SYRACUSE SCIENCE & TECHNOLOGY LAW REPORTER

VOLUME 23

Fall 2010

ARTICLE 5, PAGE 147

Cell Phones and the Dark Deception

By: Carleigh Cooper

Citation: CARLEIGH COOPER, CELL PHONES AND THE DARK DECEPTION (Premier Advantage Publishing, 2009).

Reviewed by: L. Jeffrey Kelly¹

Relevant Legal and Academic Areas: Intellectual Property; Copyright; Patents; Economics

Summary: This book investigates the mystery behind non-ionizing microwave radiation, namely that emitted from cell phones. The discussion begins with defining the mystery and establishing provocative questions on the topic. Next, the author develops her search for answers to the questions by addressing the roles that the government and the cell phone industry play. The story continues to unfold by identifying the commonplace conception that cell phones are safe. Immediately following are multiple chapters reviewing the many and very specific health effects caused by non-ionizing microwave radiation. The book then explores the need to have expansive cell phone coverage resulting in a cell phone antenna or tower everywhere and on everything. Lastly, the book concludes with thoughtful recommendations, especially directed at parents and their young children.²

About the Author: Carleigh Cooper is an advocate seeking to uncover the truth behind nonionizing microwave radiation emitted from cell phones and various wireless devices. Her determination to unveil known facts and inform the public is due in part to the death of her husband. After suffering from debilitating symptoms for over 10 years, at only 48 years old, Ms. Cooper's husband took his own life.³ Her husband's symptoms were later discovered to be caused by excessive exposure to non-ionizing microwave radiation at work. Since the passing of her husband, Ms. Cooper has been researching the effects of radiation and has taken it upon herself to provide readers with critical knowledge to make an informed decision concerning the negative effects of non-ionizing microwave radiation

¹ J.D. Candidate 2011, Syracuse University College of Law; Notes and Comments Editor *Syracuse Science & Technology Law Reporter*.

² CARLEIGH COOPER, CELL PHONES AND THE DARK DECEPTION (Premier Advantage Publishing, 2009). [hereinafter Cooper]

 $^{^3}$ *Id.* at xi.

Chapter One: Where the Dark Deception Lies

• <u>Summary</u>: This chapter provides background information and sets forth misconceptions of cell phone safety. The author discusses assumptions made by the general public and the cell phone industry.

• **Discussion**: Most importantly, the potential degenerative effects of radiofrequency microwave radiation (RF/MW), the non-ionizing radiation emitted from cell phones and other wireless signals, are suspect. Sparked by its first lawsuit in 1993, the cell phone industry defensively reacted to allegations that RF/MW radiation caused cancer.⁴ The truth about cell phone safety had emerged, and the industry quickly found itself caught in a lie.⁵ In a dire attempt to redeem itself, the cell phone industry hired The Wireless Technology Research Group (WTR) to conduct studies regarding the safety of cell phones.⁶ In December of 1995, WTR reported, "it [i]s unlikely that . . . mobile phones would cause health problems."⁷ WTR's conclusion, however, has since been disproved.

Chapter Two: The BIG Question

• <u>Summary</u>: This chapter introduces a number of provoking questions regarding the safety of RF/MW radiation emitted by cell phones and similar wireless devices.

⁴ Cooper, *supra* note 2, at 20.

⁵ *Id*. at 61.

⁶ *Id*. at 22.

 $^{^{7}}$ *Id.* at 23.

• <u>**Discussion</u>**: This chapter begins with a global question: "if cell phones are dangerous, why don't you know about it?"⁸ The author takes the opportunity to hypothesize how we got where we are today, and why the question of RF/MW radiation safety continues to remain unanswered. One reason given for the lack of definitive answers is due in part to the fact that the medical profession and the cell phone industry disagree with each other.⁹ Additionally, there remains an ongoing debate between scientists and the United States government as to the safety of cell phones.¹⁰ Many believe at one point during the advancement of wireless technology the Food and Drug Administration (FDA) had the opportunity to alert the public of known health concerns but chose not to.¹¹ Surprisingly, the cell phone industry is wholly unregulated, or from the industry's perspective, self-regulated.¹²</u>

Chapter Three: A Desperate Search for Answers

• <u>Summary</u>: In chapter three, the author introduces her personal fight and desire to find answers. This chapter sets forth definitions and background information regarding wireless technology.

• <u>Discussion</u>: After six years of pain and frustration from seeking a diagnosis for her husband's illness, the author embarked on a mission to find answers.¹³ After many years without

⁸ Cooper, *supra* note 2, at 25.

