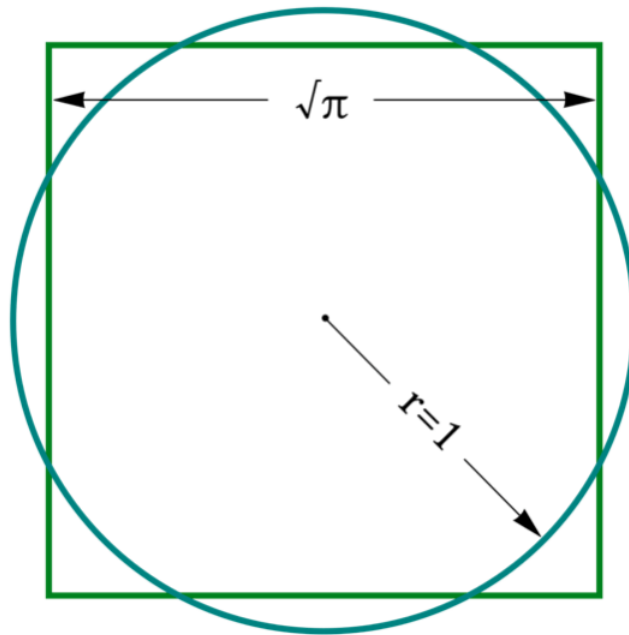


Rethinking the Implausible

Of minds and molecules.



“Decades of research have established the general validity of the psycho-neuro-immunological response well beyond any reasonable doubt.”

— Cheek and Rossi, p. 202 (Cheek 1994).

Movement of the molecules

To say that a disease is of this organ or that organ presupposes a lot. It assumes that there’s something special about the structure of the organ and the mechanism of the disease that links the two. This applies to tape worms in the gut as well as cirrhosis of the liver, but it doesn’t apply well to many viruses, and it certainly doesn’t apply to SARS-CoV-2 whose mechanism is especially general. There really is no “disease” COVID-19, there is rather a broad state of biochemical disruption.

Even this is too specific. Viruses are too simple to have a strategy because that would require them to negotiate changing events in order to maintain it. Instead, they have a varied toolkit with a good deal of redundancy and the ability to evolve quickly. Evolution is to a virus what thinking is to us. It takes longer--on the order of months--and it’s not built on inference, it’s built on feedback.

“Humans describe the contest between host and virus as a war, but the virus is not at war. Our enemy has no agency; it does not develop ‘strategies’ for escaping our medicines or the activity of our immune systems... SARS-CoV-2 virus has no plan. It doesn’t need one; absent a vaccine, the virus is here to stay. ‘This is a pretty efficient pathogen,’ Dr. Garry (microbiologist at Tulane University) said. ‘It’s very good at what it does.’ ”

— Alan Burdick, correspondent for *The New York Times*, (Burdick 2020)

Evolution is a lot more scientific than the decisions we make on the basis of conjecture. Evolution explores opportunities experimentally, and moves toward evidence-based results. Evolution never gets discouraged or depressed which gives viruses the ultimate Vulcan mentality: they just do what works in proportion to the result.

I’m not a virologist so I have to think in simple terms. I understand the virus in terms of three imperatives:

- find and enter an environment that provides the tools for its reproduction,
- use those tools to create copies of itself,
- find a way out and endure passage to the next reproductive environment.

Stopping the virus, from our point of view, can happen at any of these steps. Our efforts at isolation--both isolating ourselves from each other and isolating the virus from us--are attempts at denying the virus an environment in which to reproduce. That is a conceptually simple solution.

“I usually picture it as an entity that comes into the cell and then it falls apart... It has to fall apart to build some mini-factories in the cell to reproduce itself, and has to come together as an entity at the end to infect other cells.”

—Dr. Melanie Ott, Director, Gladstone Institute of Virology

Our attempts to heal people suffering from viral infection is a much more complicated problem as damage is already done and the virus is successfully accomplishing all three of its tasks. At that point, stopping one of the virus’s main tasks will not make a person better, you need to stop all three.

