

The World of Electric Light

Understanding the Seductive Glow of Screens

by Paul K. Chappell

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Three Paragraphs from the Introduction of "A New Peace Paradigm: Our Human Needs and the Tangles of Trauma"

As someone working full-time for peace, I have an unusual background. I graduated from West Point in 2002, was deployed to Iraq in 2006, and left the army in 2009 as a captain. Many years before I joined the military, however, my yearning to understand peace in a realistic rather than naive way originated from my traumatic upbringing. My father fought in the Korean and Vietnam wars and suffered from war trauma. As a result, I grew up in a violent household and developed a lot of behavioral problems as a child. I was kicked out of elementary school for fighting, almost kicked out of middle school, and suspended in high school for fighting.

I also grew up with very strong feelings of alienation, because my mother is Korean, my father was half black and half white, and I grew up in Alabama. During high school, the alienation and rage that resulted from my childhood trauma caused me to develop a mass shooter personality. Every day I fantasized about shooting the kids in my classes, and my initial interest in peace resulted from my hunger to heal the rage, alienation, and trauma that were causing me so much pain.

Because of extreme childhood trauma, I developed an obsession with understanding inner and outer peace. One reason I developed this obsession with understanding peace is because I wanted to discover how to protect human societies from people like me, who have suffered from severe agony and whose preferred method of expression became rage and violence.

The Allure of Electric Light

After my lectures, people often ask me how I learned to transform my life for the better. They ask me questions such as, “You must have had a life-changing experience that helped you heal your trauma and move from violence to peace. What was it?” When people ask me these kinds of questions, they usually expect me to share a single life-changing experience, when in fact I had many such experiences. In this pamphlet I will share three of the life-changing experiences that helped me immeasurably. But more importantly, I will discuss these three life-changing experiences in the context of a new paradigm for understanding modern technology and the human condition.

I have been fascinated with technology since my earliest memories. Among the many aspects of technology that I found astonishing, one technological mystery especially caught my interest. As a child I wondered why moths and many other flying insects spend so much time hovering around and bumping into electric lights. In my childhood home, the light fixtures hanging from the ceiling were filled with insects that had died after flying toward these electric lights and becoming trapped. “Bug zappers” take advantage of this behavior by luring flying insects (such as mosquitos) to an electric light that delivers a lethal electric shock when they touch it. At the very least, hovering around and bumping into electric lights seemed like a waste of time and energy for flying insects. At the very worst, it could kill them. So why were they doing this?

We are not certain why flying insects spend so much time hovering around and bumping into electric lights. Different species of flying insects may be attracted to electric light for different reasons. One theory suggests that some moth species are attracted to electric light because they use the moon to navigate at night, which they have done for millions of years. But now they live in a world where every evening in cities around the globe, countless electric lights illuminate the night. As a result, they mistake electric lights, which have existed for less than two hundred years, for the moon. This confuses them and disrupts their biology, because human technological evolution has progressed faster than their biological evolution can adapt.

The Xerces Society, a non-profit organization that promotes healthy ecosystems through insect conservation, describes some of the theories that attempt to explain why flying insects are attracted to electric light:

Scientists still do not understand exactly why moths are attracted to lights. One theory is that the insects navigate by maintaining a constant angular relationship to bright celestial lights, such as the moon or stars. The vast distance of these objects means that their orientation to a flying moth changes very little, and thus allows moths to fly in a straight path. A flying moth’s orientation to a street light or light bulb

changes rapidly, causing the moth to become disoriented and to circle the light.

Another theory is that moths confuse artificial lights for the morning sun. In preparation for daylight, they fly straight up, toward the sun, and then look downward for a suitably camouflaged location to land and hide for the day from predators. Because in the darkness they can't find a suitable hiding place, they fly directly into the light again and again.¹

Regardless of the theory, flying insects seem attracted to electric light because they associate it with something that will benefit them, even though this light can harm them by wasting their time and energy, causing them to become trapped, or electrocuting them.² Just as insects can spend hours bound to electric lights in ways that waste their time and energy or harm them in severe ways, the same is true for human beings. When I say that human beings can spend hours bound to electric lights, I am not referring to the streetlights and fluorescent lamps that bind flying insects. What electric lights am I referring to?

Just as a moth can spend hours bound to the electric light emitted from a streetlight or fluorescent lamp, human beings can spend hours bound to the electric light emitted from a smartphone, television, tablet, or laptop screen. The electric light emitted from these digital devices can take the form of social media platforms, television shows, video games, or Internet porn, just to mention a few examples. The way people can obsessively stare at these forms of electric light for hours, even when this behavior wastes their time and energy or harms their wellbeing in severe ways, resembles the way flying insects can obsessively hover around an electric light for hours, even when this behavior wastes their time and energy or harms their wellbeing in severe ways.

Just as electric lights can kill flying insects by trapping them in light fixtures or electrocuting them, human beings can also die from electric light. To offer one example, car accidents that result from texting and driving show how people can die from the seductive glow of electric light. Every day millions of drivers stare at the seductive glow of a smartphone screen when they should be looking at the road, even though this could kill them and others. In an article in *Slate*, Robert Rosenberger tells us:

In its reassessment of data from 2015, the NSC [National Safety Council] estimated that cellphone usage was involved in 26 percent of all traffic accidents. A study released this year by Cambridge Mobile Telematics, a company that creates apps to monitor driving and smartphone usage for insurance purposes, similarly found that

approximately a quarter of drivers involved in crashes were using their phones during or in the minute before the accidents occurred. As NSC spokesperson Maureen Vogel told Slate, “Based on research the council has done on the underreporting of distracted-driving crashes, we believe the number of fatal crashes that actually occur in the U.S. every year due to distraction could be double what is recorded in federal data.” ...