⁹ Id.

¹⁰ *Id.* at 28.

¹¹ Id.

 $^{^{12}}$ *Id.* at 29.

¹³ Cooper, *supra* note 2, at 37.

answers, she resorted to interrogating her husband about his pain, his daily activities, and his work.¹⁴

The following devices also emit RF/MW radiation at various levels: cordless phones, pagers, radar, wireless internet, and satellite communications.¹⁵ Cell phones use non-ionizing RF/MW.¹⁶ The difference between ionizing and non-ionizing radiation is described in terms of heat, power, and frequency.¹⁷ Authorities think if radiation emitted by cell phones does not create heat, enough to warm your ear, then it is not harmful.¹⁸ Studies have proven negative effects contrary to the above notion - that without heat there is no harm.¹⁹ The non-ionizing microwave radiation emitted by cell phones, while weaker than ionizing microwaves, are stronger than most recognize. Non-ionizing microwaves can penetrate and even pass through just about anything including skin and tissue.²⁰ Therefore, the non-ionizing microwaves can pass through not only cell phone users but through persons and anything situated between the user and the cell tower.²¹ Four factors affect the absorption of RF/MW radiation into brain matter: (1) phone design; (2) the antenna; (3) use; and (4) the distance between the user and the cell tower.²² It is estimated that ninety percent of RF/MW radiation emitted from cell phones is absorbed into the brain.²³

- ¹⁵ *Id.* at 39.
- ¹⁶ *Id*.

¹⁴ Cooper, *supra* note 2, at 38.

¹⁷ *Id.* at 41.

 $^{^{18}}$ *Id*. at 42.

¹⁹ Cooper, *supra* note 2, at 42-43.

 $^{^{20}}$ Id. at 43.

 $^{^{21}}$ *Id.* at 44.

 $[\]frac{22}{22}$ Id. at 44-45.

²³ *Id.* at 44.

Chapter Four: Who's Protecting You?

• <u>Summary</u>: This chapter discusses actions taken by governing agencies in response to health concerns associated with RF/MW radiation emitted from cell phones.

• <u>Discussion</u>: Overall, the "no heat-no problem" philosophy is misleading.²⁴ The exposure limit designated by the U.S. for wireless radiation is 1,000 times less than a number of other countries, making the U.S. the least restrictive of all countries aside from the U.K.²⁵ Additionally, exposure levels far below the current U.S. safety guidelines, without any sign of heat, are known to cause serious health complications.²⁶ Heat is clearly an unrealistic parameter to set safety standards by.²⁷

Moreover, absorption is recognized to be very inconstant and highly dependent on the tissue through which the RF/MW radiation is absorbed. Therefore, a blanket standard or guideline based on absorption is less than workable.²⁸

Studies supporting current safety standards are based on short-term exposure when in fact most individuals are exposed to RF/MW radiation for a substantial time.²⁹ The Federal Communications Commission (FCC) and cell phone industry have selectively chosen to base their conclusions regarding cell phone safety on favorable data while ignoring unfavorable data.³⁰ "The FCC, along with standards setters, is knowingly and willfully allowing [consumers]

²⁴ Cooper, *supra* note 2, at 47-48.

²⁵ *Id*.

²⁶ *Id.* at 49.

²⁷ Id.

 $[\]frac{28}{20}$ Id. at 51.

²⁹ Cooper, *supra* note 2, at 51.

 $^{^{30}}$ *Id.* at 52.

to be exposed to levels of radiation that have been proven to alter behavior and cause harm.³¹ Standards are established by the Institute of Electrical and Electronics Engineers (IEEE) rather than unbiased third parties such as professionals in the medical community.³² Members of IEEE allegedly have close ties with the cell phone industry.³³ Interestingly enough, cell phones are exempt from wireless communications safety standards set by IEEE and the American National Standards Institute (ANSI).³⁴ Speculation suggests that the IEEE and ANSI exemption was influenced by potential detriment to the cell phone industry.³⁵ However, cell phones are subject to specific absorption rate (SAR) limits.³⁶ SAR is thought to be an ineffective standard because it can be easily manipulated.³⁷ A layperson might ask, what keeps IEEE and ANSI from providing an unbiased analysis and opinion? As it turns out, "their members are often current, past, or future employees of the very companies they are supposed to regulate," and they are not health experts.³⁸

Chapter Five: No Health Risk?