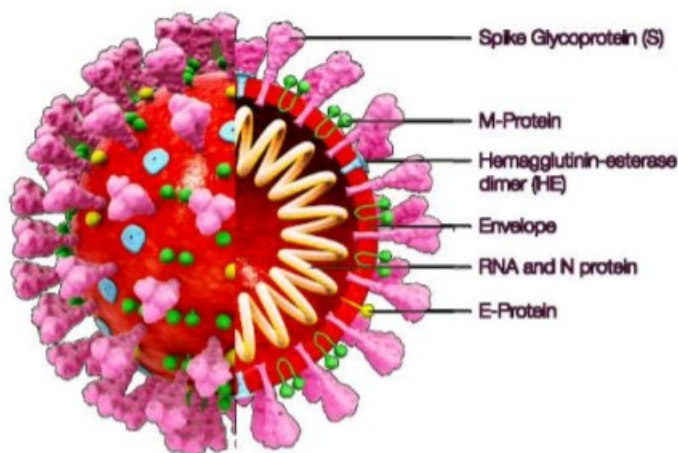
This is only made more difficult when we say the virus is a disease that manifests specific symptoms because it doesn’t. The problem of finding a cure is made more difficult by targeting the virus’s symptoms rather than its causes.

The first major dysfunction caused by SARS-CoV-2 occurs at our membranes. The membranes first affected are the ones it first reaches, which is usually the upper respiratory tract. This becomes serious when the virus reaches the lower respiratory tract of people whose metabolism is already impaired.

For many people, notably the young and the healthy, the pulmonary system is not at risk and the virus will not do damage unless it gets further. For these people, the gut is the first serious disruption. This usually resolves in a few days, but that doesn't mean the virus is gone, it's still in you and it's still looking.

There are other points of vulnerability, if the virus can get to them. If the virus makes it into the blood, then it can assail the circulatory system or any organ to which it can be delivered, including the skin and the brain.

Depending on the location, different systems will respond and with different symptoms. There will be different paths to recovery in each case. I would not be surprised if the virus could affect the joints if it could find a way to get there.



Corona virus structure

What's going on?

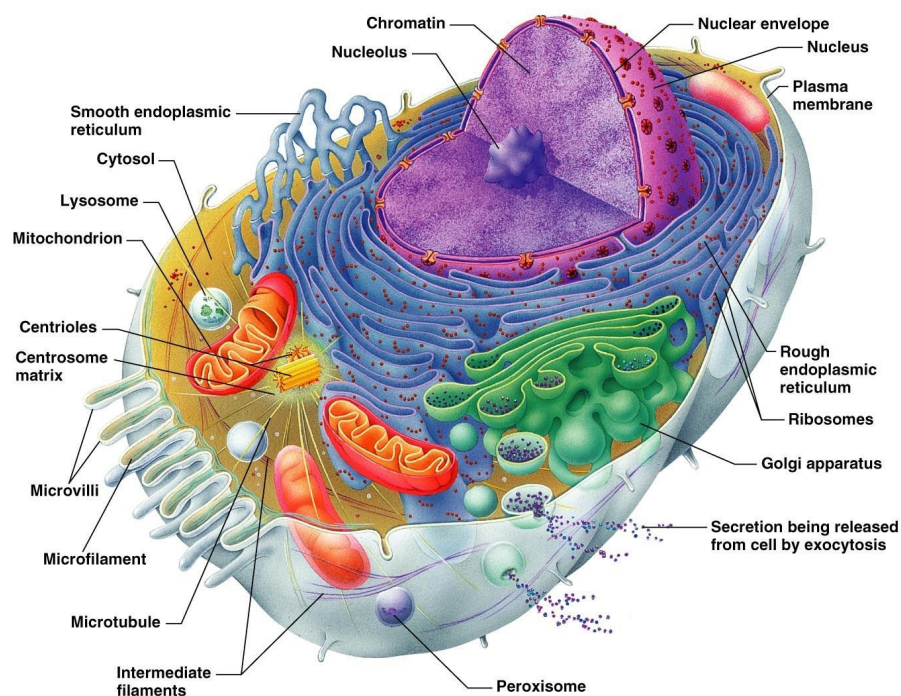
“We tend to think of the brain as being like a puppet master pulling strings, but in reality the brain is more like the symphony conductor bringing some things up, quieting other things down.”

— H. Craig Heller, PhD, in R. Brazil, “The Molecules That Make Memory” (Brazil 2014).

It helps to know a little of what the virus is doing. In truth, that's all we know: a little. We know the simple things like how we get infected, although even that depends of things we don't know, like how well the virus survives out of the body, and how effectively it reestablishes itself through different channels. We know more about how the virus gets into cells, as that is advertised through the chemistry on the virus's surface. It get's into cells using its spike proteins that act like keys to the ACE2 receptor that bars entry to many different types of cells in our body.

We know less about how the virus marshals, or hijacks, our biochemistry to reproduce itself within our cell, or insinuate itself into our DNA. It's here, we believe, that zinc plays a role in blocking viral reproduction, but there are many steps and many molecules involved.

