How that acquired information is interpreted, understood, or used, and whether, or not, one should trust the quality of such information, and whether, or not, war should be waged, and whether, or not, there are better alternatives to war are not issues which the GIG network is capable of resolving.

Having an informational advantage is not enough. One must also have an advantage in knowledge, understanding, as well as wisdom in relation to such information. Determining what the criteria are for identifying and, then, being able to justify such a process of determination with respect to the latter sorts of advantage tends to generate a very complicated set of issues and an accompanying set of fundamental questions concerning the nature of the relationship between human beings and reality.

"**Graphene**" – This is not a naturally-occurring biological material. However, this substance was experimentally demonstrated to exist in 2004 and evidence for its natural, geological occurrence has been found in rock formations that are 3.2 billion years old.

It consists of a honeycomb (hexagonal) latticework of carbon atoms with diameters that are approximately a third of a nanometer thick. Graphene is conceived of as a 2D material that is considered to possess width and length but has negligible depth.

This material is highly impenetrable. Not even the smallest atom (helium, not hydrogen, has the smallest atomic radius) can permeate through graphene.

Graphene is lighter than aluminum but more rugged than steel. It is more elastic than rubber but harder than diamonds. It has 13 times the electrical conductivity of copper, while the mobility of electrons within graphene is 100 times faster than within silicon.

Magnetism is not an inherent property of graphene. Nonetheless, it has the capacity to borrow, or participate in, the magnetic fields of nearby materials, and, in addition, by manipulating systems of electrons in the appropriate manner, one can created magnetic domains within graphene.

The properties of graphene vary with its composition, and, as well, the properties of nanographene vary with the process of fabrication (which is more complicated than the generation of general graphene). Consequently, there is a graphene-family of nanomaterials, and, as well, there are biological toxicities of different kinds which have been associated with members of that family.

As such, graphene is a dual-use material. It has a set of remarkable properties which often are emphasized while the toxicities of that material are often downplayed if mentioned at all.

Nanographene has been found (e.g., David Nixon, La Quinta Columna, Ana Mihalcea) in a variety of COVID-19 mRNA treatment vials. While the presence of such a toxic potential in alleged public health treatments might be music to the ears of some, nonetheless, the presence of graphene-related toxicity conflicts with the principle of: "First, do no harm" which used to govern medical activities but now is often no longer required as a condition for such practice.

"**Hack**" – Verb -- The process of seeking to gain unelicited access to a network, system, computer, electronic device, or person in order to compromise, alter, manipulate, or pilfer some aspect of the operational integrity of that network, system, computer, electronic device, or person. Examples: Government; education; medicine; corporate activity; intelligence operations; the media, and military force. Noun – The entity which makes hacking possible and is often characterized by a moral incompetence that is lost sight of amidst the dazzling lights which frequently are given off by the presence of some degree of technical skill.

"**Hop-by-hop transport**" – This is a principle which is directed toward controlling the flow of data through a network from source to destination -- quick like a bunny and with equal fecundity -- despite the possibility that the intervening nodes of the path of transmission might not all be connected at the time of transmission, and, therefore, provides degrees of freedom for getting one's unwanted message across.

"**Human Body Communication**" (HBC) – This is a form of electrical signal transfer that uses the human body as the medium of transmission and is known as 'electro-quasistatic human body communication'. As such, the body is reduced to being a node within a network involving the transfer of electrical signals and data, and this would seem to indicate that a human being has become a means to someone else's end-use of those signals and data.

"**Hydrogels**" – These are biphasic, cross-linked polymer chains (via either covalent bonding in the case of 'chemical hydrogels' or non-covalent bonds in the case of 'physical hydrogels') that are capable of absorbing large volumes of liquids (usually water or interstitial biological fluids). These polymer chains can be either synthetic or natural.

They are referred to as "smart" materials because of their ability to alter their structure and properties as a function of changes to the surrounding environment involving such qualities as: Water and salt concentrations, temperature, and pH values. However, this sort of responsiveness doesn't necessarily make those materials smart but, perhaps, merely reflects the potential flexibility or degrees of freedom that are present in those materials and also indicates that they are vulnerable to such environmental changes … changes that can be induced from without by altering the character of the environment surrounding those hydrogels. As with many things, the devil might be hidden in the details involving: The kinds of polymers that are used in a given hydrogel (synthetic or natural); or, the nature of the bonds which are present; or, the properties of the solid materials and

nanoparticles that are present in such hydrogels; or, the kinds of fluids which are present, as well as the sorts of changes that might occur in a hydrogel if different properties of the surrounding environment were induced to change at the whim of some researcher, experimenter, or medical practitioner.

"**IEEE**" – Institute of Electrical and Electronics Engineers whose motto is "Advancing Technology for Humanity" but which never objectively (preaching to the choir is never a sign of objectivity), continuously, and rigorously addresses the many issues that surround and permeate the question of whether the research, programs, and standards which are being established through its activities actually are for humanity and, therefore, can be fully justified as policies that enhance human sovereignty rather than undermine it. Without sovereignty, there is no way in which advancing technology will be of benefit to humanity.

"**Income Tax**" – This is a process that transfers money – both directly and indirectly -- to the military-industrial complex; a system which transduces private assets into public liabilities.

"**Informatics**" – This is a discipline which explores how computational methods induce transformations in information without necessarily adequately addressing whether, or not, the transformations being induced are actually in the best interests of people or whether the information being transformed is all that worthwhile to anyone except the people engaged in its transformation.

"**Internet of Things**" – An arbitrary network of enhanced connectivity (created by electronics, computers, and forms of communication) which entails, but is not restricted to the Internet, and reduces human beings to nodes on a network whose sole function is to process the packets of bits and bytes of data being transmitted through the network according to the protocols which have been established by those who govern that network.

"**International Electrotechnical Commission**" – This is a Swiss-based organization -- and, therefore, neighbor to the International Bank of Settlements -- which (unasked by the world) was founded in the United Kingdom (1906) in order to establish international standards for various technologies involving electronics and electricity. Somehow, the organization appears to have missed generating standards that are based on an objective, nuanced and rigorous understanding of how electricity and electronics have been adversely affecting people (biologically and psychologically, if not spiritually) around the world since 1906 and before.

The IEC has co-operated, and works closely, with such organizations as the IEEE and the International Organization for Standardization (ISO) to, among other things, ignore, downplay, and/or discredit independently conducted research which provides evidence that implicates, if not demonstrates, the potentially -- and not-so-potentially – injurious impact which electricity, electronics, bioengineering, and geoengineering (which is heavily dependent on electromagnetic sensors, antennae, routers, actuators, and computational processors) can have on the lives of not only human beings but the entire set of interlocking world ecologies in which human beings are embedded.