The past 20 years of work in cognitive science have been showing just how dangerously distracting phone usage of almost any kind can be to drivers... Studies have even pointed to a level of impairment comparable to drunk driving... Yet drivers can’t seem to help but take their eyes off the road to respond to the pings and draws of their devices.³

Why are human beings attracted to electric light? Unlike flying insects, we are not mistaking electric light for the moon or rising sun, so why is electric light so alluring to us? To answer this question, consider the nine non-physical needs that I discuss in the pamphlet *A New Peace Paradigm: Our Human Needs and the Tangles of Trauma*, which are listed in the diagram below. In that pamphlet I discuss how these nine non-physical needs can also be called psychological cravings (from the ancient Greek word “psyche” meaning our human essence) or spiritual cravings (from the Latin word “spiritus” that also means our human essence), and how trauma can become tangled in these needs, resulting in distortions that I call the “tangles of trauma.”

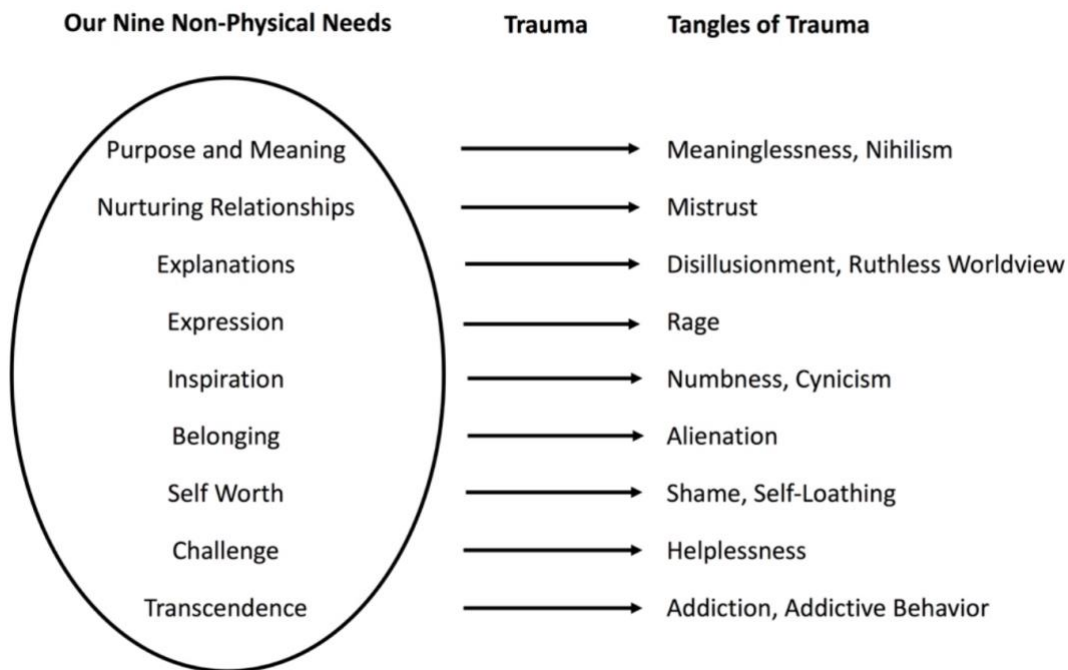


Figure 1: Our Nine Non-Physical Needs and the Tangles of Trauma

People can use the electric light emitted from a smartphone for simple tasks such as checking the weather or buying movie tickets. But when people stare at electric light for hours upon hours, day after day, for reasons unrelated to simple tasks or their job, it is because this light is feeding at least one of their nine non-physical needs in some way.

To understand how electric light can feed our nine non-physical needs, we can discuss social media as an example. Social media platforms are alluring because they attempt to feed at least one of our nine non-physical needs. For example, Facebook, Twitter, Instagram, and Snapchat give us a way to feed our need for *expression*. These social media platforms allow people to express themselves through words, pictures, or videos. These social media platforms also give us a way to feed our need for *belonging*, along with our need for *self-worth*. It could be argued that the primary allure of social media is that it helps people feed their needs for expression, belonging, and self-worth.

However, social media platforms can also help us feed our need for *explanations*. This can take the form of articles and commentaries that attempt to explain *why* certain events are happening. When we want to understand what is happening in our communities and around the world, along with *why* these things are happening, many people today get their information from social media platforms rather than traditional news outlets (such as newspapers or television news). When I am seeking an explanation for a question related to my research, I will sometimes use the social media platform Reddit to find people who can help point me in the right direction.

Social media platforms can also help us feed our need for *inspiration*. It is common to see inspirational quotes, testimonials, pictures, and videos on social media, and some of the most popular posts on social media offer inspiration. When our human need for *nurturing relationships* is concerned, people can seek nurturing in the form of the “like button” or through deeper forms of connection, such as expressing a concern in a way that leads to empathetic and insightful responses from people in their social media network. When people get a lot of “likes,” this can also feed their need for self-worth.

We can use social media platforms to feed our need for *purpose and meaning* in a wide variety of ways. For example, when people have a purpose such as operating a successful business, engaging in activism, or improving their health, they can use social media to help them fulfill that purpose. Many people use social media to promote their business, connect and plan with other activists, or improve their health by finding explanations for health problems and inspiration that motivates them to change their diet and lifestyle.

Human beings need *challenge* to become stronger physically or psychologically. In chapter seven of *The Cosmic Ocean* I discuss how challenge is different from our other non-physical needs, because it is an “acquired taste.” Although challenge can be something that people choose and crave deeply, it can also be something that people go out of their way to avoid. When people are facing voluntary or involuntary challenges, they can use social media to help them by using it to seek explanations, inspiration, or *connection with others* in the form of belonging, expression, nurturing, affirmation that one has worth, or a shared sense of purpose and meaning.

Human beings have a need for *transcendence*, which means to transcend our sense of time, to feel a sense of timelessness, to touch and taste the eternal. Transcendence can occur when we lose our sense of time, when we are lost in the moment. To mention just a few among the many examples of transcendence, people can transcend their sense of time when playing or listening to music, watching sports, meditating, participating in a religious ritual, spending time in nature, using drugs, having sex, playing video games, spending quality time with their loved ones, watching a movie, creating art, or using social media.

There are healthy and unhealthy ways to transcend our sense of time, and transcendence can be experienced at varying depths. When we lose our sense of time while using social media and time seems to fly by, our regrets from the past and anxieties about the future can temporarily vanish. In this way, people can use social media as a distraction from their innermost problems, and they can also use social media to “kill time” during moments of boredom or discomfort.