• <u>Summary</u>: This chapter develops in detail the commonplace conception that cell phones are safe. By the end of the chapter it is clearly implied that what is a commonplace conception may in fact be a serious misconception.

³¹ Cooper, *supra* note 2, at 54.

³² *Id*.

³³ *Id.* at 55.

 $^{^{34}}$ *Id.* at 56.

³⁵ *Id*.

³⁶ Cooper, *supra* note 2, at 58.

³⁷ *Id*.

³⁸ *Id.* at 55.

Discussion: Pharmaceutical companies began pouring money into researching drugs to address common ailments of microwave radiation.³⁹ The same frequency radiation used in cell phones is used on a regular basis by the medical profession to heat deep tissue without patient discomfort in the treatment of numerous illnesses.⁴⁰ In addition, militaries around the world have electromagnetic weapons which utilize microwave radiation to cause harm.⁴¹ The author explains the power of microwave radiation and provides examples of how it can be used to influence the function of the brain in what she describes as mind control.⁴² Over the past fifteen years, cell phone manufactures have obtained and acquired patents directed at radiation shielding technologies.⁴³ Because the cell phone industry has no logical use for technology that would effectively block cell phone microwaves, one can only conclude the cell phone industry has purchased such intellectual property to block future companies from using the technology to their detriment. The author concludes that Llovd's of London, notably the former insurer of the tobacco industry known as "the world's largest risk takers," has refused to insure the cell phone industry due to the positive correlation between cell phones and serious health conditions.⁴⁴ This information invites readers to conclude for themselves, based on a few facts, that it is no secret that cell phones are dangerous.

Chapter Six: Hidden Health Hazards

³⁹ Cooper, *supra* note 2, at 62.

⁴⁰ *Id*. at 64.

⁴¹ *Id.* at 65-66.

 $^{^{42}}$ *Id.* at 67-69.

 $^{^{43}}$ *Id.* at 69-70.

⁴⁴ Cooper, *supra* note 2, at 71.

• <u>Summary</u>: This chapter discusses why the safety of cell phones is a misconception and why any negative health effects are not apparent to consumers.

• **Discussion**: Radiation emitted from cell phones is widely thought to have detrimental effects on biological electromagnetic signals within the human body.⁴⁵ In Germany, T-Mobile conducted a study that revealed a correlation between cell phone use and "genotoxic effects . . . like DNA breaks and damage to chromosomes."⁴⁶ Symptoms of dizziness, difficulties with concentration, and memory loss were linked to cell phone use in a European study of 70,000 cell phone users.⁴⁷ The Swedish government has recognized microwave sickness, and more than 285,000 Swedish citizens have been diagnosed as "electro sensitive."⁴⁸ Similarly, two million British citizens have been diagnosed as electro sensitive.⁴⁹ Additionally, evidence from various studies confirms the notion that health effects resulting from cell phone radiation are not immediate but rather develop over time.⁵⁰ Studies and statements by the cell phone industry may be inaccurate because the detrimental physical, optical, auditory, and perceptual effects caused by cell phone use have been realized only after prolonged use.

Chapter Seven: Neurological Nemeses

⁴⁵ Cooper, *supra* note 2, at 74.

⁴⁶ *Id.* at 76.

⁴⁷ *Id*.

 $^{^{48}}_{49}$ *Id.* at 81.

⁴⁹ *Id*.

⁵⁰ Cooper, *supra* note 2, at 82.

• <u>Summary</u>: In chapter seven, the author discusses the specific health concerns that affect the brain and neurological operation of the human body as a result of the RF/MW radiation emitted by cell phones.

• <u>Discussion</u>: There "is a very strong and coherent set of data supporting a causal . . . relationship between . . . RF/MW exposure, including cell phone usage, and neurological illness and death."⁵¹ According to Russian literature, the following symptoms are most likely to develop within 3-5 years: delayed reaction time, slowing or loss of motor skills, memory loss, headaches, anxiety/discomfort/ nervousness, fatigue/exhaustion, concentration difficulties including Attention Deficit Disorder and Attention Deficit-Hyperactivity Disorder, dizziness, insomnia, and uncontrollable shaking or trembling.⁵² Additional symptoms include increased blood brain barrier permeability, stress, suicide, depression, learning disabilities, impaired neurotransmitter function impairments, autism, brain damage, neurodegenerative diseases, seizure-like activity or epilepsy, and dysesthesia.⁵³

Chapter Eight: Other Serious System Disorders

• <u>Summary</u>: This chapter describes numerous side effects linked to RF/MW radiation.