"**Internet of Bio-Nano Things**" – This manner of framing experience emerged out of an attempt to allegedly address how the Internet of NanoThings (IoNT) -- which involves the ways in which nanoscale particles, devices, and bots both engage, and are engaged by, the world – might have potentially problematic safety and health ramifications for life on Earth. The supposed motivating orientation underlying the idea of the Internet of Bio-Nano Things is to try to find ways in which the interface among the electrical properties of the Internet, the nanoscale properties entailed by the Internet of NanoThings, and the nature of living organisms can be reconciled in safe and efficient ways.

However, the key to such a process of reconciliation requires that one is working with an understanding of life which is capable of being demonstrated to be accurately reflective of the biology of living organisms rather than reflective of a theoretical model concerning the

arbitrary and artificial lenses through which this or that person observes life. A conceptual framework of biology which is based on the notion of monomorphism will operate quite differently than will a framework based on pleiomorphism, and a conceptual framework of biology which seeks to discover how microzymas, endobionts, bions, and/or somatids affect biological functioning or how such entities are affected by nanoscale devices and electromagnetic waves will be quite different than a conceptual framework of biology that ignores the existence of such empirically established entities (e.g., see the work of Béchamp, Enderlein, Reich, and Naessens).

Moreover, a conceptual framework of biology which maintains that viruses exist and constitute pathogens which attack human beings will generate an approach to diagnosis and treatment which is very different from a conceptual framework of biology which contends – on the basis of considerable evidence – that viruses do not exist and, therefore, are not illness-causing pathogens, and, consequently, there is no need for viral forms of treatment. Furthermore, an Internet of Bio-Nano Things which fails to understand how synthetic biology (which tends to operate on the nanoscale) can adversely impact the healthy operation of the Biofield – an indigenous feature of human biology – is, very likely, incapable of reconciling (to whatever extent such matters can be reconciled at all under the best of circumstances) the biological with the domains of either the Internet of Things (IoT) or the Internet of NanoThings (IoNT). It might well be an exercise in irreconcilable differences.

"**Internet of Medical Things**" – This gives expression to four areas of activity involving: (a) Biosensors/Antennae/Routers/Actuators; (b) edge devices and analytics [automated forms of detection, computations and assessments involving data from (a) prior to being sent on for further processing at (c)]; (c) fog computing is a decentralized form of computational architecture in which different nodes on an overriding network provide real-time analysis of data [that already have been pre-processed via (b)] in accordance with the principles of a governing network architecture; (d) cloud analytics which uses cloud technology to store and apply established algorithms to search for different sorts

of patterns that exist in the data that has been run through (a), (b), and (c) and which might be of value to processes involving a judicious observation of a medical practitioner's duties of care to patients.

As impressive as the Internet of Medical Things sounds, the actual value of such an approach depends on the extent to which the Things being collected, processed, stored, and analyzed: (1) are being used in accordance with principles of informed consent; (2) do not entail hazards or toxicities for the individual being medically engaged; (3) is based on an understanding of Medicine which is not restricted to one or two arbitrary schools of thought concerning the nature of biology that unduly influence the forms of diagnosis and treatment being used and, as such, constitute frameworks of medical theology that suffer from, among other things, the pathologies of arrogance, delusion, and regulatory capture.

"**In the image of God**" – This is a phrase that is often used to distort the nature of one's relationship with reality. It is a turn of phrase that does not make reference to a reflection of Divinity but, instead, refers to the manner in which the potential of certain manifested realities have been creatively organized by God to generate an essential potential that is rarely realized.

"**Intra-body Networks and Molecular Communication Networks**" – Biological organisms or bodies have a natural network of molecular communication which often is being engaged by forms of medical practice that confuse and conflate theory with the biological realities which are being engaged. There is a tendency among all too many medical practitioners to be inclined toward imposing their theoretical ideas and hermeneutical musings about "intra-body networks and molecular communication onto" 'the actual indigenous system of intra-body networks and molecular communication', and through such a process of imposition, lead to the misdiagnosis and mistreatment (on several levels) of their patients.

"**Janus Particles**": This term refers to objects that are on the nanoscale (billionths of a meter) or the microscale (under 1mm) which

exhibit special surface properties that enable two different kinds of chemistry to take place in juxtaposition to one another. For example, two proximate areas of the surface of such particles might exhibit different magnetic properties, or one area might exhibit hydrophobic tendencies, while another, nearby area might have hydrophilic properties.

There is similar phenomenon which can occur when medical practitioners and patients share the same meta-surface of healthcare. More specifically, while engaged in the phenomenon of healthcare, the sort of biochemistry in which a medical practitioner is involved might have little to do with the biochemistry which actually exists in a patient. The healthcare system is a Janus particle in as much as it gives expression to a surface of activity in which different kinds of often conflicting kinds of chemistry can be observed to take place while in juxtaposition to one another.

"**Kill Box**" – This is a multi-dimensional space into which targets are maneuvered in order for the overseers of that space to be able to eliminate or control such targets in some fashion. The dimensions of the kill box consist of: 3-D space, time, beliefs, values, resources, perception, and choice, while the dynamics which are used to induce people to enter the kill box space consist of: Propaganda, indoctrination, education, disinformation, misinformation, narratives, limited hangouts, ill-advised public health policies, iatrogenic activities, misdiagnoses, pharmaceutical toxicities, politics, sanctions, legal processes, myths, threats, fear, desire, hope, force, as well as classical and operant forms of conditioning.

"**LIDAR**" (Laser Imaging, detection, and ranging) -- A methodology which uses lasers to target objects and, then, measure the amount of time that is required for the signal to return from that target. LIDAR can conduct its measurements in fixed or multiple directions and is used in projects involving: Mapping, seismology, surveying, navigation for autonomous vehicles (such as the helicopter, *Ingenuity*, on Mars). Subsequent generations of LIDAR are rooted in quantum technology and are capable of providing enhanced measurement sensitivities.

One of the targets that can be painted by LIDAR are human beings, and, now, with advancements in quantum technology, human beings can be targeted with ever-increasing sensitivity – not necessarily for the needs of the individuals being targeted but for the needs of the command and control people who are targeting human beings for inhuman reasons. One can be sure that the AI-equipped models from the world of robotics have LIDAR or LIDAR-like (but more advanced) ways of detecting, locating, identifying, mapping, and, in compliance with DoD Directive 3000.09, engage in running down, herding, or terminating human beings.