In the pamphlet *A New Peace Paradigm* I discuss how trauma can get tangled in our non-physical needs, leading to tangles of trauma such as mistrust, rage, disillusionment, and alienation. We can use social media as an outlet to directly or indirectly express any tangle of trauma. Other people can also use social media to turn our feelings of mistrust, rage, disillusionment, and alienation against those who are not responsible for the root causes of our problems but are instead convenient targets for our aggression, which makes it more difficult for us to see and solve these root causes.

Social media is only one form of electric light that can bind us, causing us to stare at the seductive glow of a screen for hours upon hours, similar to insects bound to streetlights and fluorescent lamps for hours upon hours. I will discuss other forms of electric light later in this pamphlet. As we try to find fulfillment for our nine non-physical needs in the seductive glow of electric light, similar to insects trying to find the moon or sun, the fulfillment we find can vary in quality and depth. If we are naive about how electric light can affect us, we are more likely to become bound to electric light in ways that simultaneously bind us to ignorance, distraction, disconnection, mistrust, rage,

disillusionment, or alienation. However, I have had life-changing experiences that show how electric light not only has the power to bind, but also a greater power to liberate.

The Binding and Liberating Power of Electric Light

In Greek mythology, electricity is depicted as the strongest divine weapon not because of its power to kill, but its power to *bind*. One reason Zeus rules the cosmos is because he controls electricity in the form of the lightning bolt, which he uses to bind his adversaries. The binding power of Zeus's lightning bolt can be used as a metaphor for the binding power of electric light today. As I mentioned, electric light can bind flying insects to fluorescent lamps, and the electric light emitted from digital devices can bind human beings to social media platforms, television shows, video games, or Internet porn, just to mention a few examples.

Because Zeus is the master of electricity, he can bind gods who oppose him such as Cronos, Prometheus, and Atlas. Zeus can also bind human beings with electricity. Today we can interpret the electric binding of human beings literally, in the way high-tech tasers can bind people by incapacitating their bodies, or metaphorically, in the way electric light can bind our minds, trapping us in distraction, addiction, or ignorance. Something that Greek gods, human beings, and flying insects have in common is that electricity can bind us in different ways. In their book *Cunning Intelligence in Greek Culture and Society*, classics scholars Marcel Detienne and Jean-Pierre Vernant discuss how electricity's greatest power in Greek mythology is not its ability to kill, but its ability to bind:

To strike a god with his thunderbolt is, for [Zeus] the Master of Heaven, to bind him, to chain him up, depriving him of the vital force that previously animated him, and to relegate him, forever paralysed, to the frontiers of the world, far from the dwelling of the gods where he used to exercise his power . . . In the *Iliad*, Agamemnon [commander of the Greek army] fears that the power of Zeus "might chain up the energy and arms" of the Greeks. And bonds are again suggested by the expressions most frequently used to describe the sovereign god's power of striking with thunderbolts. In the *Theogony*, Cronos [father of Zeus] is "tamed" by the blow Zeus deals him just as, in [the writings of ancient Greek poet] Pindar, the enemy of the god is "tamed" by the thunderbolt.⁴

A person who is addicted to electric light, who stares at a form of electric light for hours upon hours in ways that are unhealthy, is metaphorically bound and chained, similar to how Zeus binds and chains his enemies in ways that deprive them of their "vital force." But in Greek mythology, electricity has a dual nature, because it not only

has a binding power, but also a liberating power. Zeus uses lightning to help liberate himself and others from the oppressive rule of his father Cronos. In a similar way, how can electric light be a liberating force in our lives and the lives of others?

The first life-changing experience I will discuss that helped me understand how electric light can be a liberating force occurred during my sophomore year of high school. When I was fifteen I wrote a short story for an English assignment. A few days later my English teacher Janice Vaughn said, “I really liked your story. You should think about being a writer.” Sometimes a few simple words can radically change our lives. I had never thought about being a writer before, because I had never liked reading books. But I pondered what she said and realized I had enjoyed writing that story. So I wrote another, and another, and another. I began writing obsessively, and at West Point I spent more time writing than doing my homework.

However, when Mrs. Vaughn encouraged me to be a writer during my sophomore year of high school in 1995, this did not mean I knew *how* to be a writer. Just because I wrote one short story that my English teacher liked did not mean I had the ability to write stories at a professional level or write far more complex books. I wondered how I could learn to improve my writing ability. Where could I learn to write at a much higher level? Who could teach me?

In 1995 I accessed the Internet for the first time through America Online, which was an early Internet service provider. During the mid-1990s the Internet was still in its early stages and felt like a new and unexplored world. When I went on America Online to see if I could find information about how to become a better writer, I had another life-changing experience that built on the life-changing experience of Mrs. Vaughn encouraging me to be a writer.

America Online offered a digital space where writers could meet and discuss writing in chat rooms and on message boards. There were even volunteer writing coaches who offered to read your stories and provide feedback for free. This all seemed revolutionary to me. When one of these writing coaches read one of my stories and helped improve my writing skills, I first saw the Internet’s power to liberate us from social isolation by connecting us with people we would not meet in our everyday life. When we want to meet people who have similar ideals and interests as us, the Internet liberates us from limitations in our physical world such as distance and barriers that restrict who we can interact with.

Being able to connect with people on the Internet in ways that overcame distance and barriers felt especially important to me, because I grew up as a racial outcast. During my childhood, my parents often told me that because I was part Asian, part black, and part white, I could never count on anyone to help me. My parents said Asians would dislike me because I was part black, African Americans would dislike me

because I looked Asian, and white people would dislike me because I looked Asian and was part black.

My father, Paul B. Chappell, was born in 1925 and grew up in Virginia during the Great Depression. Half black and half white, he lived under segregation. My father was a career soldier who served in the army for thirty years and retired as a command sergeant major—the highest enlisted rank. Since my childhood, my father told me that the only place in America where a black man had a fair chance was in the army. Because he grew up before the civil rights movement, and the army had desegregated prior to the major civil rights victories, he believed that black men were treated better in the army than in civilian society. And because of his experiences as a black man living before the civil rights movement and his worries about my tri-racial background, my father often told me that the military was the only place I would ever belong or be treated fairly.

