5G, Epigenetics and Chronic Disease

4th Year Research Paper-CN

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August 2022

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Introduction

For over two centuries, electricity and technological advancements have been at the forefront of human industrialization. Although human beings enjoy the conveniences of this ever-changing and developing technology, the diseases of the modern world, such as cancer, were exceedingly rare in non-electrified times. In the current global climate of pandemics and epidemics, researchers are seeking an answer as to why disease keeps proliferating alongside the growing rate of technological advancements. These invisible frequencies that power our modern-day living may be at the core of what is disrupting the natural frequency of health inside the human body.

The following research investigates the history of electrifying the planet in relation to and correlation to disease. An exploration of DNA as antenna for electrical frequencies and the effects on genetics is considered along with the long-term effects of radiation poisoning. Several theories are introduced about the origin and nature of disease and viruses that have plagued humanity for centuries. A solid argument is presented in the following information that the contagious diseases of the 21st century are rooted in electrical sickness or Electromagnetic Hypersensitivity (EH). This research is a plea to recognize the modern-day pollution of EMFs (Electromagnetic Frequencies) as a human rights emergency. The future health of the entire planet and those inheriting this earth depends on remediating and preventing the harmful and invisible effects of electromagnetic pollution.

DNA as Fractal Antenna

The purpose of an antenna is to receive and transmit electromagnetic waves. Traditional antennas were designed using the basics of Euclidian geometry but the modern demand for

cellular devices initiated the antenna to be redesigned as more compact and broadband. As a result, a new field of technology has emerged amongst engineers and physicists utilizing the theories of fractal geometry. This new field is called fractal-electrodynamics and the measurements are not translatable by traditional mathematical means. One very important characteristic pertaining to fractals is that "if a small part of a fractal is magnified, more features that are reminiscent of the whole can be seen" (Ferguson, 2012). This concept is called self-similarity and it mimics the design of human DNA. Self-similarity expands the total surface area of the substance and maximizes the length of the material. Unlike traditional antennas, fractal antennas have the capacity to receive and transmit many different electromagnetic waves which makes them favorable for cell phone and microwave communication.

All living cells are electromagnetic units. The danger of employing high amounts of electromagnetic technology on a planetary scale is that the fractal antennas that are compatible with this technology are designed identically to match the construct of human DNA. Martin Blank and Reba Goodman report in their 2011 study that "DNA appears to possess the two structural characteristics of fractal antennas, electronic conduction and self-symmetry" (Blank and Goodman, 2011). The organic structure of DNA actually makes it more susceptible to Electromagnetic Frequencies (EMF) that leads to structural damage. It is well-known that cancer arises from mutations in DNA and the structural damage caused by EMFs could account for the increase in cancer epidemiology.

Supporters of EMF technology define radiation as the emission of energy from any source. Based on this definition, they maintain that the heat transmitted from a human body is technically radiation. This side contends that emissions from wireless technologies are safe

because they are non-ionizing and on the low-frequency end of the electromagnetic spectrum. They agree that ionizing radio waves on the high-frequency end of the electromagnetic spectrum, such as gamma or x-rays, can damage a cell and ultimately result in cancer but insist that the low-frequency radio waves do not. A 2018 study discovers that low frequency fields can literally break apart DNA and are associated with damage to DNA repair genes (Singh et al, 2018). These researchers explain that the action of breaking apart DNA maximizes its length and perimeter, making it conducive to receiving or transmitting electromagnetic radiation at different frequencies simultaneously. In other words, EMFs break apart human DNA, turning them into conductive fractal antennas. The compact structural property of DNA within the cells mimics the fractal antenna design allowing for interaction in the radio frequency ranges.

DNA Breathes and Breaks

In relation to breaking DNA apart, breathing dynamics of DNA have been a topic of intense research for many years. Researchers claim that the double-helix structure of DNA literally needs to breathe or else it will break apart. In order to comprehend this phenomenon, it is important to first reference the building blocks and structure of Deoxyribose Nucleic Acid (DNA). DNA is comprised of nitrogen molecules called base pairs that are held together by a hydrogen bond. These base pairs are complementary to one another and attach themselves to a sugar phosphate backbone that forms the double helix structure. The nitrogen bases or nucleic acids are called Adenine, Guanine, Thymine and Cytosine. The bases always pair in the same sequence, Adenine with Thymine (A-T) and Cytosine with Guanine (C-G). In 2011, the University of Toronto Chemical Physics Theory Group published an investigation on DNA breathing dynamics and stated that, “In practice, access to the inside of the double helix, and

therefore, the unzipping of a specific region of base pairs is essential for all physiological processes involving DNA, e.g., for replication, transcription, and protein binding" (Bandyopadhyay et al, 2011). When double-stranded DNA is unzipped, it is referred to as denaturation. The process of transcription involves transcribing genetic information from DNA into RNA. The transcribed RNA produces proteins which are the building blocks for life. Several factors lead to DNA denaturation such as heating, change of pH in the environment and other external forces. When this phenomenon occurs, the base pairs break apart and the double strand separates into a single stand and forms loops or "bubbles." Transcription and replication of our genetic code cannot take place without the unwinding or denaturing of the DNA double helix (Erp et al, 2006). Basic cellular activity is controlled by the transcription or coding of protein production.

The University of Toronto research team discovered that when the temperature that caused the denaturation is cooled down, these loops or bubbles will eventually connect to the double strand again. This process is called renaturation and restores the original biological processes and activities of the DNA. A serious problem ensues when at higher temperatures, the bubbles continue to separate, grow in size and bond to neighboring bubbles making denaturation more permanent. Permanent denaturation changes the biological function of proteins and the primary purpose of DNA is to employ the instructions for making proteins, aka genes.

EMFs are believed to have genotoxic effects, meaning that this frequency can damage DNA or cause mutations leading to serious illness. Previous studies have shown that EMFs interact with DNA, followed by double-helix breaking as a result of initial biological reactions to

EMFs (Singh et al, 2018). As mentioned in the previous paragraph, cooler temperatures play a critical role in mediating the genotoxic effects because the DNA can repair itself at lower temperatures or undergo renaturation. This information insinuates two very important questions. First, do low-frequency EMFs have a genotoxic effect on cells and second, what is the impact of continuous thermal heat caused by EMF radiation on the biological processes of living cells.

A study in 2014 exposed monkey kidney cells or Vero cells to extremely low frequency electromagnetic fields. They found that, “exposed samples presented an increase of the number of cells with highly damaged DNA as compared with non-exposed cells” (Mihai et al, 2014). The exposed cells had an increased tail length and a higher quantity of fragmented DNA in the lengthened tail. This damage continued 48 hours after the exposure to the low-frequency EMF had ceased. The length of the DNA tail is directly proportionate to the amount of damage expressed. Another study conducted the following year in 2015 found that, “both ELF-EMF (extremely low frequency) and RF-EMF (radio frequency) under the same experimental conditions may produce genotoxicity at relatively high intensities, but they create different patterns of DNA damage” (Duan et al, 2015). Extremely Low Frequency (ELF) EMFs are generated by electrical devices and power systems at frequency rates between 1 and 300 Hz. Radio Frequencies (RF) range between 30 KHz to 300 GHz. The damage created by the ELF-EMFs included significant breaks in DNA whereas the RF-EMFs did not produce that effect. However, the RF-EMFs caused oxidative DNA base damage and the ELF-EMFs did not. Then in 2016, the US national toxicology program (flagship-testing program for the US government) released the results of a long-term study that exposed animals to the equivalent amount of cell

phone radiation that a human would receive in their lifetime. They found that the rats exposed to cell phone radiation developed very rare and highly malignant brain tumors and malignancies in the nerves leading to the heart. Despite their neutral view on short-term exposure to ELF-EMFs having no effects, they warn people at the end of this published study to take necessary precautions to protect themselves against harmful EMFs to ensure long-term health and safety. They explain that the average person living in a city is exposed to non-ionizing radiation the whole day in different ways and overtime, exposure may result in the buildup of ROS and creates indirect harmful effects. ROS stands for Reactive Oxygen Species and the overproduction of it in the cell leads to mitochondrial damage and can trigger numerous pathologies. As mentioned earlier, ELF-EMF cause DNA to break and this results in electron transfer that leads to oxidative stress and activates the metabolism of ROS. Surpluses of ROS have been linked to autoimmune disorders, cardiovascular and neurodegenerative diseases, digestive and respiratory diseases and cancer.

One final example of how low-frequency EMFs have a genotoxic effect on living cells is displayed in a 2006 study on childhood leukemia in Japan. The researchers explained that, “the results provided additional evidence that high MF (magnetic frequency) exposure was associated with a higher risk of childhood leukemia” (Kabuto et al, 2006). They analyzed the magnetic frequency (MF) in the bedrooms of 312 children under the age of 15 that had been recently diagnosed with Acute Lymphoblastic Leukemia (ALL). They analyzed the frequency rates of 603 similarly aged children in the control group in a comparable residential area. Researchers concluded that the children with leukemia had MF rates three times higher than the reference rate in the control group children’s bedrooms. This study directly establishes the

genotoxic effect of non-ionizing, low-frequency EMFs on humans and also provides a transition into investigating the impact of continuous thermal heat caused by EMF radiation on the biological processes of all living things.