"**MAC**" (Medium or Media Access Control) – This refers to a set of protocols that governs whatever technology is being used to control the way in which hardware will interface with wired or wireless mediums of transmission. MAC, together with logical link control (LLC) protocols, give expression to layer 2 (The Data Link) of the OSI model of communication (See: "Communication" -- OSI Model) and are part of the IEEE 802 set of standards which characterize how MAC establishes protocols that control the flow and multiplexing (a method through which analogue and digital signals can be combined in one medium) associated with the process of interfacing with a given form of transmission and LLC protocols govern the control of flow and multiplexing for the logical link side of a given transmission.

MAC addresses (as well as Bluetooth addresses) have been detected in conjunction with the biofields of some human beings. This would seem to indicate that such individuals are being treated as pieces of hardware which, in some way (probably, sans consent), have been provided with MAC protocols (or Bluetooth protocols) so that this biological hardware can be wirelessly interfaced with other aspects of a network, thereby, installing such human beings as nodes on a network.

"**Mesh Networking**" – This is a form of networking architecture which arranges the nodes (whether switches, bridges, or human beings) of a network in non-hierarchical, self-organizing, fluid ways that enhance the degrees of freedom in which data is routed through a network. IN addition, among other things, this sort of communication

topology provides a certain amount of fault-tolerance for a network since if a certain number of nodes fail or do not perform in a functional manner, nonetheless, there are alternative pathways for connecting nodes which enable communication, signaling, or data transfer to continue without disruption.

Although the terms "non-hierarchical" and "self-organizing" are used to describe how a mesh network operates, nevertheless, such networks are intended to serve certain purposes and, therefore, there are structural and dynamic features within these networks which ensure that the purposes of the network will be served and, as a result, 'non-hierarchical' and 'self-organizing' dynamics take place within a set of constraints and degrees of freedom that are organized in ways that regulate the network so that it will be able to realize its purposes.

The "Borg" of Star Trek fame would seem to be a mesh network. Those who have power (whether in: Government, religion, corporations, the military, the media, unions, banking, science, or education) seek to establish mesh networks in conjunction with the people who are part of those networks to ensure that -- notwithstanding the presence of nodes who, for whatever reason, might fail or operate in a dysfunctional manner -- nonetheless, the purposes for which a given network has been established will serve the overseers of that network. Therefore, there are "corrective dynamics" or algorithms (often subtle and hidden) which are present in such systems to ensure that non-hierarchical and self-organizing activities will only occur in ways that will lead to the realization of a given network's underlying purposes.

Currently, there is no set of common standards of interoperability governing mesh networking. This is what the International Bank of Settlements, WEF, transhumanists, technocrats, the W.H.O., and corporations like Blackrock, Vanguard, and State Street are seeking to establish … mesh networks in which all nodes (notwithstanding occasional node failures and node dysfunctions here and there) will help realize the purposes of one-world universal governance across all networks.

"**Metabolomics**" – This refers to the large-scale study of metabolites -- or small molecules -- which play different roles during

the process of metabolism within: Cells, interstitial fluids, and tissues. The impetus for this discipline is rooted in the belief that by studying metabolites and their concentrations, one has a much better vantage point for understanding the state of biochemical activity in cells, tissues, organs, and the entire organism. Metabolomics not only examines the nature of the metabolites which are present in any given level of biological activity, but, as well, has a focus that links – in concrete terms – how genetic and environmental factors are interacting with one another.

One should keep in mind however that Metabolomics occurs in a hermeneutical context. The significance of the presence of certain kinds of metabolites and concentrations of those metabolites depends on the nature of the conceptual or theoretical lenses through which such metabolites are being engaged.

Pleiomorphism constitutes a very different context within which to try to figure out the meaning or significance of a given set of metabolites or concentration of metabolites than monomorphism does. In addition, the significance or meaning of metabolites might be different if they are viewed from an approach to biology which has a place for the way in which microzymas, endobionts, bions, and somatids might affect the dynamics of metabolism in different ways rather than being viewed from an approach to biology which has no place for such considerations. Moreover, the study of metabolites and their concentrations takes on a different orientation depending on whether, or not, one holds that epigenetics might be a process that is, at least in part, extra-cellular and extra-genetic in nature, and, as such, depends on modalities of regulatory oversight and energy dynamics which are not necessarily all that well understood at the present time.

"**Microfluidics and Neuronal Microfluidics**" – Microfluidics is a discipline which focuses on the manipulation of fluidic systems that are somewhere between 10^{-9} to 10^{-18} liters in size and, as such, has applications for microelectronics (e.g., DNA chips) and the sort of molecular biology that is relevant to bioengineering and synthetic biology. Microfluidics examines the ways in which extremely small-scale fluidic contexts engage in dynamics which: Transport, process,

separate, or mix fluids – either passively (such as capillary forces) or actively (some mechanism is usually involved, such as a micropump).

The behavior of fluids under micro-conditions often differs from the behavior of fluids under macro conditions. These differences often have to do with the way in which such factors as channel size, surface tension, resistance, and energy distribution might affect the character of the dynamics which occur on a micro scale.

Microfluidics plays an important role in synthetic biology. For example, this discipline comes into play when one is engaged in the neuromorphic engineering of artificial neurons so that they will be able to mimic natural or biological neurons.

Microfluidics takes on different orientations and values depending on the context through which it is engaged – especially in the case of neuromorphic engineering. More specifically, does the brain generate mental activity or does it serve as a receiving apparatus for mental activity that takes place elsewhere and independently of neuronal activity (i.e., neurons are capable of reflecting those sorts of cognitive dynamics, but neurons are not the source of those cognitive dynamics).

If the latter case is true, then, while one might be able to engage in processes of neuromorphic engineering, microfluidics would become important to understanding the nature of a receiving apparatus rather than a generating apparatus. Under such circumstances, neuromorphic engineering could be used to simulate certain aspects of mental functioning in relation to the receiving of signals and interpreting those signals but such processes would always be dependent either on algorithms being sent from elsewhere and/or would be restricted by the character of the constraints and degrees of freedom which had been programmed into the kind of neuromorphic engineering that is taking place.

A form of neuromorphic engineering that is only sensitive to certain modalities of human epistemological and hermeneutical dynamics might be able to perform an array of functions. However, to whatever extent there are lacunae in the model which is directing such a form of neuromorphic engineering, then, to that extent, such cognitive or computational activity will not be able to properly model the mental activity of human beings.

"**Molecular Communication**" – This is a technique which uses the presence or absence of specific molecules as a way to digitally encode messages. The presence of a given molecule plays a role comparable to "1" in a binary system, while the absence of that molecule assumes the role of "0" in such a system.