One reason my father told me this is because of skipped generations. I was born in 1980. Most African Americans born in 1980 are five generations removed from slavery, but I am only three generations removed. My father was old enough to be my grandfather when I was born, thus a generation was skipped between him and me. Furthermore, my grandfather was raised not by his parents, but his grandparents, two former slaves named Wyatt and Frances Chappell; thus another generation was skipped. Wyatt Chappell was born a slave in Alabama in 1835 and Francis Chappell was born a slave in Virginia in 1842. Trauma from the past and fear for my future caused my parents to pressure me into the military.

My parents pressured me to go to West Point, not only because they thought I would have limited opportunity as a result of being part black, but also because they had seen how white people, African Americans, and Koreans rejected me as a racially mixed outcast. After all, white people were not the only ones who opposed interracial marriage. Marrying when interracial marriage was still controversial in many parts of the country, my parents did not feel welcome in African American or Korean communities. Many Koreans did not like that my mother had married a black man, and many African Americans did not like that my father had married an Asian woman. When I told my mother in 2009 that I was leaving the military, she shouted, “Are you out of your mind? Nobody is going to hire you. It’s bad enough you look Asian, but you’re also part black. Nobody is going to give a job to a black man who looks Asian.”

I have struggled with extreme feelings of alienation for most of my life. People can feel alienated for all kinds of reasons, and alienation is far more common in our society and around the world than many of us realize. When people today feel alone or alienated in any way, the Internet gives them a place to go, offering forms of connection that can be healthy, unhealthy, or a combination of both. When people feel isolated or

outcast for any reason, the Internet is always there for them—for better or worse—in ways that their family and local community may not be.

At West Point I learned how the Internet could liberate me in ways that were even more critical than the Internet’s ability to connect me with other people. In 2000 I was accepted into an internship program with the Executive Branch of the U.S. government. Before starting the internship, I was required to provide additional information on a form that had to be filled out with a typewriter. Since I did not have access to a typewriter, I called their office one afternoon and asked, “Can I fill out this form with a pen, or do you have an electronic version that I can fill out? At West Point I can’t just leave campus whenever I want, and I can’t find anyone here who has a typewriter. It’s the year 2000. Where am I supposed to find a typewriter?”

They informed me that according to their policy, I had to use a typewriter, not a pen. They also said there were no electronic versions of that form. Later in the evening I was sitting in my room with three of my friends, saying how ridiculous this situation was. When I asked them if they had any ideas for finding a typewriter, one of my friends went to my computer and said, “I’m going to find an electronic version of that form on the Internet.” I told him I had already searched for it on the Internet and couldn’t find anything. He looked at me and confidently claimed, “Trust me, everything is on the Internet.”

After searching for about twenty minutes, he found it. This was a transformative experience for me, because he had found a form that people at the Executive Branch of the U.S. Government did not know existed, or at least they had claimed it didn’t exist. Seeing him find this form on the Internet allowed me to have two important realizations. In 1995 I started using the Internet to find information, and in 1999 I started reading a lot of books to build the research for the Road to Peace book series I would later write. But when my friend found this form online after saying, “Trust me, everything is on the Internet,” I saw with greater clarity how the Internet could be a liberating force in my journey to answer the complex questions I was exploring. This led to the realization that I should spend more time using the Internet to find books and other academic sources that I needed for my research.

The second realization I had from watching my friend find this form online was that a person needed skill to do good research on the Internet, since the form had not shown up immediately on any Internet search engines and my friend had to use skill to find it. This caused me to see the Internet as a kind of world that I must learn to skillfully navigate so that I could find what I needed. By this time I already realized that a lot of misleading and false information was on the Internet that could bind my mind to misinformation instead of helping to liberate me from illusion.

These three life-changing experiences—Mrs. Vaughn telling me I should be a

writer, exploring the writing forum on America Online and receiving free coaching from a volunteer writing coach, and my friend at West Point using the Internet to find an electronic form that wasn't supposed to exist—all involved people helping me. I would not be alive today if Mrs. Vaughn had not encouraged me to be a writer and I had not learned how to use the liberating power of the Internet to do good research and find books that helped me better understand the human condition and the tangles of trauma. To further explain why I owe my life and work to the help and kindness of others, I must discuss the three worlds that people today must learn to skillfully navigate if humanity is going to create a more peaceful and just future in the midst of increasingly complex technology.

Skillfully Navigating the Three Worlds

Throughout human history, people have had to inhabit two worlds: their inner world and outer world. Our inner world consists of the conscious and unconscious aspects of our psyche, such as our nine non-physical needs (our sense of purpose, meaning, belonging, self-worth, etc.) and any tangles of trauma we are struggling with. Our outer world consists of the physical reality that surrounds us.

Our inner world affects our outer world. For example, how did Hitler's inner world, such as his dangerous sense of purpose, meaning, belonging, and self-worth, along with tangles of trauma that he was known to suffer from such as mistrust, a ruthless worldview, and rage, affect his outer world, along with the outer world of so many others who were harmed by his actions? How did Martin Luther King Jr.'s inner world, such as his healthy sense of purpose, meaning, belonging, and self-worth, along with the high ideals of his worldview, shape the outer world in American society and beyond for the better?

Our inner world can also be affected by our outer world. Aspects of our inner world, such as our sense of purpose, meaning, belonging, self-worth, the way we express ourselves, and our explanations for how the world works, can be affected by aspects of our outer world, such as growing up in a violent household, living in a war-torn environment, having access to education (or lacking access to education), witnessing domestic violence as a child, seeing one's parents struggle with addiction, receiving a lot of kindness and encouragement, struggling with racism or sexism, having opportunity (or lacking opportunity), not having enough food in the home, or not having a stable family. Many of these aspects of our outer world I have listed can cause us to develop tangles of trauma in our inner world, such as meaninglessness, nihilism, mistrust, disillusionment, a ruthless worldview, rage, numbness, cynicism, alienation, shame, self-loathing, helplessness, addiction, or addictive behavior.