We seem to know the least about how the virus reassembles itself, reconstituting itself from borrowed parts to be reborn by the millions as intact, cloned, and independent virions. This is the most complex and foreign step of the virus's three steps to reproduction. I have not heard any suggestions of how to stop the virus at this stage, while it's still within our cells.



Structure of a cell

Mind in matter

“Most of those studies found a positive association between the frequency of self-practice and optimized immune outcomes.”

—Lemmy Schakel, et al. (Schakel 2019)

“Those subjects who noted that they actually ‘felt’ something going on inside of their bodies were more likely to show changes in blood function as well.. To what extent can people be trained prior to illness to be more aware of their bodies, even on a cellular level.”

—Schneider, Smith, and Witcher (1984).

Hypnosis, and other forms of intentional healing, are not “mind over matter,” they’re mind in matter. They work through the mind’s ability to have some effect on the health and metabolism of your organs. The results may seem miraculous, such as facilitating one’s recovery from cancer, but this is not miraculous, it’s simply the mind’s ability to communicate with and help the body.

At the most conscious level we can do things like eat, sleep, and exercise. At a chemical level we can to some extent intentionally release hormones associated with relaxation, confidence, determination, and positive intention. We can also have an effect on our body’s electrical system.

For some sad reason Western medicine knows next to nothing about the body’s electrical system. Pharmacology sees electricity as something that makes drugs work. Neurology sees electricity as delivering information to a nervous system that does little more than release or inhibit chemicals. Clinical medicine knows nothing electricity as little more than a means of burning tissue by delivering heat through laser and particle beams.

Acupuncture and Oriental Medicine, while not couched in electrical terms, are concerned with electrical systems when they talk about energizing a meridian or stimulating the body’s chi. Physiotherapists and chiropractors are working with the nervous activation of tissues, and cranio-sacral therapists are sensing rhythms and currents in the body.

As I gain more experience and have more interaction with clinicians in other modalities I have begun to understand why there is so little collective understanding: people in different modalities just are not aware of what the other modalities are doing. Everyone speaks a specialized language.

I have been interested in bio-electrical systems since I accidentally met Robert O. Becker, MD, in the 1980s, before he wrote the book “The Body Electric: Electromagnetism And The Foundation Of Life.” It was another 20 years before I met Frank Echenhofer who conducted the early research on the brainwaves of Buddhist monks. After that, I started my own practice with brainwaves as a neurofeedback therapist. This led to my tinkering with other electrical-based approaches such as Direct Cranial Stimulation, Infrared Light Therapy, and others, many of which have matured into fields of their own.

There are few physicists involved in medical technology, so few practitioners understand their tools in a way that satisfies me. The engineers understand how they work, and the clinicians know how to use them, but no one understands seems to care why they work. It’s really a case of people being uninterested in those questions which they don’t have the tools to answer.



Royal Raymond Rife

Fields and feelings

In the 1920s and 1930s Royal Rife, an inventor, engineer, and professional microscopist living in Southern California, developed some of the first field-effect microscopes. His machines achieved

unheard of magnifications using oscillating, polarized light. Rife claimed viruses and bacteria would fluoresce, and he could both see and perform experiments on them in vivo, something that still cannot be done with viruses, even today (Walker 2020).

It has since been pointed out by well-meaning microscopists (Hudson-Smith 2017) that his claim of 30,000x resolution was physically impossible with a visible-light microscope, but this is narrow-minded. Rife was probably using ultraviolet light that allows 100x finer resolution than visible light, with wavelengths comparable in size to the largest viruses. He was also more interested in exploring the properties of pathogens, rather than imaging them.

“At various declinations of the refracted and polarized ray normally invisible bodies would become visible in a color peculiar to their structure or chemical make-up.”

— Peter Walker, referring to Rife’s observations (Walker 2020)

“When that portion of the spectrum is reached in which both the organism and the color band vibrate in exact accord, one with the other, a definite characteristic spectrum is emitted by the organism.”

— The Smithsonian Report (Skidel 1945)

In addition—since he claimed to cause and to observe florescence in the microbes he was observing—Rife was likely performing a kind of spectroscopy of the resonant structures of living organisms—what he referred to as their refraction properties. This could have been sufficient for exploratory purposes. But we really don’t know what he was seeing since his work was lost and destroyed.

I find this kind of “to hell with what you call it, this is what I see” attitude to be typical of engineers, and the foundation of genius. You can witness this yourself in my own mentors, Charles Townes and Jerry Lettvin, as I recorded in interviews with them in my book *The Learning Project* (Stoller 2019). Townes and Lettvin achieved the impossible—producing monochromatic light and measuring signals from a single axon—and, in doing, revolutionized their fields of physics and neurophysiology.