Given that various kinds of non-natural MAC protocols, sensors, antennae, and routers are showing up in human beings, one does not have much difficulty imagining the possibility that networks could be established -- or already have been established -- which are based on algorithms that operate according to a computational language built around the presence or absence of certain molecules. Just as pheromones are molecules which have the capacity to communicate different messages to (and, thereby, actively affect) animals, plants, and so on that are receptive to such messages, so too, human beings could be outfitted with the right sorts of nanoscale devices which are receptive to, and will be affected by, the presence of various forms of molecular communication that have been bioengineered to shape human behavior through the presence of those nanoscale devices.

"**Network Centric Warfare**" – Networks are methods for processing information. Warfare which is waged through a network-centric dynamic makes warfare a function of such information-processing methods.

While part of the informational aspect of such a process depends on the activities, of technological components that, for example, are directed toward detecting, identifying, acquiring, transmitting, and storing data which arises as a result of the way in which the network engages the world, data is not really transformed into information until it is processed in various ways. Data which has not been processed beyond its being sensed, measured, recorded, transmitted, and stored has no network significance, meaning, or value and, therefore, must undergo further processing in the form of analysis.

This can be done automatically through algorithms or via direct forms of critical reflection (individually or in groups), or through some combination of the two. Irrespective of which of the foregoing

possibilities is pursued, data is characterized, parsed, diagnosed, organized, classified, and evaluated according to certain principles, assumptions, weighted values, purposes, goals, mathematical treatments, and the like while also searching for patterns, connections, structural features, and logical properties within different dimensions of that data.

Networks are coping mechanisms. People create networks because they have no insight into the nature of reality and construct networks in the hope that such a systemizing of experience will lead to the sort of insights and wisdom that might resolve the problem for which the network has been created and, thereby, provide a way to cope with a given situation.

To cope does not mean one understands what is transpiring. Coping is a way of getting through a situation irrespective of whether, or not, one knows what one is doing and irrespective of whether, or not, one is dealing with a situation in the most constructive, epistemologically defensible, and morally appropriate manner.

Pathology often emerges in the context of coping mechanisms because many coping mechanisms are based on delusional thinking as a result of faulty analysis and problematic forms of critical reflection. When an individual suffers from some form of pathology as a result of an unreliable and destructive (to oneself or others) coping mechanism, this is tragic, but when the military seeks to impose on all human beings its modalities of network-centric coping mechanisms which have rarely, if ever, been demonstrated to serve the interests of sovereignty or truth but, instead, tend to enhance the self-serving interests of banks, corporations, corrupt politicians, psychopaths, and ego-driven glory seekers, then, one is not dealing with a tragedy but, rather, one is confronted by an evil which destabilizes humankind and is incapable of constructively solving issues.

"**Network Load Balancing**" – The term "shedding" has emerged over the last several years as a way of trying to explain the existence of certain forms of illness that are believed, by some, to be due to the manner in which various human beings have been exposed to environmental toxins (not pathogens). In turn, these toxins are alleged

to be excreted by previously exposed people through their breath, sweat, blood, semen, as well as other bodily fluids and waste materials.

An alternative approach to the foregoing dynamic has to do with the idea that illness can be induced through being exposed to certain kinds of electromagnetic frequencies. In such instances if one considers people to be like nodes on one, or more, networks, then, under the right set of circumstances, various frequencies can be transmitted to proximate individuals (nodes) through a process in which network traffic continues to be transferred to other nearby nodes or networks as a way of balancing the load within a given network without requiring some form of routing.

In both cases it is a matter of being in the wrong place at the wrong time but the modality of transmission is different in the two cases. One form of transmission involves the shedding of toxins which, subsequently, contaminate or poison other human beings, while the other form of transmission involves certain kinds of illness-inducing frequencies (not pathogens) which are transferred from one person to another through a process of network load balancing.

The foregoing set of possibilities is not necessarily an either/or situation. A third possibility is that both shedding of poisons and toxins, as well as various forms of network load balancing might take place – either separately or simultaneously.

"**Neuromorphic Computing**" – This involves a set of nanotechnological materials, devices, and computational algorithms that seek to mimic, simulate, or model the manner in which biological neurons supposedly process information. Neuromorphic computing is purported to be a way of mirroring the manner in which human beings think.

The association between neuronal activity and mental activity is correlational and not necessarily causal in nature, perhaps in the same way that the activities of a television set have a correlational relationship, and not, necessarily a causal relationship, with the programs that appear on its screen. Yes, those programs would not be visible if the television set wasn't functioning properly, but the television set is not what created those programs.

Neuromorphic computing might be able to mirror the manner in which neurons operate. However, this does not necessarily mean that neuromorphic computing is capable of mirroring how human beings are able to think or have experiences which are phenomenological in nature.

"**OMNeT++**" (Objective Modular Network Testbed in C++) – This is not a simulator but, rather, it establishes a framework which provides tools and structural features that enable simulations to be written or created through programming languages such as Python. Models can be created through the construction of modules which can be assembled in Lego-like fashion, and those modules can be connected via gates that provide a context or medium through which messages/data, of one kind or another, can be sent.

One might suppose that OMNeT++-like frameworks could be established – or, perhaps, already have been established -- on a nanoscale to provide a basis for generating network simulations that are thought-like or logic-like in character and capable of being sensed and, like an intuition, capable of vectoring or tensoring aspects of phenomenology in different directions via specific frequencies, which, without necessarily being clearly seen in any concrete manner, are written into various modules and affect the way in which those modules operate. If so, I don't see this as being a good thing but, yet, another way in which the ones who are controlling such technology are seeking to control the minds of human beings.

"**Optogenetics**" – Eleven years ago, a TED talk featured two researchers who were able to surgically implant a device that enabled them to combine light and light-sensitive proteins to erase or alter memories in mice. Today, such implants are no longer necessary because everything can be done wirelessly. Indeed, scientists have the capacity to expose organisms to light in a way which can alter the manner in which the genes in those organisms can be expressed – that is, turned on and off.

Many scientists believe they have the right to take such research and technology as far as it will take them – especially if money, fame,

and career are involved. However, very few of those scientists ever wonder about the rights of human beings to be free from the ramifications of that sort of research and technology because for the former individuals science is all about the right of discovery and not at all about the problems which such discoveries create.

Indigenous peoples indicate that before acting one should understand the implications of one's actions for seven succeeding generations. Unfortunately, all too many scientists and researchers cannot see into the future beyond the temporal boundaries associated with their paychecks, royalties, names, or egos.