Previously in this research paper, it was established that DNA replicates due to thermal and pH changes in the internal environment. In order to maintain homeostasis, cooler temperatures cultivate the reunion of the denatured DNA strands returning them to their original design and functionality. The adverse effects of EMF radiation are based on the duration of exposure and the intensity and the strength of the magnetic field. Biological impacts of EMFs are typically classified as non-thermal and thermal and both pose significant risks. In theory, the faster the electrical field is vibrating, the more heat it creates. The thermal and non-thermal effects of EMFs are associated with heat created in a certain area of the body. “It is possible that every interaction between RF fields and living tissues causes an energy transfer resulting in a rise in temperature” (Kivrak et al, 2017). In 2018, researchers discovered a graded relationship between the effects of cell phone Radio Frequency (RF) radiation and the increase in body temperature of rodents. They observed that the temperature increases were less drastic in younger mice as opposed to older mice. This theory has been mentioned in human studies on EMF and tissue heating because older people have reduced skin thickness and restricted blood flow which allows for higher frequency absorption rates. Conclusively, “Radiofrequency radiation (RFR) causes heating, which can lead to detrimental biological effects. High exposures resulting in RFR induced excessive increases in body temperature, leading to mortality in the rodents” (Wyde et al, 2018). Even though the non-ionizing frequencies are on the low end of the electromagnetic spectrum, which includes power lines,

radio waves, microwaves, cell phones etc., and are considered non-thermal EMFs that do not emit heat, they do in fact produce heat in the absorbing source. The skin, organs and brain are absorbing sources. Proponents of wireless technologies argue that non-thermal EMFs produced by cell phones, microwaves etc. are not dangerous to human health because the frequency does not move fast enough to produce heat that can be converted into electromagnetic radiation. However, these frequencies are creating thermal energy inside the cell, damaging DNA and other physiological processes and doing so over a long period of time. Just because damage from thermal ionizing frequencies such as gamma rays, x-rays and radioactive substances is more immediate and severe does not mean that the non-ionizing, non-thermal EMFs are not producing damage to the human body over longer periods of time and producing diseases and disorders that the mainstream medical community fails to recognize as the effects of non-thermal radiation poisoning.

Epigenetics and the Biological Effects of EMFs

Between 1987 and 1992, stem cell biologist and best-selling author, Dr. Bruce Lipton studied the membranes of human cells and found that the outer layer functioned as an organic computer chip that behaved like the brain of the cell. He discovered that the interaction between the environment and cell membranes determined the physiology and behavior of the cell by turning genes on and off. Dr. Lipton's work cultivated a whole new field of modern science called Epigenetics. Epigenetics is the study of how external or environmental factors affect the way genes work. Fortunately, epigenetic changes are reversible and does not change the DNA sequence but does alter which genes are turned on and off or how they are expressed, directly impacting what proteins are made. Chemical compounds bind to DNA, changing the

structure, not the DNA sequence, and it is the structural change that influences which genes are turned on or off and which proteins are manufactured as a result. This basic chemical reaction determines the function of all genes and controls the instruction manual for making specialized cells such as brain, skin or liver cells. There are two main epigenetic processes called DNA methylation and histone modification. DNA methylation typically shuts genes off and histone modification turns genes on and off. Both processes involve the binding or attaching of chemical compounds that regulate the activity of gene expression. DNA methylation is associated with diseases such as asthma, aging and cancer and is greatly influenced by nutrition and exercise. In the bee kingdom, the worker bee that receives royal jelly becomes the queen. The royal jelly suppresses the DNA methylation pathway extending the life of the queen from 40 days to 5 years even though she has the same DNA as her fellow worker bees. Another example is found in cancerous tumors when the DNA methylation pathway is distorted and the genes prompting the continuous production of cancerous tumor cells are turned on. The science of Epigenetics can assist in identifying which gene needs to be turned off in order to stop the growth of the tumor and suppress the DNA methylation pathway.

Environmental factors in the modernized, industrialized world play a key role in the study of Epigenetics and range from chemicals in the air and water to molds, pesticides, stress, diet choices, aging, heavy metals, endocrine disrupting chemicals (EDCs), sleep hygiene, chemicals found in personal care products etc. It is critical to remember that subtle differences in one person's genetic composition can make them more vulnerable to developing diseases after exposure to harmful environmental factors and another person with the same exposure will not experience any negative outcomes. However, a ground-breaking studying conducted by

a team of Italian researchers in 2005 found that identical twins with identical genetic backgrounds can have varying disease susceptibilities based on the theories of Epigenetics. They report, “We found that, although twins are epigenetically indistinguishable during the early years of life, older monozygous twins exhibited remarkable differences in their overall content and genomic distribution of 5-methylcytosine DNA and histone acetylation, affecting their gene-expression portrait” (Fraga et al, 2005). The only explanation to this finding is based on the fundamental theory of epigenetics, ruling that the environment has a direct influence on gene expression and caused differences in one of the identical twins over the course of their lifetime.

Although the genetic code of DNA remains fixed for a lifetime, the genome (23 pairs of chromosomes containing approximately 3.1 billion bases of DNA sequence) or the entire set of genetic instructions inside of a cell are malleable. Changes to the genome are controlled by the epigenome. The epigenome is comprised of distinct epigenetic markers on the DNA in each cell. These epigenetic markers are small chemical tags that instruct genes to turn on or off. In other words, the epigenome is a collection of chemical compounds and proteins that tell the genome what to do; turning genes on or off and controlling the production of proteins. The actual sequence of the DNA remains the same but the way the cell uses the instructions can change. These epigenetic markers or instructions are what create specialized cells that have distinct physiological functions. For example, a red blood cell has different epigenetic markers to make proteins that can carry oxygen as opposed to an eye cell that has epigenetic markers to turn on genes to create proteins that can detect light. A comparison of the tissue from similar organs from two different people will have varying epigenetic markers or differing epigenomes and

this is what distinguishes one individual from another. These epigenome variations from person to person will determine susceptibility to disease as described earlier in the study findings on environmental influences affecting gene expression in identical twins.

The epigenome reacts to everything in the environment. Abnormalities in the epigenome are influenced by several lifestyle factors including nutrition, and these abnormalities can be passed down generations. In general, cells are constantly assessing their external environment and adjusting their activities and respond to this positive or negative stimuli accordingly. Changes to the epigenetic markers as a result of environmental factors are displayed in three animal studies conducted on the generational effects of external stimuli on gene expression. The first study was performed on the Agouti mouse and directly linked food to epigenetics. The Agouti mouse will be born yellow or brown depending on the suppression or expression of the Avy (Agouti viable yellow) gene, which is dependent on DNA methylation. When the Avy gene has no methylation, the mouse will be born yellow and prone to health issues such as obesity, diabetes and certain cancers. However, if the gene is hypermethylated, the mouse will be born brown with no health disorders. In 2013, an American researcher named Randy Jirtle made an incredible connection between B Vitamins and epigenetics. He found that “the offspring of mice carrying the Agouti gene fed with B vitamins are no longer sick or even beige (the Agouti gene is still there, but it is no longer expressed), while the offspring of those who have not received B vitamins remain sick from generation to generation! (Drouet, 2021).

The second genetic experiment was performed on the fruit fly in 2009 at the University of Basel. Fruit flies are the top organism utilized in genetic studies and because of their short

life cycle, they have been at the forefront of genetic research around the world. This tiny bug shares roughly sixty percent of its genes with humans and both species employ the same genes for development into adulthood. The same biological processes that are controlled by genes in a fruit fly are the same genes that control similar biological processes in humans. Dr. Renatro Paro at the University of Basel discovered that if a fruit fly egg is heated to 98.6 degrees Fahrenheit before hatching, the baby fly will have red eyes and this trait will continue generation after generation. In unaltered thermal circumstances, fruit flies are typically born with white eyes. Dr. Paro established that red eyes are, “therefore a characteristic acquired through the influence of an external factor (temperature) that becomes hereditary. (Drouet, 2021).

The third study conducted in 1999 at McGill University in Montreal, measured the effects of inadequate maternal care on the brain development, specifically the hippocampus, of young rats. When rat mothers lick their young, this is equivalent to human mothers holding their babies. Researchers learned that the “licking” activates a gene that protects young rats against stress. This gene is called NRC31 and works to reduce the level of cortisol, the stress hormone, in the body. This gene is activated by DNA methylation and directly affects the neurons in the hippocampus. The hippocampus is responsible for behavioral, emotional and stress regulation. When the baby rats were denied the “licking” from their mother, the cortisol increased in their blood and they remained in a state of chronic stress. Generational consequences are supported in human studies and demonstrated in this 2016 study, “evidence suggests that circulating cortisol accesses gametes and the gestating fetus. Furthermore,

cortisol, as a part of the glucocorticoid receptor (GR) complex, affects gene transcription and could, ultimately, permanently alter the offspring epigenome" (Bowers and Yehuda, 2015).

One of the largest human studies of the effect of nutrition or lack thereof on epigenetics and generational outcomes tragically occurred during the Dutch famine of 1944. The Nazi occupation blockaded the western part of the Netherlands and citizens were barely surviving on 500 calories a day. Women who were pregnant during this time bore children that developed diseases such as diabetes, obesity, and cardiovascular disease and did not grow appropriately. This resulted from lack of methyl groups that come from the amino acids and vitamins abounding in a healthy diet. These epigenetic changes passed on from generation to generation and researchers found that "individuals who have experienced famine in utero have fewer methyl groups attached to the gene that controls the production of a growth factor, IGF-2 (insulin-likegrowth factor-2)" (Drouet, 2021). These four studies presented above provide concrete evidence to how environmental factors can modify the genes, cultivate various diseases and induce the same genetic abnormalities in offspring. Even though the epigenome is malleable or flexible, if the environmental factors that provoke the epigenetic abnormalities are not remediated, the negative consequences for future generations may be permanent.