There are countless ways that our inner world can affect our outer world, and

countless ways that our outer world can affect our inner world. People can also respond differently to the intersections between these two worlds. One person may learn and grow from a painful event in ways that another person does not, and one person may appreciate and absorb an act of kindness in ways that another person does not. As I mentioned earlier, the three life-changing experiences I shared all involved people helping me. Not only did their acts of kindness shape my inner world for the better, but the important lessons I learned from these experiences helped me improve both my inner world and outer world.

For most of human history, human beings have had to inhabit only two worlds: their inner world and outer world. But in the twentieth century, a brand new world was created that never before existed in human history. I call this new and uncharted world *the world of electric light*.

In the nineteenth century, Thomas Edison used the term “electric light” for the light bulb. But when I discuss the world of electric light, I am not referring to the light bulb, because the original light bulb was simply a more convenient and effective way than candles and torches to illuminate our outer world. The original light bulb did not create a new kind of world through a new form of mass media. The new world of electric light first came into existence when major motion pictures and radio broadcasts created new forms of mass media in the early twentieth century.

When I use the term “electric light,” I am referring to light that humans produce from an electric source. Films use electric light to project images on a large screen, and radio broadcasts also use electric light. Many people today don’t know that radio waves are actually light waves. Radio waves are part of the electromagnetic spectrum and travel at the speed of light. Our eyes cannot see radio waves or other forms of light such as microwaves and x-rays that are part of the electromagnetic spectrum, because our eyes are only able to see a tiny part of the electromagnetic spectrum that we call “visible light.”

Unlike early experimental films from the 1890s that were less than ten minutes long and not widely available because the movie theater industry had not yet grown, major motion pictures in the early twentieth century created a new form of mass media involving more complex stories that could communicate ideas in new ways. Also during the early twentieth century, radio broadcasts created a new form of mass media that allowed people to transmit stories, ideas, news, and music through the air. Together, the first major motion pictures and radio broadcasts formed a new kind of world that intersected with people’s inner and outer worlds. The following diagram shows how these three worlds intersect.

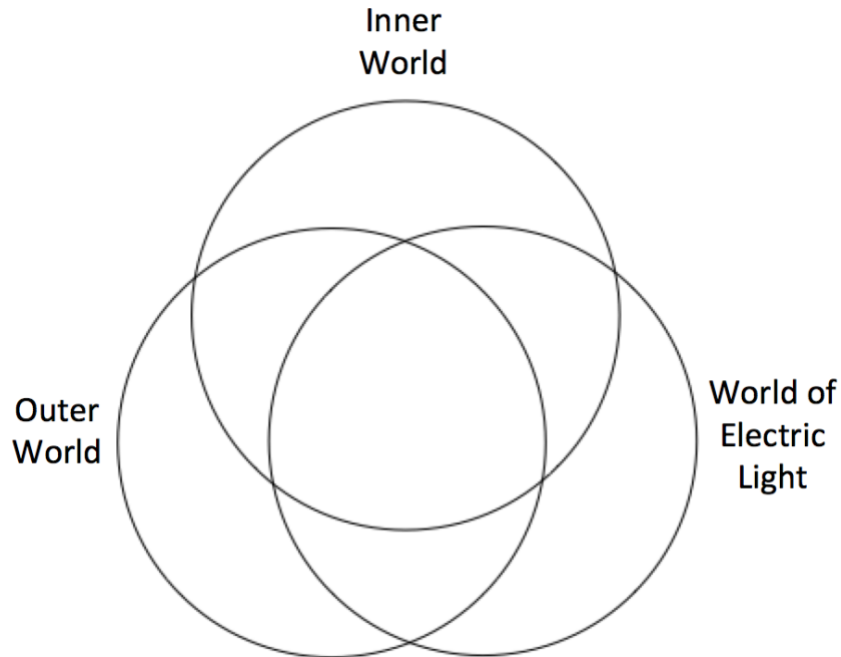


Figure 2: The Three Worlds Modern Humans Inhabit

New forms of mass media such as major motion pictures and radio broadcasts were only the zygote—the very beginning of the world of electric light. After early films and radio broadcasts, the world of electric light expanded to include television. Then the world of electric light expanded even further to include *interactive digital mass media* such as personal computers, video games, the Internet, and social media. Today, the world of electric light is more massive than it has ever been and affects more aspects of our inner and outer worlds than it ever has.

What are some ways in which the world of electric light impacted people’s inner and outer worlds in the past, and how has the influence of electric light expanded today? To offer examples of electric light’s impact in the past, we must first understand that people have been using electricity as a liberating force to shape people’s inner and outer worlds even before the world of electric light was created.

When Mahatma Gandhi played a central role in India’s struggle for liberation, he benefitted from international newspapers, which helped spread his message around the world. These newspapers relied on the telegraph, which uses electric signals to quickly send messages over long distances. I do not consider the telegraph’s electric signals to be part of the world of electric light because technically they are not light waves. Also, the telegraph was not its own form of mass media the way radio stations were, but instead assisted the mass media of international newspapers.

Nevertheless, the electric signals of the telegraph can still be compared to the metaphorical lightning bolt of Zeus and its power to assist liberation. The electric signals of the telegraph increased the number of people who could hear about Gandhi, his

ideas, and India's struggle for liberation. The telegraph also brought the world closer together by greatly reducing the amount of time needed for information to travel over long distances. According to historian Sean Scalmer:

Most, of course, met [Gandhi] not in an Eastern ashram or upon a London street corner, but at the homely breakfast table. He was "front-page top [of the newspaper]"... a frequent accompaniment to the Westerner's morning tea and toast... The invention of the telegraph in the 1840s had made possible the transmission of news reports across continents with unaccustomed speed. Global news agencies were established in the years afterward (American Associated Press and United Press International served the USA; Reuters the UK), so that even those journals without their own foreign correspondents could provide accounts of leading events and personalities... By the interwar years, there was an elaborate machinery of mass reportage and reading that enmeshed the globe. Gandhi was among the many personalities caught up in its relentless circulations.⁵

During the civil rights movement's struggle to liberate African Americans from various forms of injustice, many civil rights activists relied on the electric light produced by television. The civil rights movement would not have been as effective if television had not spread words, ideas, and images promoting civil rights. When national television channels showed videos of civil rights activists being viciously attacked, this also shaped public opinion in ways that benefitted the civil rights movement.