"**Panopticon**" – In an essay on this topic, Jeremy Bentham argued that the best form of a prison would be one in which: (a) prisoner cells would be open to a central tower into which prisoners could not see and, therefore, the prisoners would never know whether, or not, the tower was being occupied with people who were observing the prisoners and, in addition, (b) prisoners would not be permitted to interact with one another. Bentham considered the Panopticon to be an ideal template for how society, in general, ought to work.

In other words, according to Bentham, if prisoners or citizens did not know at any given point in time whether, or not, they were being observed by authorities, then, the prisoners and citizens eventually would internalize the values and principles that authorities wanted them to adopt and, in the process, prisoners and citizens would become their own self-contained Panopticon in which the values and principles of the system would always be viewing them and from which escape would become impossible because those values and principles had been internalized and become invisible stewards of behavior.

The whole idea of propaganda, censorship, and surveillance is to establish conditions which are similar to those of the Panopticon. The tower toward which the cells of citizens open is constructed from materials made from the surveillance capabilities possessed by the police, the FBI, the NSA, the CIA, the Internal Revenue Service, the military, the medical system, the educational system, and sixteen, or so, other so-called "intelligence" services and which one never knows whether, or not, such entities are making use of their surveillance

capabilities in order to observe the activities of one, or more, citizens. Furthermore, time and time again, a wealth of evidence has been brought forth that corporations, Big Tech, the media, the educational system, and even science and medicine have played prominent roles in censoring what people can see, read, say, or think. Furthermore, jurists who are intellectually and morally challenged have given the United States federal government the right to propagandize its citizens with whatever fantastical notions and phantasmagoria will serve the government's capacity to mislead, misinform, or disinform the general populace in order to maintain, if not extend, control over, its citizenry.

The domains of: The Internet of Things, the Internet of NanoThings, the Internet of Bio-NanoThings, the Internet of Medical Things, The Internet of Behaviors, and The Internet of Everything are all dedicated toward optimizing the operational capabilities of the Panopticon that started to be built in America more than 237 years ago, and, now, the Panopticon -- thanks to optogenetics, wireless communication, biosensors, nanotechnology, DARPA, the FCC, the IEEE, and other modern day wonders – cannot only track, trace, and terminate individuals, but, as well, the Panopticon entity known as government can, without consent, turn a person's genes on and off as they like.

Mind control internalizes the Panopticon. Virtual reality induces one to become isolated from, and discontinue interacting with, other individuals. Consensual validation becomes a process of submitting to whatever one is told by the Panopticon system.

"**Pervasive Computing**" – which is also known as, or referred to as, "intrusive computing" -- is the process of placing microprocessors everywhere so that people's privacy can be invaded in ways that are important to the make-work projects of data gathers, their overlords, and individuals who wish to use such data to better control people, but impinge on the lives of individuals in ways that are largely irrelevant – if not counterproductive -- to helping those people live happy, sovereign lives.

"**Photonics**" – The term has been in use at least since the early 1950s and encompasses the processes involved in applying optical principles to the world. It is a form of engineering.

Masers – 1958 -- (microwave amplification by the stimulation of emitted radiation) and lasers – 1960 -- (light amplification by the stimulation of emitted radiation) are a few of the early results generated through photonic engineering. Optical fibers are another product which has emerged through that kind of engineering activity.

However, one might also point out in passing that photonics has made possible the directed energy weapons which were turned against United States citizens in places such as Paradise, California and Lahaina, Hawaii. One also has photonics to thank for, on the one hand, a less hazardous form of LED technology that emits blue light of certain problematic frequencies (e.g., 400 – 500 nanometers) which can damage the retina of the eyes as well as interfere with sleep patterns that, in turn, can lead to psychological and other health problems, and, on the other hand, one also can thank photonics for the existence of a much more lethal set of frequencies which can be emitted through streetlights that are part of an active system of denial and control (e.g., see the work of Aman Jabbi and Mark Steele).

Moreover, one could reflect on the role which photonics plays in the development of optogenetics. For example, technology based on photonics can be used to turn genes on and off from outside of the body, via such modes of delivery as drones.

"**Plasmonics**" – This is a field of study which explores, and seeks applications for, the physical phenomena which occur on a nanoscale in conjunction with the interface of particular kinds of metals and dielectrics (materials that serve as electrical insulators which become polarized when exposed to an electrical field and, among other things, can enhance capacitance or energy storage in electronic circuits). A plasmon is a quantum of plasma oscillation, and plasmonics explores the properties of such plasma oscillations and how they can be manipulated on the nanoscale.

These coherent oscillations are associated with electromagnetic waves that exist along the nanoscale interface that juxtaposes a

dielectric and a metal. Various metals have different plasmonics properties, and artificially designed nonporous metals have an array of plasmonics properties.

Plasmonics has potential ramification for bio-photonics. Consequently, not only does plasmonics carry possible applications for such fields of study as optogenetics (the use of light to turn genes on and off), but, as well, it raises questions as to how, and to what extent, bio-photonics and plasmonics might adversely affect or suppress the health of a person's biofield.

"**Politicians**" – members of a parasitic class who pretend to be public servants while expecting the public to be their servants. These are individuals who are well-versed in the process of de-stabilizing society through the checks and balances of: Delusions, illusions, subterfuge, rationalizations, and self-serving duplicity.

"**Precision Medicine**" – Also known as "personalized medicine" – Seeks to develop treatments which reflect the unique properties of a given individual's genetic makeup, environment, and life style. Nonetheless, and just to raise one set of issues, if the value of the diagnostic tests which are used are questionable (e.g., as is the case with PCR tests and COVID-19, as well as is the case in relation to the ELISA blood assay and Western Blot tests which are used in conjunction with "HIV causes AIDS" scenarios), and/or if one's theory of medicine is based on a monomorphic paradigm of disease rather than a pleiomorphic paradigm of microorganisms, then, what happens to the precision in such medicine? Similarly, if one doesn't recognize that EMFs in the environment can act as toxins and poisons, then, how, precisely, is one to ensure that medical treatment will properly reflect the environment in which such a person exists?

"**Project Salus**" – This is a data-driven analysis of the purported effectiveness of mRNA treatments against the delta variant of SARS-CoV-2. However, given that no one has provided credible and reliable evidence that SARS-CoV-2 (in any of its alleged variant forms) actually exists (see the work of Andy Kaufman, Tom Cowan, Stefan Lanka, as

well as Sam and Mark Bailey) and, therefore, one cannot demonstrate that mRNA treatments are effective in countering non-existent viruses, or their variants, then, Project Salus begins at no credible beginning and works toward no credible end.