Commonly, the top seven influences that negatively affect the epigenome are chronic stress, poor sleep patterns, unfiltered water, shallow breathing, prescription medications, chemicals found in food, and lack of exercise (Swanson, 2016). Chronic stress is the number one factor that negatively affects genetic expression. The human body was not designed to manage the pervasive technological stresses of modern day living. This state of being directly affects the sleep cycle and it is impossible for DNA to repair if the body is not allowed proper and sufficient

rest during the night. Another factor are all the toxins found in city water and bottled water such as herbicides, heavy metals, fluoride, chloride etc. The same effects are found in the food supply with chemicals, food additives and heavy metals that are incessantly damaging DNA. This study boldly proclaims that “for several exposures, it has been proved that chemicals can alter epigenetic marks and that the same or similar epigenetic alterations can be found in patients with the disease of concern or in diseased tissues” (Baccarelli and Bollati, 2009). In addition, prescription medications cause mineral and vitamin deficiencies that mimic gene mutations and disturb methylation pathways.

The majority of people are only breathing shallowly into the top half of the lungs causing chronic hypoxia. The use of long-term masking during the COVID-19 situation has blocked oxygen and other nutrients from being delivered to vital tissues including the brain. This has a direct effect not only on the functioning of the immune system but alters the way genes are expressing themselves. A 2017 study states that, “hypoxia is an important factor influencing tumour growth and metastatic potential. This is mainly due to activation of pro-survival genes that enhance tumour angiogenesis and suppression of apoptosis by HIF-1α transcription factor” (Casciello and Lee, 2017). Finally, exercise enhances oxygen transportation and improves the function of the mitochondria. Sweating will help the body reduce the toxic load and get rid of the chemicals that negatively alter epigenetic markers. A 2022 study finds that, “exercise is a powerful tool for altering gene expression profiles in skeletal muscle by inducing positive epigenetic modifications” (Plaza-Diaz et al, 2022).

EMFs are currently not highlighted in most of the research studies depicting general negative influences on gene expression. Hopefully, with the continued increase in wireless

technologies and incorporating faster and more dangerous frequencies across the globe, the negative effects on the human genome leading to abnormalities that cultivate serious diseases will be a top priority of future research.

Negative Effects of EMFs on the Epigenome

Consider the fruit fly from the previous section who has a very similar genome to the human genome. When baby fruit flies were exposed to a thermal source (unnatural external temperature), genetic changes occurred and continued through generations. The human body is exposed to constant non-thermal, non-ionizing EMFs causing heat production – what is this doing to epigenetics and how is that affecting future generations?

In a 2018 article on PubMed, researcher Cindy Russell entertains the negative outcomes on physical and mental health with the introduction of shorter, higher frequency 5G wavelengths mixed with all the lower frequencies of 2G, 3G and 4G. Exposure to this type of radiation is now being referred to as a new form of environmental pollution. Russell states that, “Like other common toxic exposures, the effects of radiofrequency electromagnetic radiation (RF-EMR) will be problematic if not impossible to sort out epidemiologically as there no longer remains an unexposed control group. Because this is the first generation to have cradle-to-grave lifespan exposure to this level of man-made microwave (RF-EMR) radiofrequencies, it will be years or decades before the true health consequences are known” (Russell, 2018). These points inflate the controversy over the negative effects of EMFs on living organisms because everyone on the planet is currently exposed making it very difficult to directly correlate modern day diseases solely to EMF radiation.

The simplest place to begin is the development of a child in the womb. Like the baby fruit fly, fetuses exposed to EMFs from modern day devices such as cell phones and laptops are at risk for genetic changes. Naturopathic Doctor News & Review states that, “Maternal use of cell phones during pregnancy is linked to more behavioral problems in their children by school age compared with children whose mothers did not use cell phones during pregnancy” (Meletis, 2021). Specifically, the author goes on to report that the offspring of mothers who used cell phones during pregnancy had 25% more emotional problems, 35% more hyperactivity, 49% more conduct problems, and were 34% more likely to have problems with peers. This research argues that EMF exposure has more to do with epigenetic functions as opposed to direct damage to the DNA itself. These epigenetic changes influence how the DNA carries out its functions such as protein production and immune and mitochondria function.

Whether or not researchers agree or disagree with EMFs having detrimental effects on children’s health, the fact that children’s developing brains and nervous systems are more sensitive and vulnerable than that of a fully grown adult is not up for debate. Due to the physiological development of a child versus an adult, it is logical to conclude that a child’s head would absorb more EMF’s because it has less fat and tissue barriers than an adult. Several prenatal animal studies reported in 2020 support the deleterious effects of RF-EMFs on the brain. Prenatal exposure to 900 MHz (standard cell phone frequency) resulted in substantial loss of granule cells (most abundant type of neuron in the brain) or a significant reduction in pyramidal neurons (neurons found in the cerebral cortex, the hippocampus, and the amygdala). The blood-brain barrier in brains of rats was made more permeable by EMF exposure from cellular devices and resulted in damaged neurons. Mice exposed to in-utero RF from cellular

telephones were hyperactive and demonstrated memory impairment after birth (Moon, 2020). These animal studies support the aforementioned statistics of mothers that used cell phones during pregnancy having children with behavioral, emotional and hyperactivity issues. In another experiment, rats were exposed to 900 MHz RF radiation for three hours a day for seven days a week for an entire year. The results revealed that long-term exposure to RF radiation altered some of the miRNA in the brain which can have adverse effects (Dasdag et al, 2015). Essentially, the alteration of miRNA has a direct effect on gene expression, which is the foundation of epigenetics. It is important to note that the exposure rate of three hours a day is not congruent with the 24-hour exposure that children and adults are experiencing in the modern world. Studies that do not support EMF radiation having detrimental effects on human biological processes are not exposing the animal to the intensity and length of exposure that the majority of humans on the planet are currently subjected to. Especially with the installation of wireless technology in every home, in school buildings and in most public places. It would be fair to conclude that most people living in industrialized cities and societies are exposed to EMFs 24 hours a day, seven days a week. It will certainly take decades to unravel the negative effects on the human epigenome and all living organisms.

Essentially, all disease results from changes to the epigenome. These changes to the epigenome switch genes involved in cell growth and immune responses on or off. This is why cancer is considered an epigenetic disease because it is caused by unfavorable changes to the epigenome (e.g., when a gene for tumor growth is turned on). Possible human diseases related to EMF exposure obtained from epidemiological studies include life-threatening illnesses such as leukemia in children and adults, brain cancer in adults, Lou Gehrig's disease, depression,

suicide, and Alzheimer's' disease (Gye and Park, 2012). Researchers in 2012 clearly state that human exposure to increasing EMF radiation at work and at home has become a public health issue. They report that, “studies have revealed that EMF exposure can alter cellular homeostasis, endocrine function, reproductive function, and fetal development in animal systems” (Gye and Park, 2012). Along with the increasing cancer rates and life-threatening diseases, researchers are concerned with the long-term effects on reproductive health and the ability for the human race to create and sustain life. They indicate that the following reproductive parameters are altered by EMF radiation frequencies; reproductive endocrine hormones, sperm motility, embryonic development, male germ cell death, pregnancy success and reproductive organ weights. EMFs can reduce the function of the pineal gland which is responsible for melatonin production. Melatonin regulates the hormone production of the hypothalamus which can destructively change the reproductive cycle. In particular, the thermal effect produced by EMFs also impacts the pituitary gland’s ability to produce the appropriate hormones needed for reproduction, thyroid function and growth.

Previously, the damaging effects on children’s brain development from EMF exposure was explored, so it is fair to investigate the effects on adult brains and mental health. A 2015 study purports that EMFs produce neuropsychiatric effects including depression. Animal experiments all show negative effects of EMF exposure on the brain and peripheral nervous system. The nervous system of humans and animals contains voltage-gated calcium channels, also called VGCCs, which regulate the release of neurotransmitters and neuroendocrine hormones. EMFs overstimulate VGCCs causing the excessive release of neurotransmitters and neuroendocrine hormones along with oxidative stress. Previous studies have confirmed that

excessive VGCC activity is directly linked to neuropsychiatric changes in humans. This study combines 18 epidemiological studies that provide significant evidence of neuropsychiatric effects caused by cell phones, smart meters and microwave EMFs. A summation of the symptoms reported by participants included; sleep disturbance/insomnia, headache, depression/depressive symptoms, fatigue/tiredness, dysesthesia, concentration/attention dysfunction, memory changes, dizziness, irritability, loss of appetite/body weight, restlessness/anxiety, nausea, skin burning/tingling/dermographism and EEG changes (Pall, 2015).

The reality of this controversial situation is that the majority of the public is not aware that the US government and the Soviet Union have been conducting experiments on the negative effects of electromagnetic frequencies for decades. From 1953 to the early 1960's, the Soviet Union was beaming highly focused microwaves at the US Embassy in Moscow, unbeknownst to the employees who worked there. The US government was supposedly unaware and requested for the beaming to stop immediately. As a result, the US government founded "Project Pandora" in 1965 to evaluate the health effects on the embassy staff. Project Pandora unveiled that a high percentage of the staff had chromosomal changes, central nervous system disturbances that interfered with decision-making abilities, and suffered from high stress and low efficiency. They also found that the white blood cell count of the Embassy workers was 40% higher than normal. Then in 1976, The U.S. Department of State employed Dr. Abraham Lilienfeld, a well-respected epidemiologist from John Hopkins University, to investigate the long-term health effects of radar on the Moscow Embassy staff. Dr. Lilienfeld found that the incidence of cancer was far more frequent amongst the staff than any of the

other populations studied. He was under great pressure not to show such detrimental effects from radar technology and recommended future studies that never came to fruition. Conclusively, the results from Dr. Lilienfeld and his team showed significant increases in the follow symptoms:

Cardiac symptoms

Neurological and psychological symptoms

Altered blood cell counts

Increased chromosome aberrations

Elevated cancer in children and adults

Sickness increasing in a dose-response manner with years of residence

It is important to note that these symptoms are associated with chronic exposure to very low intensity pulsed microwaves in the range < 0.04 to 0.2(W/cm2). Dr. Jack Kruse, a well-respected modern-day neurosurgeon, reported in his online article about the Moscow experiment that, “the 1984 BBC documentary 'Opening Pandora's Box' explained how the safety standards for electromagnetic radiation, EMR, were set higher in the 1950s to allow the military to have unlimited use of EMR technology. At the time, American science reported EMR health effects of brain tumors, heart conditions, leukemia, cataracts and more, but these were ignored” (Kruse, 2014). Also, in 1984, the U.S. Navy conducted a multi-million-dollar study on the effects of EMFs on the body. Their published conclusions showed that exposure to EMFs resulted in the following:

Altered cell chemistry

Altered hormone levels

Affected calcium ion bonding in cells

Altered immune processes

Caused defects in chick embryos

Modified human brain waves

Altered behavior of cells, tissues, organs and organisms

Caused sterility in male animals

Finally, the US government did not want to impede or restrict the use of military radar technology so all future research projects showing negative biological health risks from EMR technology were terminated. Dr. Jack Kruse argues in 2014 that the US safety standards for EMF radiation have not changed since the 1950's and the American public has been misled to believe that there are no adverse biological effects to electromagnetic frequencies. It is rumored that the Soviet Union standard for EMF radar strength was 1,000 times lower than the U.S. standard.