By watching bacteria and viruses in their living state, Rife said that he could observe the effect of impinging electrical waves. He said he could tune these waves to the pathogen’s resonant frequencies, and kill them. For this purpose he built “ray machines” that focused broadband, low-frequency electrical radiation. He said he had near perfect success in curing cancers.

Not completely forgotten

At first Rife's work was celebrated. Throughout the 1930s he had widespread success in clinics and laboratories, but it was too soon for the business of medicine. Energy medicine had no footing, commercial interests became involved. Subsequent legal battles led to his machines being confiscated, two laboratories burned under suspicious circumstances, his notes lost, and all details of his work eventually forgotten.

Now, long after his death in 1971, observations similar to Rife's have emerged (Yamazaki 2020, Vadalà 2016). It's a sad story that illustrates that medicine is not a science, and research follows commercial interests. There are clinics in Europe and one in Arizona that openly offer Rife-related therapy.

You can use what today is called a Rife Machine—which only remotely reflects what Rife developed. The electrical radiation generated by these machines is neither monochromatic nor thermal. It is low frequency, broad-band, and broadly harmonic in its spectra. I have not seen any actual spectral measurements, but from the simple design of the machine I can the spectra it generates is complex.

“Rifing” stimulates one's tissues. It can result in tingling, heating, irritation, and even inflammation. It can also create fatigue, headaches, and flu-like symptoms. The results resemble what one feels after an acupuncture session.

I must caution you, Rife machines are entirely unapproved for medical use in the US. No one would think of applying to the FDA for certification because there is no accepted theory behind them, no accepted clinical direction about how to use them, no funding for them, and they are considered pseudo-science. Of course, all new science can be called “pseudo-science” until it's accepted science. I'm not really concerned with using the Rife machine here. I mention it only because it suggests something about hypnosis and energy medicine.

Naturally, I have a Rife machine, or what passes as one. Every few years I set it up and irradiate myself looking for efficacious frequencies. The Rife machine generates in me sensations I otherwise do not have. As with acupuncture, I gain a feeling of warmth and invigoration, and I can work with these feelings using my imagination. What's more important, once I've had these feeling, I can often regain them using my imagination alone. That takes us back to hypnosis.

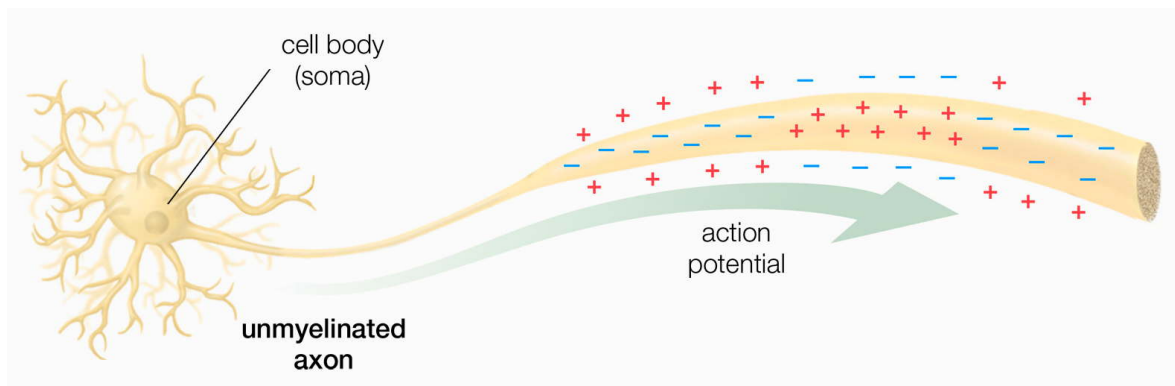
I don't know how to use my mind to make chemical changes within my cells, but I can use my mind to change how my tissues feel if I can feel those tissues. When I change how my tissues feel I'm changing

something in my cells, perhaps not directly but certainly indirectly, in terms of what I'm doing to those cells.

The key is to be able to change feelings in your tissues. If you have no feeling, then there's nothing you can change. But once you have some feeling, then you can shape, expand, and even speak to it. It's on this basis that I offer my next induction, "Mind and Molecules."

"The immune system may be considered a cellular extension of the brain, a 'mobile sensory organ.' "

— R. Zachariae, et al., in "Effect of Psychological Intervention in the Form of Relaxation and Guided Imagery on Cellular Immune Normal Healthy Subjects"



Electric currents carried by axon.

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