"**Quantum Dots**" – These are nanoscale-sized, semiconductor nanocrystal particles which, usually, only occupy a few nanometers of space. They have electronic and optical properties which are governed by quantum dynamics and are of value in different facets of nanotechnology.

An individual quantum dot is sometimes referred to as an "artificial atom." Several quantum dots can be coupled together to form an "artificial molecule," and, in addition, a set of quantum dots can be organized into superlattices that have solid-state-like properties which are capable of exhibiting an array of electronic and optical properties.

Quantum dots are entirely artificial in nature. The research of Ana Mihalcea, David Nixon, Mateo Taylor, and La Quinta Columna has demonstrated that such artificial entities are showing up in the blood streams of people and, as well, that such quantum dots appear to be playing active roles in a variety of self-assembly dynamics which are giving rise to nanotechnological-like devices such as sensors, antennae, routers, and other forms of synthetic biology that are forming in the blood streams of people.

"**Synthetic Biology**" – Is this term oxymoronic? In other words, if something is synthetic then irrespective of the technological quality of that something, can it be considered to be biological in any sense?

Biology is the study of life. So, what property or properties must a synthetic: System, dynamic, network, or entity have to possess in order for it to be referred to as being biological in nature, and, therefore, a phenomenon which gives expression to the quality of life of a biological kind?

Is biological life a matter of: Proteins, carbohydrates, lipids, sugars, nucleic acids, cofactors, water, and the like being organized in a set of interacting, mutually supportive and modulating pathways that

are regulated by a series of instructions which, when operating properly, are collectively capable of generating a stable, functioning system of processes which exhibits a resistance to the pull of entropy by extracting from the environment what is needed to enable such a system to have continuity across time by means of series of transduction dynamics which convert environmental materials into usable forms of energy that help to underwrite the internal dynamics of such a system? How arbitrary is the foregoing way of characterizing life?

Is life just a matter of chemistry and physics? What makes the organization, structure, timing, awareness, and order of a biological entity possible? Are such properties merely emergent, self-assembling functions of physics and chemistry?

Is epigenetics nothing more than an expression of physics and chemistry? Or, do physics and chemistry have to be directed in certain ways in order for epigenetics to be possible, and, if so, then, what is the nature of this directing force?

Nucleic acids do not appear to be able, on their own, to regulate their modalities of expression. Instead, DNA and RNA both seem to be responding to something beyond themselves, as words seem to be dependent on something beyond themselves in order to become organized into an interacting system of syntax and semantics that is capable of making sense when properly interpreted by some other, parallel system which gives expression to an interacting framework that also is capable of a form of semantics and syntax that is capable of understanding the other system?

How did physics and chemistry give rise to a system that is capable of using triplets of five nucleic acids to stand for just 20, or so, amino acids out of the hundreds of amino acids which are possible? How did RNA come to serve as a way of translating DNA into proteins? The answer to these questions cannot necessarily be found in either physics or chemistry nor will such answers necessarily be found in the chaotic and complexity variants of those disciplines.

Until one knows what life is, and until one knows what makes biology possible, then, to speak of “synthetic biology” seems premature. Synthetic systems are not necessarily biological systems, and, consequently, for transhumanists to suppose that the synthetic

entities which they have created or want to create are the same as, or equivalent to, biological systems tends to blur the lines between life and non-life, just as legal fictions (and fictions is all that such legal pronouncements are) have blurred the line between a person and a corporation.

There seems to be a political agenda underlying the attempt to force-fit synthetic entities into the category of biological organisms. This is not about physics, chemistry, or biology.

"**Targeted Individuals**" – There are tens of thousands of targeted individuals in the United States. There are hundreds of thousands, if not millions, of targeted individuals in other parts of the world.

Targeted individuals are people who have lost control of large swaths of their physical, psychological, emotional, social, and economic lives as a result of the way in which their phenomenology and biology have been hacked by natural, and self-made, psychopaths through the application of the technologies, techniques, and programs which are being outlined in this document.

That to which allusions are being made through the different entries which appear before and following the present entry is not a conspiracy theory or a flight of fantasy. Rather, what is being described are the nuts and bolts of a terrorist campaign into which millions of people have been unwilling abducted and who through no fault of their own have been selected to serve as beta tests for the rest of us.

As is, sometimes, said in the military: "Be advised." The Havana Syndrome is just the tip of the iceberg, and many governments are involved in these acts of terrorism.

"**Telemetry**" – This encompasses a set of automated processes of communication in which data is collected, measured, assessed, and transmitted to a command and control center which, in turn, sets in motion a series of responses concerning that data. Initially, telemetry was handled through networks of wired connections, but technological advances have enabled wireless systems to process such data as well as subsequent responses.

Furthermore, AI-equipped nanotechnology, together with, advances in meta-materials, biosensors, routing devices and protocols have made telemetry a largely invisible dynamic which has the capacity to imprison people within that dynamic. Nanoparticulates – including many metals (artificial and otherwise) -- in chemtrails, vaccines, pharmaceuticals, food, and water, together with energy and various molecules that are being siphoned off from the bodies of people being processed, are providing the primary materials for various forms of AI-nanotechnology to, without the consent of the host, set up shop and run all manner of automated telemetry programs.

"**Tissue Engineering**" -- This is a form of biomedical engineering. It serves as a dynamic way of establishing an interface between, on the one hand, biology and, on the other hand, various techniques involving the capacity of engineering, synthetic biology, and nanotechnology to modulate, shape, sculpt, or assemble metamaterials (artificial materials that have the capacity to be affected by, and respond to, light in an array of ways) for purposes of repairing, replacing, or improving the functional character of various processes to which biological tissues give expression.

Technology currently exists which enables such tissue engineering to be conducted from without, using materials and devices that have been placed, often without informed consent, into people's bodies. For instance, when one combines epigenetics (the processes governing gene expression) with optogenetics (the technology which, among other things, enables someone to turn genes on and off), AI dynamics, stealth systems for introducing metamaterials into people's body, enhanced IEEE protocols, drone technology, and people who have ceded their agency to the darkest part of themselves (and, unfortunately, there are all too many of these sorts of individuals), then such individuals can engage, from afar, in any kind of tissue engineering which they (or their designated operators) are inclined to pursue in conjunction with targeted individuals of their choice.

"**Terahertz Radiation**" – The term "terahertz" refers to frequencies that are in the order of 10^{12} cycles per second. "Terahertz

radiation" refers to frequency phenomena which occur in a "space" where microwave and infrared forms of electromagnetic radiation overlap to a degree and the "space" where this "overlap" takes place is referred to terahertz radiation.