The Connection Between Electrical Radiation and Pandemics

Scientist and journalist, Arthur Firstenberg, was one of the first modern-day researchers to build a solid and in-depth case for the correlation between disease and electrical pollution. In his book, "The Invisible Rainbow," Firstenberg points out that between 1645 and 1715 there were no sunspots or auroras (atmospheric electricity) and no occurrences of worldwide flus or pandemics (Firstenberg, 84). In 1836, an author on influenza, Heinrich Schweich, argued that an accumulation of electricity in the body causes the symptoms of influenza. Schweich explains that all physiological processes produce electricity and any electrical disturbance in the

atmosphere can prevent the body from discharging it, therefore producing symptoms of influenza. To date, no one has been able to disprove his theory.

According to Firstenberg, it is very easy to align major world pandemics to atmospheric electricity, especially in the early 18th and late 19th centuries, when the pandemics moved across the globe faster than any train or ship at the time could transport people to transmit the virus. Sun spots and other atmospheric electricity were prevalent at the start of the 1727 influenza pandemic and again with the deadly 1889 pandemic. What is most eye-opening about the history of implementing new electrical technologies on a world-wide scale, is that the introduction of radio waves by the United States Navy directly aligns with the timing of the 1918 Spanish Flu Pandemic. Over fifty radio stations were installed across the United States during 1917 and by early 1918, the Navy tried out a new high-speed alternator that could keep electricity flowing continuously instead of in short bursts. This alternator allowed them to have uninterrupted communication with countries overseas. What is referred to as the Spanish Flu did not begin in Spain at all, it originated at the Naval Radio School in Cambridge, Massachusetts and spread to various Army camps across the nation that were using this new wireless technology. Even though it spread quickly around the world like the pandemics of the past, there is still no concrete evidence that the Spanish Flu disease of 1918 was contagious by traditional means.

German physicians in the late 1700's proved that electricity increased human pulse rate and one physician, Carl Abraham Gerhard, performed the first ever experiment on the effects of radio waves on human blood. He found that when human blood was exposed to radio waves, it lost its ability to properly coagulate or clot. The Spanish Flu of 1918 was characterized by

extreme hemorrhaging where victims literally drowned in their own blood. Dr. Arthur Erskine and Dr. B.L. Knight of Cedar Rapids, Iowa tested the blood of every flu case in their practice and found that the coagulability of the blood was lessened in one hundred percent of the cases. They remembered Gerhard's work a century before their time and decided to treat their patients with calcium lactate to facilitate blood clotting rather than try to fight a respiratory (flu) infection. Knight and Erskine saved their patient's lives by treating the Spanish flu as an electrical illness as opposed to a viral infection.

The 1918 pandemic mirrored the 1889 pandemic in that it killed the most healthy, vigorous young people between the ages of eighteen and forty (Firstenberg, 106). The theory here is that as the electrification of the planet increased, the natural rhythms of the earth became disturbed and distorted. Healthy, vibrant young people and even pregnant women have a strong connection to the vital, life-giving rhythms of the planet and when those were synthetically disrupted, it made this population more vulnerable. If the supposed influenza during this time period was contagious, it would be logical to conclude that the elderly and young children would be most susceptible. What we have learned 100 years later is that the chances of survival during this time increased if one was in poor physical condition. Dermatologists at the time also noted that young women who survived the pandemic, lost their hair two to three months after recovering from the flu. It is well-documented that exposure to radio waves causes hair loss. The other parallel between the pandemic of 1889 and 1918 was the increase of neurological symptoms associated more with electricity sickness rather than a respiratory virus. These symptoms included; insomnia, stupor, dulled perceptions, tingling, itching and auditory and visual impairments. The famous Karl Menninger reported on 100 cases

of psychosis triggered by influenza, including 35 cases of schizophrenia in a three-month period (Firstenberg, 107). Another valid point in favor of electrical sickness versus infectious virus is that all attempts to mask, quarantine and isolate were unsuccessful. One example is that it spread to the isolated country of Iceland even though the country was strictly quarantined. In 1919, experiments conducted by medical teams in Boston failed when they attempted to prove that the Spanish flu was contagious. They took mucus material of actively sick patients and transplanted it into the mucosal membranes of the healthy. Not one healthy volunteer over the course of several experiments that were exposed to contagious mucus fell ill.

Two more influenza pandemics of the twentieth century, in 1957 and 1968 were affiliated with the introduction of radar and satellite technologies used by the United States military and government. We now have four pandemics, 1889, 1918, 1957 (Asian flu) and 1968 (Hong Kong flu) that mark moments in history when the electrical envelope of the earth was profoundly disturbed. “Those whose life rhythms were tuned most closely to the pulsations of our planet were likely to suffer and die. Like an orchestra whose conductor has suddenly gone mad, their organs, their living instruments no longer knew how to play” (Firstenberg, 112).

This brings us to the modern wireless era and the activation of the High Frequency Active Auroral Research Program (HAARP). The first European network for 3G went into service in the fall of 2002 turning each cell phone into a computer and every cell phone tower into a transmitter of broadband radiation (Firstenberg, 349). During the winter that followed, a multitude of Europe’s bee population simply vanished. Many researchers believe that the introduction of HAARP in 2002 led to the worldwide outbreak of bee colony collapse in 2006-2007. To intensify these matters, HAARP installed an additional 180 antenna towers between

2004-2006 and the facility at University of Alaska that housed the HAARP project for the United States Navy could send signals to anywhere on earth by the winter of 2006-2007. This facility became the most powerful radio transmitter on earth functioning at over one billion watts. "The HAARP frequencies superimpose unnatural magnetic fields on the natural resonant frequencies of the sky, whose daily variations have not changed since life appeared on earth. This is disastrous for bees because they lose orientation that served them for millions of years" (Firstenberg, 350). The project was terminated in 2014 and is presently being used strictly for research. Unfortunately, the bees are not the only species negatively affected by modern wireless radiation. In 2009, 3G towers were added to Mount Nardi in Australia and shortly after, 27 bird species left the mountain. In 2013, when 4G towers were installed on the mountain, another 49 species left, four common cicada species disappeared, frog populations reduced and uncommon populations of moths, butterflies and ants became rare. In 2017, scientists reported that 63 nature preserves in Germany experienced a 75-80% decline in flying insects. In 2019, scientists from Australia, Vietnam and China concluded that 40% of all insect species across the globe are threatened with extinction. Let us consider a brief study on the effects of wireless radiation on human life. In 2014, Japanese physician Tetsuharu Shinjyo evaluated the health of residents in an Okinawan apartment building with cell phone towers on the roof for a number of years. Shinjyo measured the resident's health before and after the removal of said antennas. Of the 122 residents, 21 people suffered from chronic fatigue, 14 from dizziness, vertigo or Meniere's disease, 14 from headaches, 17 from eye pain, dry eyes or repeated eye infections, 14 from insomnia, and 10 from chronic nose bleeds (Firstenberg, 392). Five months after the towers were removed from the building, no one had nosebleeds or eye

problems, two still had insomnia, one had dizziness, one still had headaches and minor cases of gastritis and glaucoma resolved. Long story short, the majority of people on the planet today are completely unaware that their acute and chronic illnesses may be a result of electromagnetic pollution.

This brings us to current times and the introduction of 5G (5th generation of wireless technology) wireless technology and the COVID-19 pandemic. We will begin with just a brief explanation of 5G technology. According to an article in Live Science published in 2020, “5G uses millimeter waves with frequencies from 30 to 300 gigahertz, which are 10 to 100 times higher than the radio waves used today for 4G and WiFi networks. They're called millimeter because their wavelengths vary between 1 and 10 millimeters, whereas radio waves are on the order of centimeters” (Childers, 2021). The first release of 5G technology occurred in 2019 in several cities in China including Wuhan, the birthplace of the COVID-19 pandemic. This is the first time in human history that millimeter wavelength technology was being initiated. A 2021 study published in the “National Library of Medicine” states that, “SARS-CoV-2, the virus that caused the COVID-19 pandemic, surfaced in Wuhan, China shortly after the implementation of city-wide 5G (fifth generation [5G] of wireless communications radiation [WCR]), and rapidly spread globally, initially demonstrating a statistical correlation to international communities with recently established 5G networks” (Rubik and Brown, 2021). Similar to the failed 1919 experiments in Boston to prove the Spanish flu was contagious, officials in Wuhan China recruited 10 million residents to participate in a post-lockdown city-wide nucleic acid screening of SARS-CoV-2 infection and found no newly confirmed cases with COVID-19. This study appeared in November 2020 as fear surmounted on a worldwide scale that asymptomatic

positive cases for SARS-CoV-2 could spread the virus by traditional means. They tested 1,174 residents that were in close contact with the asymptomatic positive cases and not one resident tested positive. Also, none of the asymptomatic positive cases presented with symptoms over a two-week period. The rate of infection after the five to eight weeks of lock-down in Wuhan was very low. Based on these research results, lock-down measures pertaining to SARS-CoV-2 lasting two years and continuing at the time of writing this research in various parts of the world is unfathomable and the political underpinnings behind it are beyond the scope of this paper. However, what is brought to light in this study is whether or not this pandemic is a result of electrical poisoning as opposed to a contagious virus. In fact, researchers published in their results that, “virus cultures were negative for all asymptomatic positive and re-positive cases, indicating no “viable virus” in positive cases detected in this study” (Cao et al, 2020). If no viable virus was identified in asymptomatic positive and re-positive cases it is arguable to hypothesize that the 2020 pandemic be added to the historical list of pandemics and epidemics aligning with the release of harmful electromagnetic technologies. It is important to note here the aforementioned work of Heinrich Schweich more than 180 years ago when he correlated electrical disturbances with the symptoms of influenza. Once again, to date, no one has been able to disprove his theory.