The modern Internet (which includes smartphones and social media) uses electric light in the form of radio waves to transmit information, and every screen we use to access the Internet emits electric light that transforms the Internet into something we can see. Practically every movement today spreads words, ideas, audio, and video through the Internet, which gives people more ways to share information and connect with each other than any form of electric light that came before. Just as Zeus used lightning to help liberate himself and others from the oppressive rule of his father Cronos, many people have used the electric light of the Internet to help advance their work against various forms of oppression and injustice.

The world of electric light has grown so massive today that it affects our inner and outer worlds in more ways than ever before. In 2001 during the "dot com bubble burst," I heard some people say the Internet was a fad, which sounded absurd to me back then. A massive revolution instead of a fad, the Internet since 2001 has partially or fully swallowed almost every aspect of our society. To varying degrees, the Internet today has absorbed newspapers, television, the music industry, the book industry, the

retail industry, the porn industry, the way people interact with their politicians and each other, how people work, how people entertain themselves, and practically all businesses. Even the smallest business owners usually have some presence on the Internet, even if it's just listing their phone number and when they are open.

To varying degrees, the Internet today has also swallowed classified ads, the phonebook, the way extremist groups recruit people (through message boards and other online forums), the taxi industry (through Uber and Lyft), the education system (through online classes), how banks operate (through online banking services), video games (many of the most popular video games today are played online), and the means through which people gossip, bully, and incite violence (social media has been used to spread rumors that have incited mob violence in Sri Lanka, Myanmar, India, and many other countries).

The way that the Internet (and especially its latest manifestation of smartphones and social media) affects children's inner and outer worlds today is extensive and beyond what many parents realize. In her book *American Girls: Social Media and the Secret Lives of Teenagers*, Nancy Jo Sales explores the growing influence of social media in our society and interviews over two hundred girls in ten states spanning the ages of thirteen through nineteen. Describing an interview with several thirteen year old girls (which shows how electric light can affect people's self-worth and other aspects of their inner world), Sales tells us:

I asked what effect they thought all this was having on girls—the hypersexualization of girls, and boys [through social media] . . .

"It stresses me out, honestly," Julie said. "I suffer from anxiety. I've been suffering for so long now. I go to a therapist and I do take medicine for it. It started in my fourth-grade class. I was with a mean group of girls and they all, like, went off on everybody and would tell them their flaws."

"Yeah, they did that at our school, too," Cassy sympathized.

"I think social media made it worse," Julie said. "All people are caring about now is, How do I look on social media?"

"It makes girls feel like they have to try so hard constantly to get people to like them," Cassy said. "And some people feel bad if they don't get enough likes and comments."

"We know a girl whose mom buys her followers!" Julie exclaimed. She was referring to companies, accessible online, from which you could buy fake followers for social media accounts.

“And because of social media you can edit yourself, like how you *want* to be, with Photoshop and apps,” Maggie said. “Like I want to be like *her*, I’m gonna make myself look like *her*.”

Like who? I asked.

“*Kylie Jenner!*” they all said at once . . .

“And all the Kardashians,” said Cassy.

“Everybody wants to take a selfie as good as the Kardashians,” Maggie said. “Some girls do their makeup just to take a selfie. They spend *hours*.”

“Everyone wants everyone to like them,” Julie said. “And everyone wants to be perfect. But to be perfectly honest, it’s not possible to be perfect. Everyone’s gonna have something wrong. But I just wish everyone could just look past that and look at the personality and the person on the inside rather than the outside.”⁶

To navigate our inner world, outer world, and the world of electric light, along with the complex intersections between these three worlds, we need current and future generations to be *tech savvy*. When I use the term “tech savvy,” I am not referring to the mere ability to use technology, but the vitally important competency of understanding technology’s relationship to the human condition, why the glow of screens can be so seductive, how people can use electric light to help or harm us, and how we can use electric light as a liberating force that protects us from being deceived, manipulated, and bound.

Being tech savvy means understanding our nine non-physical needs, the inner world these needs inhabit, and the way electric light can affect these needs in ways that are healthy, unhealthy, or a combination of both. This involves self-awareness. Being tech savvy also means understanding how the world of electric light affects our outer world, such as our local communities, political system, nation, and global civilization. This involves societal and global awareness.

The Future of Electric Light

As massive and influential as the world of electric light seems today, this new world is still in its embryonic stage. The world of electric light is not yet born. With new technologies such as virtual reality, augmented reality (I am referring to glasses that use augmented reality, not smartphones), artificial intelligence, and the 5g network, the world of electric light will leave its embryonic stage and become fully born into our reality. The Internet will become a “place” in ways that most people living today do not yet understand.

The world of electric light in its embryonic stage can be metaphorically represented in three trimesters. The first trimester consisted of movie theaters and major motion pictures—a new form of mass media—which spread in the early twentieth century. The first trimester also consisted of radio stations and radio broadcasts—another new form of mass media—that could transmit audio across long distances. Humans had been experimenting with moving pictures and radio waves in the nineteenth century, but these technologies did not become widely used forms of mass media until the early twentieth century. In a similar way, the first electric computers were created around the 1940s, yet personal computers and the Internet did not become their own form of mass media until much later in the twentieth century.

The Birth of a Nation, a silent film released in 1915, was the first movie blockbuster. Its immense popularity and influence revealed the power of first trimester technology. As a film that glamorized the Ku Klux Klan and dehumanized African Americans, *The Birth of a Nation* demonstrated how the world of electric light could intersect with people’s inner and outer worlds on a massive scale. An article for NPR’s *All Things Considered* tells us:

One hundred years ago Sunday [in 1915], the nascent film industry premiered what would go on to be its first blockbuster: *The Birth of a Nation*.