This form of radiation is considered to be non-ionizing which means that it does not contain sufficient energy to displace electrons from a molecule and, thereby, ionize that molecule. Since ionizing radiation is considered to be biologically destructive or injurious, non-ionizing radiation is often considered to be a safe alternative to radiation that is ionizing in nature.

However, a great deal of research (e.g., Arthur Firstenberg, Samuel Milham, Josh Del Sol, Beverly Rubik, Mark Steel, Olle Johansson, Daniel Debaun, and Martin Pall) has indicated that non-ionizing radiation entails its own set of potential problems with respect to the health of all manner of biological organisms. Consequently, to refer to terahertz waves as a non-ionizing form of radiation doesn't necessarily mean it is safe to be used in conjunction with, say, human beings or the biological environment that surrounds human beings.

Nanoscale devices have been developed and are continuing to be developed which have healthcare applications. In order for such devices to be of value, they have to be capable of two-way communication.

Terahertz frequencies have been introduced as a form of radiation which would be characterized by low energy features and would be able to exhibit precision localization in conjunction with, among other things, such tasks as targeted drug delivery.

Putting aside the issue of whether, or not, terahertz radiation's non-ionizing property constitutes a hazard (short-term and/or long-term) to biological organisms, one could also raise questions about whether, or not, the drugs which are to released through a targeted form of delivery are necessarily in the best interests of a patient. The delivery system entails one set of questions and issues, and that which is being delivered gives expression to another set of questions and issues.

Aside from the issues surrounding the technology of delivery and the nature of the drug that is being delivered, there is a third set of

questions and issues which arise in conjunction with the ability to send commands to such a delivery device. This has to do with the theory of medicine which governs the use of such devices and drugs.

Viruses have not been proven to exist. If one is using terahertz radiation to send commands to a nanoscale device to release an anti-viral form of medication or treatment, then, perhaps, there are some other questions and issues which need to be addressed as well.

One might also ask whether nanotechnology is necessarily the best approach to issues of health or whether nanotechnology is even compatible with health. A lot depends on what one considers the nature of disease and health to be, and from a certain perspective, nanotechnology is not only highly invasive but might be counterproductive to the way in which, for example, the epigenetic system or the biofield operate.

Finally, there is an elephant in the room. All too many doctors were willing to make claims during the so-called COVID pandemic concerning what COVID was and how it should be diagnosed or how it should be treated, and those claims were not necessarily based on either good science or sound, constructive medical clinical practice.

Consequently, there is a monumental trust problem that has developed with respect to many dimensions of the health and medical systems. The foregoing trust issue is exacerbated by the arrogance of medical and health practitioners who believe they have the right to force people to abide by medical theories which lack scientific rigor and cannot withstand even a moderate form or critical reflection concerning the claims which are being made through the promulgation of those sorts of theories.

Diagnostic errors and prescribed medicines account for hundreds of thousands of deaths each and every year and have been doing so for decades. If any other group of people caused this kind of carnage, war would have been declared against them long ago, but, apparently, such people have become – and not for reasons that can be justified -- a legally protected species.

When considering issues like terahertz radiation, nanoscale devices, and targeted drug delivery that can be directed through wireless forms of communication, one must place such issues in an

appropriate evidential context. Moreover, given that evidential context, one can't help but ask what such people are really up to because, despite the hype, what is being pushed through bio-nanotechnology raises a lot of questions which are not being adequately addressed by health and medical practitioners.

UN – ITU (International Telecommunication Union) -- This organization is an updated edition of the International Telegraph Union which began operations in 1865 by seeking to internationally regulate an array of issues having to do with telegraphy. Eventually, the organization broadened out and began to develop standards and practices for regulating radio and telephone.

The International Telegraph Union changed its name to the International Telecommunication Union in 1932 to reflect it expanding roles in governing, controlling, and setting standards with respect to various forms of communication technology. In 1947 the ITU entered into an agreement with the United Nations, and that agreement was activated in 1949.

What gives the ITU (in any of its iterations) or the United Nations the right to control, or set standards for, operating different forms of telecommunications? The short answer is: "Nothing," anymore than the IEEE has an inherent right to do what it does.

These organizations are arbitrary constructions that have been made possible through the power wrangling of backroom political dealings, financial arrangements, and select power groups. However competent -- and, perhaps, even well-meaning -- some (not all) of the individuals in such organizations might be, they have unilaterally assigned to themselves the right to control what can and can't be done in various areas of lived life.

Given that the 1947 agreement entered into between the ITU and the United Nations gave rise to the very first UN agency, one doesn't have to be a rocket scientist to understand that the aforementioned agreement is a critical step to gain control over what does and doesn't take place in the various realms of telecommunications. Such an agreement is the kind of agreement that people in such organizations might make if their ultimate aim was to work toward a one-world

government to which the people of the world had little access, and over which they had even less control.

Currently, the UN and the ITU play roles in helping to assign satellite orbits and, as well, they are active in such areas as: Wireless technologies, broadband Internet, optical fiber technology, maritime and aeronautical navigation, and setting standards and protocols for different facets of telecommunications. While one might agree that these are all areas which need people to come together to figure out ways to handle various issues and problems that are entailed by such technologies, nonetheless, I don't recall that either of these organizations actively sought out the contributions of anyone but a select group of technical, financial, and governmental power brokers.

The agreement between the ITU and the United Nations resonates with the agreement which the United Nations is currently negotiating with certain power brokers around the world in relation to the proposed updating of the Pandemic Treaty. Such an agreement allegedly would enable the UN to have near-total control over the way in which the people of the world respond to so-called public health emergencies. The term "allegedly" is used in the previous sentence because the UN has failed to abide by its own rules concerning the process for negotiating such an agreement and, more importantly, not only has the United States Senate not engaged in a vote that passed such an agreement with a two-thirds majority as is required by the Constitution, but, as well, the Senate has no authority to turn over the sovereignty of American citizens to a foreign body.

The UN claims that such negotiations are only about establishing a set of protocols for building an operational framework that will regulate how human beings are to proceed in the case of emergencies and will not affect the sovereignty of any country or person. However, if such a claim is to be believed, then, why bother with such agreements at all since merely sharing information would provide people in different localities with food for thought to critically reflect upon and come to their own conclusions about how best to deal with emergencies.