Arthur Firstenberg gives warning about the implementation of 5G technology in his 2017 book “The Invisible Rainbow.” He describes the electrification of the planet as a global microwave rain that will increase from a steady drizzle to a downpour (Firstenberg, 385). He explains that the new antennas for 5G will need to be smaller and more frequent. So instead of having cell phone towers every few miles, this new millimeter wave technology requires towers

every few houses. Firstenberg purports that 5G millimeter wave technology exposes the population to tens or hundreds of times more radiation than 3G and 4G radio waves. It is critical to speculate that at the time of writing this paper, this type of radiation exposure is being implemented completely void of public consent or proper education in main stream outlets on the dangers of electromagnetic pollution. In 2015, a petition was submitted to the World Health Organization (WHO) called the International EMF Scientist Appeal. This appeal obtained signatures from 230 scientists from 41 nations that all have peer-reviewed research published on the adverse biological health effects of non-ionizing EMFs. These scientists contend that their research shows negative effects of EMF exposure on all living organisms at levels way below national and international standards. These effects include "increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans" (Ayrapetyan et al, 2015). The devices included in the appeal include but are not limited to smart meters, broadcast antennas, cellular and cordless phones, WiFi, baby monitors and all devices used to generate extremely-low-frequency EMFs. They go on to conclude that the damage extends beyond the human race and harmful effects include plant and animal life. This appeal strongly advocates that the safety standards implemented by the ICNIRP (International Commission on Non-Ionizing Radiation Protection) in 1998 do not cover long-term exposure or low-intensity effects and are now insufficient in protecting human health, especially children and growing fetuses who are more vulnerable to the negative effects of EMF radiation. In 2002, the WHO adopted the International Agency for Research on Cancer's (IARC) classification of EMFs as a possible human

carcinogen. Despite the IARC findings, the WHO still continues to uphold the 1998 standards developed by the ICNIRP and refuses to lower exposure limits forced on the general public without consent on a worldwide scale. Finally, the scientists and doctors enacting this appeal requested that the WHO and United Nations honor the following precautionary measures to protect living organisms from EMF radiation:

1. Protect children and pregnant women
2. Strengthen regulatory standards and guidelines
3. Encourage manufactures to develop safer technology
4. All utilities responsible for generation, distribution and transmission maintain proper electrical standards to minimize harmful ground currents
5. The public be fully informed on the dangers of EMF radiation and be taught reduction strategies
6. Medical professionals are educated about the biological and physiological effects of EMF radiation and are able to treat patients with electromagnetic sensitivities
7. Independent research studies on EMFs are funded by the government outside of the industry and the industry is mandated to cooperate with independent researchers
8. The financial relationships between industry experts are disclosed by the media when their opinions are shared regarding the safety of EMF transmitting technologies
9. Radiation-free zones are established as safe zones

In 2016, a year after this international appeal was drafted and signed by concerned doctors, researchers and scientists from around the world, the United States National

Toxicology Program published the world's largest $25 million dollar study linking cellphone radiation to brain and heart cancer in animals. The radiation levels used in this study were below the international guidelines established by the ICNIRP in 1998 and currently upheld by the WHO. During this two-year study, male and female rats were exposed to GSM (Global System for Mobile Communications) and CDMA (Code Division Multiple Access) RFR (Radio Frequency Radiation). GSM and CDMA are currently used in the United States for wireless networks. This study established that, "hyperplastic lesions and glial cell neoplasms of the heart and brain observed in male rats are considered likely the result of whole-body exposures to GSM- or CDMA-modulated RFR" (Wyde et al, 2016). There was a stronger positive correlation between neoplasms of the heart and RFR exposure as opposed to the brain in this study. Interestingly, female rats exposed to the same RFR as male rats showed no biological changes in the heart or brain. This rat study however aligns with several peer-reviewed human studies on cellphone radiation and brain tumor risk. After the release of 5G in Wuhan in March 2020, researchers published another study in May 2020 identifying adverse health effects of 5G mobile networking under real-life conditions. These researches emphasize that "most of the laboratory experiments conducted to date are not designed to identify the more severe adverse effects reflective of the real-life operating environment in which wireless radiation systems operate" (Kostoff et al, 2020). They argue that these studies do not consider the synergistic adverse effects of other toxic chemical or biological stimuli (such a SARS-CoV-2 virus) acting in concert with wireless radiation. Concurrently, evidence is presented once again that 5G mobile networking will not only negatively affect the skin and eyes but will provoke neurodegenerative diseases including cancer, neurobehavioral changes and cardiovascular

diseases. Two researchers in October 2020, expose the lack of unbiased risk evaluations concerning 5G wireless technology and accuse the industry of reinforcing a biased no-risk paradigm to the general public. They state that, “we believe that this activity should qualify as scientific misconduct” (Hardell and Carlberg, 2020).

On the other side, advocates for 5G technology and various tech reporters are artfully building rhetoric in support of the conveniences of faster and more optimal operating systems. The majority of the articles lack proper citation and do not include any peer-reviewed studies on the harmful effects of millimeter 5G technology. The supporter’s main argument is that the researchers opposing and questioning the adverse health-effects under real-life conditions are biased and only selecting research that supports their claims of negative biological and physiological effects. Without proper education or knowledge on how this technology actually works, the general public is easily swayed by articles supporting the technology even though there is no solid scientific evidence to support short-term or long-term safety. The goal of this research paper is to expose this monopoly of bias and equip readers with the tools to understand the innerworkings of this technology so one may decipher and discern with greater confidence. For example, an article in Live Science titled “5G Network: How does it work, and Is It Dangerous?” states that only ionizing radiation in ultraviolet rays is harmful because it breaks chemical bonds that can damage the DNA. The article mentions that non-ionizing radiation transmitted by wireless technologies causes heating and thermal damage and the exposure from 5G is not enough to cause adverse effects. As mentioned in the “DNA Breathes and Breaks” section of this research paper, these frequencies are creating thermal energy inside the cell, damaging DNA and other physiological processes and doing so over a long period of time.

It is also established that this thermal energy is absorbed primarily by the skin, organs and the brain. Without this background knowledge, this article cultivates a non-risk approach and supports all of the advances in this technology as outweighing the biological long-term risks. There are great advantages for the industry of technological advancements and a very profitable incentive for the inventors of this technology to propel the 5th generation of wireless equipment forward while dismissing any adverse effects on living organisms. Consumers are distracted and persuaded by the conveniences of self-driving cars, microchips in milk cartons to instruct the refrigerator to order more milk, and the complete integration of "The Internet of Things" and modern human living. Firstenberg estimates that 5G will require over one trillion antennas communicating to one another, outnumbering human life on earth by a hundred to one.

In the same Live Science article mentioned above, they explain in the section on how 5G works that, "millimeter waves are easily absorbed by foliage and buildings and will require many closely spaced base stations, called small cells. Fortunately, these stations are much smaller and require less power than traditional cell towers. They can be placed atop buildings and light poles" (Childers, 2021). Without proper education on this invisible technology, the average person would not be able to question the following statement, "millimeter waves are easily absorbed by foliage and buildings." It is logical to conclude then if millimeter waves are easily absorbed by foliage and buildings then certainly it is easily absorbed by human beings and animals. Again, we reflect back to author Heinrich Schweich's work in 1836, when he insinuated that an accumulation of electricity in the body caused symptoms of influenza. The fact that cells in the human body and all physiological processes are capable of generating

electricity is not up for debate in the scientific community. However, Schweich explains that any electrical disturbance in the atmosphere can prevent the body from discharging its own generated electricity resulting in symptoms of influenza. This section of research posits that human beings are in fact absorbing 5G millimeter waves and those that are not able to discharge it properly will present with symptoms of the flu and various other acute and chronic diseases. Based on this proposed theory, the release of 5G technology in Wuhan China directly correlates with the beginning of the 2020 COVID pandemic.