As the house lights dimmed and the orchestra struck up the score, a message from director D.W. Griffith flickered on the screen: “This is an historical presentation of the Civil War and Reconstruction Period, and is not meant to reflect on any race or people of today.”

But its effects on race relations were devastating, and reverberations are still felt to this day.

The Birth of a Nation is three hours of racist propaganda — starting with the Civil War and ending with the Ku Klux Klan riding in to save the South from black rule during the Reconstruction era.

“[Griffith] portrayed the emancipated slaves as heathens, as unworthy of being free, as uncivilized, as primarily concerned with passing laws so they could marry white women and prey on them,” Dick Lehr, author of *The Birth of a Nation: How a Legendary Filmmaker and a Crusading Editor Reignited America's Civil War*, tells NPR's Arun Rath.

Lehr says the film was the *Avatar* or *Star Wars* of 1915: It was a runaway hit.

After the first screening in Los Angeles, the film got a big thumbs-up. “The critics were raving. People were on their feet cheering at the climax of the film, when the Klan is seen as a healing force—restoring

order to the chaos of the South during Reconstruction,” Lehr says. “They were in awe of seeing for the first time a feature film of this length. There’s one critic [who] said, ‘The worst thing about *The Birth of a Nation* is how good it is.’”

Long after 1915, the silent film continued to find audiences.

Immediately after the film’s release, the Ku Klux Klan experienced a surge in membership, and it continued to use the film as a recruiting tool for decades after that.

As a young journalist in the late 1970s, Lehr infiltrated the local Knights of the Ku Klux Klan for a story. He met their leader at the time, David Duke, who was there to recruit the next wave of Klansmen.

“[Duke’s] idea of a meeting was to show this film, in which he stood there narrating it and adding his own very racist spin on events. And that’s when it hit me: the real propaganda value for the Klan, not only way back when but here it was, like, six, seven decades later,” says Lehr.⁷

The second trimester of the world of electric light involved the emergence of television, which was first invented in the 1920s but became a widespread form of mass media in the 1950s. Television had an enormous influence on American society and was arguably the dominant form of mass media in the second half of the twentieth century. In 1946 only about six thousand U.S. homes had a television, but less than a decade later in 1955, over half of U.S. homes had a television. By the late 1990s, ninety-eight percent of U.S. homes had at least one television.⁸ In comparison to the much slower spread of personal computers, by 1976 over forty thousand personal computers had been sold in the United States,⁹ and it wasn’t until over two decades later, the year 2000, when over half of U.S. homes had a personal computer.¹⁰

The third trimester of the world of electric light involved the emergence of *interactive digital mass media*, which started with video games and personal computers in the 1970s and continued with later developments in interactive digital mass media such as the Internet, smartphones, and social media in the late twentieth and early twenty-first century. Just as later trimesters of human fetal development expand upon and absorb the developments of earlier trimesters, the same is true for the world of electric light. The Internet has absorbed radio and television to varying degrees, and the technologies that will birth the world of electric light (virtual reality, augmented reality, artificial intelligence, and the 5g network) will absorb all three trimesters of electric light to even greater degrees.