Such agreements – whether in the case of the ITU or in the case of the Pandemic Treaty – are not about health, well-being, co-operation, or resolving technical problems. Instead, they are maneuvers intended

to accrue power and control through stealth and manipulation. The World Health Organization, the ITU, the Bank of International Settlements, and the World Economic Forum are all located in Switzerland … a centralized location for centralized governance.

"**Virtual Reality**" – This gives expression to a form of artificially constructed reality that is capable of establishing contexts which induce frequency following behavior and entrainment dynamics through which people's cognitive activities can be modulated, suppressed, biased, and controlled. Virtual reality has the capacity to serve as a person's primary source of consensus validation in which one's understanding of experience and phenomenology becomes a function of how one engages virtual reality and how virtual reality engages the individual. As such, the individual becomes isolated from a range of other ideas, opinions, experiences, and conditions that are independent of, and, therefore, not controlled by, what transpires within the realm of virtual reality.

Virtual reality is touted as a medium for education. Such a medium is exceedingly vulnerable to considerable corruption in which education – or what is called "education" -- becomes an immersive, consuming, even addictive process that uses subtle techniques of undue influence to shape understanding and hermeneutical orientation. Such a process has little to do with having the freedom and wise, competent assistance that is needed to explore issues through critical inquiry but, instead, the aforementioned process is a function of an array of biases, assumptions, theories, principles, and policies through which an individual is induced, little by little, to cede one's moral, intellectual, physical, and spiritual agency to the overlords of the educational network – the very antithesis of real education.

"**WBAN**" (Wireless Body Area Network) – This is a surveillance system which provides a continuous stream of monitored data concerning what takes place: Within, on, and around a given biological domain, including cognitive and behavioral activity. To whatever extent such a system is used without informed consent, then, to that extent, WBAN is an expression of transhumanist, post-humanist, technocratic, and/or oppressive forms of surveillance. To whatever

extent such a system interferes with, undermines, adversely affects, injures, or overrides a person's bodily sovereignty, then, to that extent, WBAN is a tool of transhumanist, post-humanist, technocratic, and/or oppressive forms of surveillance. To whatever extent such a system is used to induce a person to be, or become, controlled by an external source of political, social, economic, financial, medical, technological, and/or military control, then, to that extent the WBAN system is a manipulative and transformative policy program that is shaped by transhumanist, post-humanist, technocratic, and/or oppressive forms of surveillance. To whatever extent such a system is used to track, trace, herd, or terminate individuals, then, to that extent, WBAN is a transhumanist, post-humanist, technocratic, and/or oppressive form of surveillance agenda.

The WBAN is never value-neutral. It is always a function of the hermeneutical context which governs how, when, where, and why it is being used and deployed.

"**Xenobot**" – These are real-world constructs which give expression to AI-assisted, computer-generated blueprints for constructing synthetic entities which are designed to serve some biological function by bringing together various kinds of tissue in non-natural, artificial ways. Xenobots are made from frog cells, and, in fact, the name is modeled after the Latin terminology for the African clawed frog (Xenopus laevis).

There is a considerable amount of debate among researchers, scientists, engineers, and medical practitioners about what 'Xenobots' are (e.g., robots, life forms, synthetic biology, etc.). This sort of debate might be a good indication that the people who are engaged in such research don't necessarily know what they are doing but are just fooling around with various kinds of frog tissue to see what might transpire.

Xenobots can be provided with different kinds of sensors and actuators which enable them to move about their environment and perform certain functions (one of which, of course, is movement). In addition, xenobots can be equipped with a form of molecular memory through the introduction of an RNA molecule into the entity which is capable of responding to the presence of certain frequencies of light.

Moreover, such entities also are able to replicate. In other words, they have been given a capacity to gather cells in their vicinity and perform the necessary operations which will make new versions of themselves.

Xenobots operate off of the energy that is stored in some of the fats and proteins that are present in the tissue. Once these energy sources are used up, the xenobot becomes a dead skin cell.

Some researchers have suggested that xenobots should be let loose in the world to perform various functions, such as gathering together various kinds of pollutants for subsequent disposal in some, hopefully, non-polluting manner. Other individuals believe xenobots might have medical applications.

Many scientists love to talk about complexity theory and the way in which emergent behavior can arise from system which exhibit properties of complexity. So, when researchers talk about releasing xenobots into the world, especially in swarms that are coordinated to serve such functions, one wonders what emergent properties of an unwanted nature might arise out of such complex systems. Where is Michael Crichton when you need him?

"**You**" – You are the intended target of the many kinds of technologies, networks, programs, policies, protocols, and standards which have been outlined, and commented on, in this document. Do your best to extricate yourself from all political, legal, educational, medical, scientific, technical, social, and religious networks that seek to reduce you to being nothing but a node on a network in which one is subject to the operational constraints and degrees of freedom of such networks rather than being able to exercise God-given sovereignty.

"**ZigBee**" – This is a communication protocol established by the IEEE (802.15.4) for creating networks that are characterized by properties such as being: Wireless, low-power, low-data rate, and proximate (which is why ZigBee is used in personal area networks that provide the telemetry which links near-by electronic devices – tablets, phones, computers – with, for example, "wearables" – whether in or on the body).

ZigBee is less complex and less expensive than other communication protocol systems such as Bluetooth or various Wi-Fi forms of communication protocols. Nonetheless, ZigBee is capable of transmitting data over long distances by routing the data through various kinds of mesh networks that are hooked up with distant communication and control centers.

ZigBee is capable of being integrated with systems of artificial intelligence. So, when various entities -- with the assistance of artificial intelligence algorithms – have been observed to be self-assembling in the bloodstreams of human beings (as demonstrated by the work of, among others, Ana Mihalcea, Clifford Carnicom, David Nixon, Len Ber, Mateo Taylor, Robert Young, and La Quinta Columna), one of the options for expanding the communicative reach of such entities is ZigBee … This realization is very reassuring and comforting.

The foregoing material is a modernized, updated addendum to Ambrose Bierce's original compilation of entries known as: *The Devil's Dictionary*. Due to an absence of talent, the present offering is not as entertaining, funny, stylish, or comprehensive as the original work.

Nevertheless, this document seeks to bear witness in a sincere manner to certain events in the modern world just as AB sought to sincerely bear witness to events that were taking place in his world. Moreover, for reasons that are entirely beyond his control, AB did not have access to the same sorts of news sources as I do, and, therefore, there might be a few entries in the present addendum which are somewhat more news-worthy than are some of the entries in his initial: *The Devil's Dictionary*.

Ambrose was a veteran (first lieutenant) of the Civil War. I have become a reluctant veteran (rank private) in another kind of 'civil war', and the foregoing entries outline the nature of certain aspects of the present conflict.

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