Finally, in 2021, researchers Rubik and Brown publish a study titled, “Evidence for a connection between coronavirus disease-19 and exposure to radiofrequency radiation from wireless communications including 5G” (Rubik and Brown, 2021). They expound upon basic epidemiological principles that the agent, host and environment all work synergically in disease and the toxic environmental co-factor present in the emergence of this recent pandemic is Wireless Communications Radiation (WCR). A positive statistical correlation was well-established in the spread of the virus to cities that also recently established 5G networks. Rubik and Brown present evidence that WCR may (1) cause morphologic changes in erythrocytes including echinocyte and rouleaux formation that can contribute to hypercoagulation; (2) impair microcirculation and reduce erythrocyte and hemoglobin levels exacerbating hypoxia; (3) amplify immune system dysfunction, including immunosuppression, autoimmunity, and hyperinflammation; (4) increase cellular oxidative stress and the production of free radicals resulting in vascular injury and organ damage; (5) increase intracellular Ca2+ essential for viral entry, replication, and release, in addition to promoting pro-inflammatory pathways; and (6) worsen heart arrhythmias and cardiac disorders (Rubik and Brown, 2021). It is essential to

reflect on the abovementioned findings from Dr. Lilienfeld when he investigated the long-term health effects of radar technology on the Moscow Embassy staff in 1976. Similar to Rubik and Brown, he found an increase in cardiac symptoms, altered blood cells, and negative neurological and psychological symptoms. The 1984 study conducted by the U.S. Navy on the effects of EMFs on the body also showed similar symptoms to the effects of COVID-19. Their published conclusions disclosed that exposure to EMFs resulted in altered cell chemistry, affected calcium ion bonding in cells, altered immune processes, and altered behavior of cells, tissues and organs. Perhaps the difficulty arises in directly correlating the release of various EMF technologies to the emergence of pandemics because each introduction throughout history utilized a different frequency (e.g. introduction of radio waves vs. radar versus satellite vs. millimeter waves) and therefore slightly altered the physiological and biological symptoms of said radiation on human beings. In review of the radiation symptoms referred to in this section, they are all similar but the list of adverse effects from various EMF exposures is not exact. The variations in symptoms creates epidemiological incongruencies that make it difficult to distinguish electrical illness from viral illness. As the debate continues with the current release of 5G, the historical timeline presented by Firstenburg builds one of the most solid and convincing illustrations linking technological advancements resulting in the increase of radiation on the planet with the emergence of world-wide pandemics.

Symptoms of Radiation Poisoning

Now that a solid argument has been constructed linking viral pandemics to electrical radiation, a closer look at comparing symptomology is warranted. In 2005, the World Health Organization (WHO) released a report on Electromagnetic Hypersensitivity or EHS. This report

was a result of a 2004 international conference held in Prague, Czech Republic on EMF and non-specific health symptoms. Non-specific is defined as health symptoms that are not directly correlated with a known disease, syndrome or injury. The symptoms most commonly experienced with EHS include dermatological symptoms (redness, tingling, itching and burning sensations) as well as neurasthenic and vegetative symptoms (fatigue, tiredness, concentration difficulties, dizziness, nausea, heart palpitation, and digestive disturbances) (World Health Organization, 2005). Other symptoms of EMF sickness or EHS include sleep issues or insomnia, headaches, depression, loss of appetite, nose bleeds, anxiety, and irritability. The WHO conducted well controlled double-blind studies on EMF exposure and speculated that people with EHS or electro-sensitivities to EMFs were reacting to other environmental factors that were causing these symptoms like florescent lights, workplace stress, poor air quality, pre-existing psychiatric conditions etc. Although the WHO recognizes symptoms of EHS as real, they are clear that there is no scientific basis to correlate it to EMF exposure. This conflicting information is unveiled when reflecting back to the previous section when the WHO two years prior in 2002 organized the International Agency for Research on Cancer (IARC) and found that EMF's are "possibly carcinogenic to humans." Most researchers and scientists who report on EMF sickness contend that any correlation to cancer and other acute and chronic diseases are still inconclusive because EMFs are non-ionizing and injury to humans is restricted to thermal damage. In the "DNA Breaths and Breaks" section of this paper, solid evidence was proposed that EMFs are creating thermal energy inside the cell, damaging DNA and other physiological processes and doing so over a long period of time. OSHA (Occupational Safety and Health Administration), the organization in place by the United States government that is responsible

for worker safety and health protection, clearly states on their website that "Non-ionizing radiation is found in a wide range of occupational settings and can pose a considerable health risk to potentially exposed workers if not properly controlled."[1] It is clear with this presented information why the general public is confused and those with symptoms of electromagnetic hypersensitivity (EHS) can be misled to believe that they have another chronic illness when it is really EMF sickness.

Currently, main stream literature on radiation poisoning or sickness primarily covers dangerous ionizing sources coming from radioactive materials found in nuclear plants, over-exposure to x-rays and radiation producing medical equipment. Most studies focus on extreme situations in human history such as the atomic bombing of Nagasaki and Hiroshima, Japan in World War II and nuclear accidents such as the 1986 explosion at the nuclear power plant in Chernobyl, Ukraine. The symptoms vary in degrees of severity but there are striking commonalities between EMF sickness caused by non-ionizing sources and radiation poisoning from these catastrophes, also referred to as ARS (acute radiation syndrome). Mayo Clinic defines radiation sickness as damage to the body caused by large doses of radiation over a short period of time.[2] The intensity of the symptoms or how sick a person will be is directly aligned with how much radiation is absorbed by the body. Keep in mind that in the "DNA Breaths and Breaks" section, it was established that the main absorbing sources in the human body are the skin, organs and brain. Mayo Clinic points out that the most vulnerable regions of the body to radiation are cells in the lining of the intestinal tract, including the stomach, and the

[1] https://www.osha.gov/non-ionizing-radiation
[2] https://www.mayoclinic.org/diseases-conditions/radiation-sickness/symptoms-causes/syc-20377058

blood cell-producing cells of bone marrow. They go on to report that the following symptoms are produced by radiation poisoning and can occur within minutes or weeks from the initial exposure; nausea and vomiting, diarrhea, headache, fever, dizziness and disorientation, weakness and fatigue, hair loss, bloody vomit and stools from internal bleeding, infections and low blood pressure. The previously cited symptoms of EMF sickness or EHS that directly relate to radiation poisoning are nausea, digestive disturbances, headaches, dizziness, fatigue, tiredness, abnormal bleeding (nose bleeds vs. bloody vomit and stools) and heart palpitations (interrelated to low blood pressure under the category of cardiac symptoms). Based on the presented research here it is logical to conclude that symptoms of non-ionizing EMF sickness and radiation poisoning are too similar to be disregarded or overlooked. Just because a person does not exhibit acute radiation poisoning symptoms within minutes or weeks of exposure, does not mean that the harmful effects of non-ionizing radiation occurring over longer periods of time are not validated, especially when the symptomology aligns at lesser degrees of severity.

A very interesting aspect to the situation that occurred at the start of the 2020 pandemic is that the safety protocols outlined by the CDC for preventing radiation exposure mimics the lock-downs that took place worldwide. The three-step process on the CDC.gov website for preventing radiation exposure is to (1) get inside, (2) stay inside and (3) stay tuned until government officials have said it is safe. This is exactly what citizens all over the world were instructed to do to prevent the spread of SARS-CoV-2. The CDC once again lists skin burns, nausea and vomiting as symptoms of acute radiation exposure. Perhaps it is far reaching to make this comparison but the peculiarity of releasing a new wireless technology right at the

same time as a pandemic erupts in the exact location of 5G release supersedes speculation. As of March 2022, the CDC lists the updated symptoms for COVID-19 as the following: fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, loss of taste and/or smell, sore throat, congestion or runny nose, nausea or vomiting and diarrhea.[3] Once again, the symptoms of nausea, vomiting, diarrhea, headaches and fatigue all align with the established criteria for EMF sickness, EHS and acute radiation poisoning. Then, another list of symptomology appears with people experiencing what is referred to as "Long-Haul COVID." The list of symptoms for Long-Haul COVID as conveyed by the CDC are: fatigue, fever, heart palpitations, difficulty breathing or shortness of breath, brain fog, headaches, sleep disorders, dizziness, change in taste and smell, depression, anxiety, rashes, diarrhea, stomach pain, and joint and muscle pain. They go on to report that people that suffered from severe COVID symptoms can experience multi-organ effects lasting weeks or months after the illness. The main organs affected under these conditions are the heart, lungs, kidneys, skin and brain. The following chart portrays a snap-shot comparison of symptoms of EMF sickness, EHS (Electromagnetic Hypersensitivity) and ARS (Acute Radiation Syndrome) to symptoms of COVID-19 and what is considered "Long-Haul COVID."

Symptoms of EMF Sickness, EHS and ARS	**Symptoms of COVID-19 & Long-Haul COVID**
Nausea or vomiting	Nausea or vomiting and stomach pain
Diarrhea	Diarrhea
Fever	Fever or chills
Headaches	Headaches
Dizziness and Disorientation	Dizziness
Heart palpitations	Heart palpitations
Depression and Anxiety	Depression and Anxiety
Dermatological symptoms (redness, tingling, itching and burning sensations)	Rashes

[3] https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

Fatigue and weakness	Fatigue
Sleep issues or Insomnia	Sleep Disorders
Concentration difficulties	Brain Fog
Hair Loss	Hair Loss

After compiling all the symptomology from the CDC on COVID-19 and Long-Haul COVID only six symptoms remain that did not initially correlate with the 12 matching symptoms in the above chart. These symptoms are cough, shortness of breath or difficulty breathing, muscle, joint or body aches, loss of taste and/or smell, sore throat, and congestion or runny nose. Statistically, out of the 18 symptoms listed for COVID-19 and Long-Haul COVID, approximately 70% of the symptoms are an exact match to symptoms of EMF sickness, electromagnetic hypersensitivity (EHS) and acute radiation syndrome (ARS).