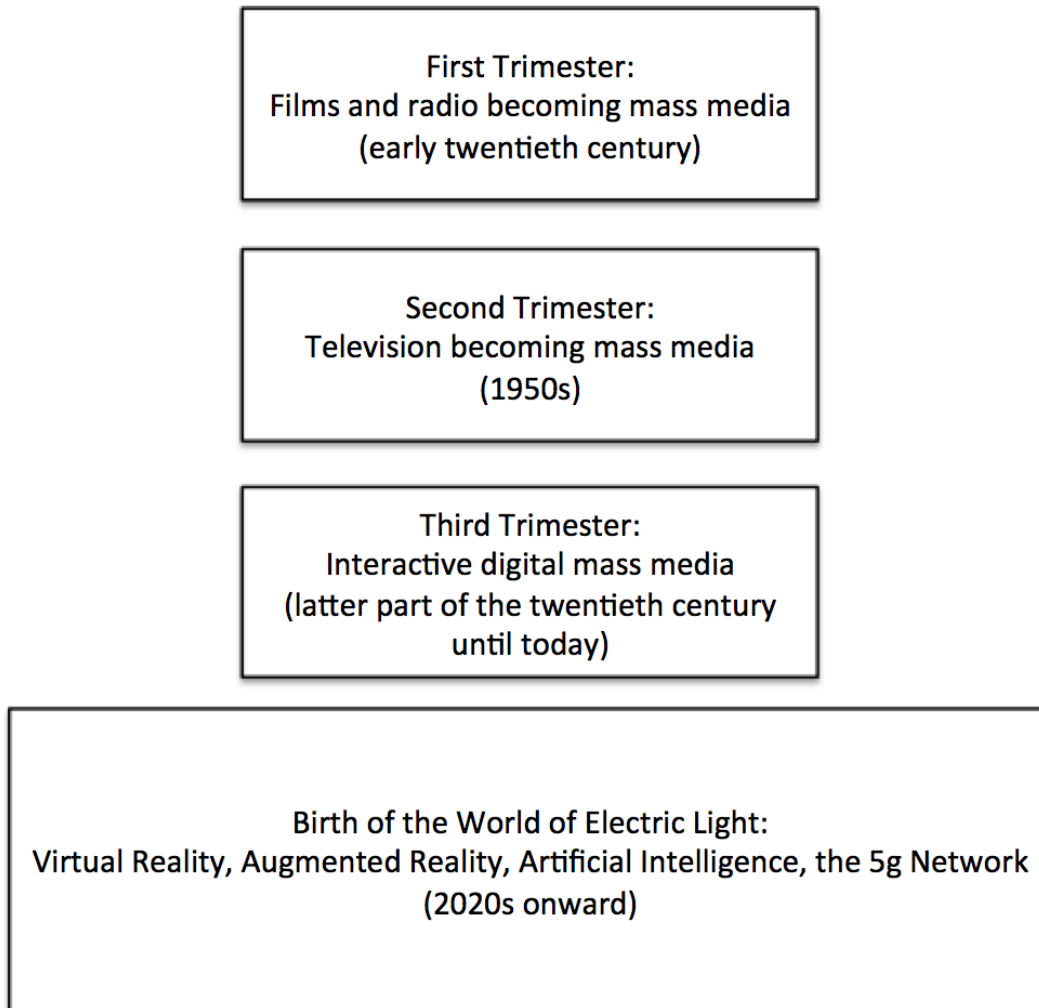


Figure 3: The Embryonic Stages and Birth of the World of Electric Light

Discussing the future of virtual reality, augmented reality, artificial intelligence, and the 5g network today is like people in 1976 having a discussion about the personal computer and trying to imagine all of the ways it will change the world. Nobody that we know of in 1976 was able to imagine *all the ways* personal computers would end up changing the world. Most people back then probably could not imagine that we would carry personal computers everywhere we go in the form of smartphones, let alone all the ways these devices would be used.

Human beings have spent many decades seeing the world of electric light through windows. These windows can take the form of a movie screen, television screen, computer screen, tablet screen, or smartphone screen. However, virtual reality and augmented reality glasses will trick our brain in ways that make it seem like we have passed through these windows and entered the world of electric light. If people can be bound for hours by the electric light emitted from a tiny window on their smartphone,

imagine how much stronger this binding potential will be when people are no longer blocked by a window, but can completely surround themselves with electric light, sculpt their face and body out of electric light, and merge their physical surroundings with digital objects in any combination they want. Imagine how much more seductive the glow of electric light will potentially be when we can go beyond windows (screens) by tricking our brain into thinking that we have walked through doorways into the world of electric light. The birth of the world of electric light will affect human civilization more than any technology since the invention of agriculture.

Humanity is not ready for the birth of the world of electric light. In fact, we are having a lot of difficulty simply understanding the full effects of third trimester technology such as the Internet, smartphones, and social media. The birth of the world of electric light through virtual reality, augmented reality, artificial intelligence, and the 5g network will bring even more challenges. These technologies that will cause the world of electric light to be born will start becoming mainstream at some point in the 2020s, but it will take decades before they get near their full potential, just as it took decades for traditional personal computers to get near their full potential.

We are not psychologically ready for this future, but peace literacy can help us get ready. Just as insects become bound to electric lights because our technology has evolved faster than their biology could adapt, our technology has evolved faster than our competency in our own humanity has adapted. We can use peace literacy to escalate our competency in being human so that we can become more skilled at navigating our inner world, outer world, and the world of electric light in both its current and future forms.

Before the twentieth century, people did not have to deal with the world of electric light. The growth of this new world, along with the way it intersects with our inner and outer worlds, has increased the complexity of the reality that people today must navigate. Even if people today do not use any modern technology, the world of electric light still affects them because it shapes political systems and worldviews that have a lot of power over the health of our planet.

Peace literacy is a skill-set for the twenty-first century, a new paradigm for escalating our competency in both technology and being human that allows us to navigate our inner world, outer world, and the world of electric light in ways that increase peace, justice, and wellbeing. When humanity has the technological capacity to destroy itself, human survival will depend on our skill and competency in navigating all three of these worlds.

Note on this essay:

Both this essay and “A New Peace Paradigm: Our Human Needs and the Tangles of Trauma,” are excerpts from *The Transcendent Mystery* (tentative publication date: Fall 2021), Chappell’s last book in his seven-book *Road to Peace* series. Both essays are available for free download from peaceliteracy.org.

AUTHOR BIO

Paul K. Chappell is an international peace educator, author of the seven-book *Road to Peace* series, and serves as Executive Director of the Peace Literacy Institute (peaceliteracy.org). He graduated from West Point, was deployed to Iraq, and left active duty as a captain. He lectures across the country and internationally, also teaching courses and workshops on Peace Literacy and Leadership. His father was African-American and served in the Korean and Vietnam wars; his Korean mother grew up in war-torn Japan. Both his parents brought their war-trauma home with them to Alabama where Paul was raised. Growing up as a multi-racial child in a violent household, Chappell has forged a new understanding of war and peace, rage and trauma, and vision, purpose, and hope. His author website is peacefulrevolution.com.

¹ The Xerxes Society, ed. Deborah Burns, *Attracting Native Pollinators* (North Adams, MA: Storey Publishing, 2011), 76.

² Although flying insects are often harmed by electric light, some of these insects may be able to benefit from electric light by using it to find mates or prey. Flying insects can also be attracted to fire, similar to how they are attracted to electric light, but the number of electric lights today far exceed the number of fires that existed in the distant past.

³ Robert Rosenberger, “Yes, Smartphone Use Is Probably Behind the Spike in Driving Deaths,”

http://www.slate.com/articles/technology/future_tense/2017/12/yes_smartphone_use_is_probably_behind_the_spike_in_vehicle_related_deaths.html.

⁴ Marcel Detienne and Jean-Pierre Vernant, *Cunning Intelligence in Greek Culture and Society* (Chicago: The University of Chicago Press, 1974), 75-76.

⁵ Sean Scalmer, *Gandhi in the West* (New York: Cambridge University Press, 2011), 11.

⁶ Nancy Jo Sales, *American Girls* (New York: Vintage Books, 2016), 53-54.

⁷ “100 Years Later, What’s the Legacy of ‘Birth of a Nation?’”

<https://www.npr.org/sections/codeswitch/2015/02/08/383279630/100-years-later-whats-the-legacy-of-birth-of-a-nation>.

⁸ Mitchell Stevens, “History of Television,”

<https://www.nyu.edu/classes/stevens/History%20of%20Television%20page.htm>.

⁹ Jeremy Reimer, “Total Share: 30 years of personal computer market figures,”

<https://arstechnica.com/features/2005/12/total-share/3/>.

¹⁰ “Percentage of households with a computer at home in the United States from 1984 to 2010,” <https://www.statista.com/statistics/184685/percentage-of-households-with-computer-in-the-united-states-since-1984/>.