In an attempt to provide effective treatments for COVID-19 and Long-Haul COVID, researchers released a study on PubMed in February 2021 directly stating the commonalities between COVID-19 and radiation injury. The objective of the study was to discover if established effective treatments for radiation injury could also be implemented to assist those inflicted with COVID-19. Although the authors clearly list and scientifically identify four common biomarkers in pathophysiology between COVID and radiation injury, they fail to contemplate or even theorize that COVID-19 could in fact be radiation injury from the release of 5G wireless technology. However, this study addresses the symptoms of respiratory distress that accompany radiation poisoning that did not initially match with the COVID-19 symptomology listed above. Researchers Rio et al. explain here, “both cytokine and RAS disequilibria may have implications in the development of lung and other organ injuries for both COVID-19 and ionizing radiation exposure, although the interplay is complex and not completely understood”

(Rios et al, 2021). The cytokine disequilibria referred to here is also called a “cytokine storm” meaning that the immune system produces too many small proteins called cytokines that produce an uncontrollable inflammatory response resulting in an overactivation of immune cells such as natural killer cells, T-cells, macrophages, B-cells etc. This uncontrolled activity of cytokines and immune cells leads to tissue damage, organ dysfunction and sometimes death. Cytokine storms were what was blamed for the high number of deaths in young people during the 1918 Spanish Flu Pandemic. The RAS (renin-angiotensin system) regulates the body’s fluid regulation system using enzymes called ACE (angiotensin converting enzyme) and ACE2. ACE regulates blood pressure, sodium levels, inflammation and vasoconstriction. ACE2 receptors are found in the heart, kidney, brain, reproductive organs, and the gastrointestinal tract. SARS-CoV-2 specifically targets the ACE2 receptors of the lungs triggering acute respiratory distress syndrome and a cytokine storm. The researchers clearly state that, “In general, SARS-CoV-2 infection and ionizing radiation exposure trigger pro-inflammatory cytokines” (Rios et al, 2021). They go on to report that, “this heightened chronic inflammatory response creates a pro-fibrotic environment that yields long-term fibrosis followed by organ dysfunction. Similarly, exposure to radiation can also result in lung fibrosis as well as injury to other organs” (Rios et al, 2021). Even though this study focuses on ionizing radiation which is more severe than non-ionizing radiation, the comparative symptomology established earlier in this section of the paper still supports that COVID-19 could in fact be radiation poisoning from 5G millimeter wave technology and not a contagious, deadly virus. In the same vein, it is very interesting that similar cytokine storms were identified as the culprit in the last major worldwide pandemic in 1918.

To solidify the respiratory symptomology between COVID-19 and radiation poisoning even further, researchers Rio et al. expose that of the 28 people that perished within 98 days of the Chernobyl accident died of severe skin, GI and lung reactions. The lungs are considered a radiosensitive organ meaning that they react more severely and negatively to radiation than other organs in the body. If COVID-19 is really an electrical illness caused by non-ionizing radiation emitted by 5G millimeter waves, then it would make sense that the most radiosensitive organs would be vulnerable. This would explain why COVID-19 manifested with such severe breathing difficulties and lung damage. It is also significant to remember that other organs are radiosensitive such as the gastrointestinal tract and the heart. This would explain why the other symptomology for COVID-19 was heavily weighted with gastrointestinal complaints and cardiovascular dysfunction. In parallel the researchers note that, “as more information becomes available, it is increasingly apparent that COVID-19 is not just a pulmonary affliction, but a multi-organ disease. Curiously, many symptoms as well as underlying pathogenesis in this multi-organ injury caused by SARS-CoV-2 are similar to the multi-organ injury caused by acute ionizing radiation exposure” (Rios et al, 2021).

Finally, the loss of smell related to COVID-19 and radiation poisoning will be contemplated with a story from Arthur Firstenberg concerning the 1998 satellite launch which propelled the beginning of satellite phone service. During the implementation of 66 satellites into the earth’s magnetic field called Iridium (bringing cell phone service to the most remote parts of the earth), wild birds ceased to fly and the loss of thousands of racing pigeons for two weeks after the launch made headline news (Firstenberg, 387). Firstenberg surveyed 57 electrically sensitive (EHS) people in six countries who all presented electrical illness symptoms

exactly on the day of the launch, September 23, 1998. The symptoms included those that are already disclosed in this section such as headaches, insomnia, nosebleeds, heart palpitations, dizziness and so on. However, asthma attacks and ringing in the ears, which are not on the symptomology list in this section, were also documented. Firstenberg reported that on the exact day of the Iridium satellite launch, he lost his sense of smell. To this day, it has not returned to normal. He warns that plans in place by corporate giants such as Google, Facebook, Amazon, Elon Musk etc. to deploy thousands of satellites by 2023, making every cell phone a satellite phone, will dangerously shift the earth's magnetosphere disrupting the natural electrical circuitry that all organisms on the planet need to survive. This now goes beyond radiation poisoning and pandemics and blatantly defies the very essence of natural laws that sustain life on earth.

Graphene Oxide, EMFs and Radiation Poisoning

In the previous section of this research, "DNA as Fractal Antenna," a 2018 study purported that all living cells are electromagnetic units with DNA that is structurally identical to fractal antennas that are capable of electronic conduction. The issue here is that the electronic conduction from EMFs cause the DNA to break apart resulting in damage to the living cell. Scientists that conducted this DNA study state that, "insulators like biomaterials, do not have highly reflecting metallic outer boundary that reflects and develops electromagnetic signals multiple times, and develops high-quality factor or produces high-quality standing waves" (Singh et al, 2018). By definition, a standing wave occurs when one frequency wave meets another wave at its exact frequency or its reflection and no movement or momentum occurs. Essentially, these waves cancel each other out. So, if biomaterials such as the living cells inside

of every human on the planet are able to absorb EMFs because of the fractal antenna nature of the DNA but are unable to dispel EMF frequency because of lack of reflective metallic substances, this means that constant exposure to EMF frequency deems the person as an electrical absorbing agent. It is critical once again to go back to the very first time an electrical absorption theory was suggested in 1836. Heinrich Schweich argued that an accumulation of electricity in the body causes the symptoms of influenza and any electrical disturbance in the atmosphere can prevent the body from discharging it, therefore producing symptoms of influenza. Keep in mind that to date, no one has been able to disprove his theory. The remaining sections of this paper will be filled with hypothesis and theory. Due to the nature of media censorship, many scientists have been silenced and discredited for purposing theories and substantial evidence that proponents of future artificial intelligence agendas wish to utilize humans as antennas.

In July 2021, a team of researchers in Spain calling themselves “La Quinta Columna” reported the detection of graphene in COVID vaccines by micro-Raman spectroscopy and claimed that the COVID-19 vaccines contain graphene. The initial investigation was conducted by Biostatistician Ricardo Delgado and Dr. José Luis Sevillano and was widely shared through uncensored media platforms. Both scientists were discredited and several articles appeared on mainstream search engines that their allegations are unfounded and rejected by experts. These experts argue that the Pfizer/BioNTech Covid-19 vaccine cannot be 99% graphene oxide because the fact that graphene oxide does not appear on either the FDA or CDC ingredient list. It is vital to recall that the FDA allows toxic chemicals such as dioxins and glyphosate in feminine care products without having to label it. Since feminine care products are considered a medical

device, the FDA by law does not have to disclose all of the ingredients. The allegation that graphene oxide does not appear on an ingredient list by the FDA or CDC does not constitute a strong argument based on the feminine care product example. In another online article discrediting the graphene oxide claims, a Pfizer spokesperson in October 2021 confirmed that while graphene oxide is used in some vaccines, it is not used at Pfizer and is not in its COVID-19 vaccine. If the FDA is not required to label all ingredients contained in medical devices and we find out from a Pfizer representative that graphene oxide is in other vaccines, is it incomprehensible that it is an unlabeled ingredient in the COVID-19 injections? Also, the glaring question surfaces as to what other vaccines contain graphene oxide and this question surpasses the scope of this research but is none the less a valid consideration.

Several months after Delgado and Sevillano reported their findings on graphene oxide in the saline solution of the COVID vaccines, Professor Dr. Pablo Campra, Madrid Associate University Professor and PhD in Chemical Science and Degree in Biological Science, published a 75-page technical report on the Research Gate platform in November 2021. Dr. Campra opens with the following statement, “We have carried out a random screening of graphene like nanoparticles visible at the optical microscopy in seven random samples of vials from four different trademarks, coupling images with their spectral signatures of RAMAN vibration” (Campra, 2021). Campra goes on to explain that graphene materials are toxic to human health and urges the scientific community to conduct independent research that is free from conflict of interest and coercion. In January of 2022, Italian politician Sergio Berlato in response to Campra’s technical report, submitted a question to the European Parliament requesting the truth on the presence of graphene in the COVID-19 vaccines. Berlato states that, “As reported

by CORDIS in 2018, a team of researchers has proven that graphene is able to convert electronic signals into signals in the terahertz range, with trillions of cycles per second. Graphene is therefore able to absorb radiation, meaning that, if contained in a vaccine, it would be highly toxic and harmful to human health" (Berlato, 2022). The European Parliament responded 8 months later denying the presence of graphene oxide in any of the COVID-19 vaccines and conducted their own internal analysis with the conclusion that "the presence of graphene or graphene derivatives in the vaccines therefore are not plausible." Interestingly enough, PubMed published a study in June 2020 titled, "Recent progress of graphene oxide as a potential vaccine carrier and adjuvant." The research team concludes that, "our work summarizes for the first time that functionalized graphene oxide serves as a vaccine carrier and shows significant adjuvant activity in activating cellular and humoral immunity. In the future, it is expected to be introduced into vaccine research to improve the efficacy of vaccines" (Cao et al, June 2020). The deeper question in all of this is why would graphene oxide be used in a vaccination? Since graphene is a carbon-based substance that enhances the reflective and absorption properties of antennae, those antennae are essentially able to transmit and receive signals much easier with the employment of graphene on the surface. In the "The Connection Between Electrical Radiation and Pandemics" section of this paper, it was concluded that if millimeter waves from 5G are easily absorbed by foliage and buildings then certainly it is easily absorbed by human beings and animals. If the body contained graphene oxide nano-particles then the fractal antennae nature of DNA would have transmitting capabilities and therefore be able to transmit 5G signals instead of just absorbing them into standing waves with no movement or momentum. Beyond the theories of mind-control and transhumanism connecting

all human beings to the “internet of things” lies a practical consideration for technological advancement. Since millimeter wave technology used by 5G are easily absorbed by foliage, buildings and humans, it requires many closely spaced base stations. One theory proposed in this research paper is that 5G will be more successfully implemented if human beings can be used as antennae that transmit the signals instead of absorbing it. Graphene is the perfect material to employ in this case because it is so light-weight, flexible, transparent and one of the thinnest materials in the world. It is 200 times stronger than steel making it one of the best conductors of electricity and heat, including electromagnetic frequencies. As early as 2010, researchers began studying graphene and radio-frequencies. Kim et al. confirmed in their 2010 study that, “graphene oxide at a nano-scale level can be a strong candidate for high-efficient interconnector in radio-frequency range” (Kim et al, 2010).

One month before the researchers in Spain identified graphene oxide nano-particles in the COVID-19 vaccines, The European Forum for Vaccine Vigilance (EFVV) conducted a study in June 2021 on the electromagnetism of vaccinated persons in Luxemburg. This research was spurred by countless amateur videos on social media by people who became visibly electromagnetic following their COVID-19 vaccination. It was found that “vaccinated individuals do give off an electromagnetic field and that the earlier the individuals were vaccinated, the stronger the field they gave off. This sensation and appraisal, which is purely a tactile experience when the shoulder magnet is applied and removed, should be verified much more accurately with much more precise equipment” (Goudjil, 2021). Only 60 individuals out of 200 agreed to participate in this experiment and 30 were vaccinated and 30 were unvaccinated. Of the group that were vaccinated, 29 out of 30 individuals had a magnet stick to their skin

without difficulty. Of the group that were unvaccinated, zero out of the 30 individuals had the magnet stick to their skin. The researcher also noted that 22 out of the 29 individuals that only had one injection, the magnet only adhered to one shoulder or the injection site. The remaining 7 of the 29 individuals had both injections and the magnet stuck to both shoulders. The experiment was ceased by the EFVV investigator because he was no longer able to cope with the shock and helplessness on the people's faces when the magnet adhered to their body as easy as it did to a metal pole. The states of anxiety, extreme stress and confusion about what exactly was injected into their bodies was too much for the investigator to handle. This survey established that paramagnetic nanoparticles are in the composition of the COVID-19 vaccinations. In late 2021, a UK lawyer named Ian Clayton co-founded a group called UKCitizen2021, comprised of members from the legal profession. They submitted a lawsuit for corporate manslaughter to the UK police requesting forensic investigation into graphene oxide in the COVID-19 injections, listing all COVID manufactures, health organizations promoting the experimental treatment and the British government itself as the defendants. In the background statements, the first discovery of graphene oxide in the vaccines by La Quinta Columna researchers in Spain was identified along with a German chemist, Dr Andreas Noack, who was one of the EU's top graphene experts that also discovered graphene hydroxide contained in the COVID-19 experimental treatments. Dr. Noack released a video in November 2021 about his discovery and died hours later under suspicious circumstances. UKCitizen2021 included valuable statistics in the lawsuit on European and American post vaccination death rates and injury along with a 48-page toxicology report on the vaccines. They also included a 2016 study with over 240 references on the toxicity of graphene-family nanoparticles. Based on this

comprehensive 2016 study, it was concluded that graphene oxide has the following effects on the body: (1) it can penetrate the body's natural barriers such as the blood-brain barrier, placenta and testes (2) can cause damage to the internal organs (3) can damage the central nervous system (4) damage the reproductive and development system (5) destroys blood health (6) can trigger cancer and accelerate aging (7) damages mitochondria and DNA (8) triggers and inflammatory response and three different kinds of cell death (9) causes epigenetic changes (Clayton, 2021). Another team of researchers compiled 60 scientific publications on the toxicity of graphene oxide on living organisms.[4] As presented earlier throughout this research paper, the lineup of epidemics and pandemics that align with exposure to various increases in electromagnetic frequency technologies are hypothesized as not being caused by a deadly virus but rather are symptoms of radiation poisoning or electrical illness. The discovery and research proposed on graphene oxide as an adjuvant in the COVID injections certainly adds another complex layer to the theory of radiation poisoning and the alleged COVID virus.

One of the leading voices speaking out against medical corruption and mainstream fear narratives including forced vaccinations is Dr. Thomas Cowan. Dr. Cowan received his medical degree from Michigan State University and has an undergraduate degree in biology from Duke University. He retired in 2019 from a 34-year general medical practice and currently serves as the Vice President of the world-renowned Weston A. Price Foundation. Dr. Cowan is the best-selling author of six books including "The Contagion Myth," where he provides convincing theories that viruses are in fact not contagious. In February 2022, fitness podcaster Ben

[4] https://www.dropbox.com/s/xcfp8arvikjgi21/2-%20GRAPHENE%20OXIDE%20TOXICITY%20REPORT.pdf?dl=0

Greenfield interviewed Dr. Cowan on whether or not viruses really exist. Dr. Cowan begins the interview by stating that everything he says can be supported by peer-reviewed studies.

In his interview with Ben Greenfield, Dr. Cowan reveals that, “there is not one published scientific study or paper that has demonstrated the existence of any virus in any fluid of any sick person or animal and the CDC, NIH and other prominent public health organizations confirm this is true in writing” (Cowan, 2022). Dr. Cowan states that he interviewed a 40-year virologist from Yale University who remained nameless for their own protection and this virologist confirmed that there are no published scientific papers finding virus pathogens in any sick person ever. Cowan goes on to explain that the historically adopted viral theory has never existed outside of a laboratory where the experimental conditions starve and poison Vero cells and the sickening process is blamed on a virus. Viral theory states that an unfavorable particle exists in the environment and once it finds a host, it can replicate and cause disease. Essentially, Dr. Cowan is asserting that no viruses based on viral theory have been isolated outside of a laboratory ever and it has never been possible. His theory intents that viruses are actually excretions of a damaged cell that happens when that cell is poisoned or starved and the symptoms of that virus are the body’s way of cleansing itself from the toxin or poison. Cowan goes on to explain that viruses are simply a breakdown of tissue and that we as a humanity have completely mis-interrupted disease.

Another intriguing circumstance that Dr. Cowan entertains in the interview is how doctors and scientists have determined the contagious nature of a virus. He gives the example of chicken pox spreading from child to child or rabies spreading from a dog bite to a human. Oddly enough he claims that if you take the fluid of a chicken pox pustule or the salvia of a

rabid dog, no one has been able to isolate or find the entire virus particle in the fluids. Dr. Cowan goes on to explain that the same is true with the Corona virus, no published papers exist finding the virus in any tissue or fluid of any human being. Most studies that appear in a search on this subject reference genetic remnants but not the original virus. Another thought-provoking circumstance that Dr. Cowan describes is that the same viral material is produced by cells in laboratory conditions that have been starved and poisoned even though a virus was never introduced into the mix. This means that both conditions, the one with the introduction of viral cells and the one without both produce the same results. If this is the case, then the so-called virus could be excretions from cells that have been poisoned or starved.

As far back as 2001, scientists have been studying the effects of millimeter wave (5G) technology that has now been implemented across the globe in 2020. An article appeared in 2001 stating that wireless communications at 60GHz (millimeter waves with 5G technology operate between 30-300 GHz respectively) have unique oxygen absorption properties. In this article they report that, “at the millimeter wave frequency of 60GHz, the absorption is very high, with 98 percent of the transmitted energy absorbed by atmospheric oxygen” (Hakusui, 2001). This impact on atmospheric oxygen causes oxygen deprivation for human beings at the cellular level of the mitochondria, the powerhouse of the cell. The millimeter waves also cause the electron spin of oxygen molecules in the body to change frequency which negatively impacts the ability for hemoglobin in the blood to uptake oxygen and transport it to vital organs. It is similar to how microwave frequencies cause water in food (hydrogen and oxygen) to spin and this rotation creates thermal energy that essentially heats the food. In the “DNA Breathes and Breaks” section of this paper, it was determined that EMFs are creating thermal

energy inside the cell, damaging DNA and other physiological processes and doing so over a long period of time. Now stronger millimeter waves affecting oxygen uptake in the body can be added to this list. Dr. Cowan points out in his interview with Ben Greenfield that, “millimeter waves literally poison the mitochondria which feed on oxygen. This causes hypoxia and a breakdown of tissues and the excretions from those tissues are confused with COVID virus or disease” (Cowan, 2022). In 2021, The Weston A. Price Foundation, in which Dr. Cowan is the vice president, published a pamphlet on the myths and truths about COVID-19. They deduce from several epidemiological observations and biological studies (many are provided in this research paper) that COVID-19 is actually radiation poisoning caused by exposure to millimeter wave technology used in 5G wireless systems. The epidemiology traces the appearance of COVID-19 in Wuhan, China when the city activated 10,000 5G base stations. As pointed out earlier in this paper, the highest incidence of death and COVID-19 illness geographically aligns with cities with 5G. This brochure includes information that most published studies on the dangers of EMFs do not include, and that is how to protect oneself. The foundation mentions minimizing cell phone use, turning off WiFi at night and reducing exposure to developing children. Weston A. Price is a huge proponent for healthy fat consumption and its ability to create robust cell membranes that are protective against EMFs. Dr. Cowan mentions that the diseases we think are caused by viruses have their roots in starvation and poisoning on a cellular level. There is no debate that the mainstream food industry lacks nutrient dense foods that are able to provide people with the minerals and vitamins they need to sustain health. They also warn about ingesting poisons like refined sweeteners, industrial seed oils, glyphosate pesticide and artificial sugars and chemicals. Hopefully in years to come, these preventative

factors will become common knowledge so that harmful technologies, like 5G, stop destroying human health and stop disrupting the natural frequencies and harmonies that sustain all life on the planet.

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