⁵¹ Cooper, *supra* note 2, at 89 citing Cherry Neil, *Evidence that Electromagnetic Radiation is Genotoxic: The Implications for the Epidemiology of Cancer and Cardiac, Neurological and Reproductive Effects*, CHERRY ENV'T HEALTH CONSULTING (JUN. 29, 2000), http://www.neilcherry.com.

⁵² Cooper, *supra* note 2, at 90-106.

⁵³ *Id*.

• <u>**Discussion**</u>: Other disorders known to be linked to RF/MW radiation may be divided into the following categories: cardiovascular, reproductive, respiratory, digestive or gastrointestinal, urinary, hormonal, and immunological.⁵⁴

Disorders linked to the effects of RF/MW on the cardiovascular system include increased blood pressure, altered heart rhythm and rate, increased risk of heart disease or heart attack, chest and heart pain, and pacemaker interference.⁵⁵ Disorders linked to the reproductive system include reduced sex drive, impotence and erectile dysfunction, decreased sperm count and quality, reduced fertility and irreversible infertility, increased risk of miscarriage, and increased risk of birth defects and reproductive abnormalities.⁵⁶ Complications affecting the respiratory system often impede the ability to breathe.⁵⁷ Disorders associated with the digestive and gastrointestinal systems include ulcers, nausea, loss of appetite, vomiting, diarrhea, and irritable bowel syndrome.⁵⁸ Disorders involving the urinary system include kidney stone and kidney damage. Disorders linked to the hormonal system include reduced melatonin, reduced testosterone, reduced insulin, reduced thyrotropin, and increased cortisol.⁵⁹ Finally, RF/MW radiation has been linked to Hodgkin's disease, which affects the immune system.⁶⁰

Chapter Nine: Genotoxic Damage & Cancer

⁵⁴ Cooper, *supra* note 2, at 107-120.

⁵⁵ *Id.* at 108-111.

⁵⁶ *Id.* at 111-116.

⁵⁷ *Id.* at 116.

 $[\]frac{58}{50}$ *Id.* at 116.

⁵⁹ Cooper, *supra* note 2, at 117-119.

⁶⁰ *Id.* at 119-120.

• <u>Summary</u>: This chapter identifies and discusses in detail more serious health concerns than discussed in earlier chapters. The health conditions mentioned include cancer and DNA damage.

• **Discussion**: Correlations exist between RF/MW radiation and the following serious health conditions: chromosome or DNA damage, altered gene transcription activity, modified cellular calcium ions, enhanced stress response, the significant promotion and growth of multiple cancers, leukemia, and acoustic neuroma.⁶¹ A litter of deceptive studies continue to challenge the causal link between cell phone use and cancer.⁶² These studies, however, are suspect simply because an equal number of studies have found a direct relationship between exposure to RF/MW radiation and cancer.⁶³

Chapter Ten: Tower Trauma

• <u>Summary</u>: Chapter ten addresses how exposure to RF/MW radiation has become so widespread it has grown to be a serious health concern.

• <u>Discussion</u>: The advance of cell phone technology, its popularity, and the demand for widespread coverage have lead to the placement of a cell phone "tower" or antenna everywhere.⁶⁴ This rapid growth has effectively made all persons, cell phone users or not, susceptible to RF/MW radiation exposure.⁶⁵ Because of the prevalence of such radiation

⁶⁴ *Id.* at 133.

⁶¹ Cooper, *supra* note 2, at 124-129.

⁶² *Id.* at 130-131.

⁶³ *Id.* at 131.

⁶⁵ Id.

emitting devices, it is nearly impossible to escape their microwave signals.⁶⁶ Microwave radiation can pass though anything within five miles of its source.⁶⁷ That being said, cell towers are located within five miles of each other in order to transmit a signal.⁶⁸ This amounts to an enormous number of radiation sources.⁶⁹ Generally, large metropolitan areas and cities are littered with more cell towers and antennas than rural areas.⁷⁰ A benefit of such concentrated distribution of RF/MW sources is that less energy is required to transmit a signal from one device to another.⁷¹ Unfortunately, this does not necessarily decrease the net exposure experienced by people living and working in those areas, because their exposure time is generally higher.

Exposure studies have confirmed both a relationship between neurological symptoms, cancer, and cell tower emissions and a proportional relationship between the distance from an emission site and its effects.⁷² Protests against the erection of cell towers have been unsuccessful due in part to the 1996 Telecommunications Act giving cell phone companies unrestricted freedom.⁷³ While some countries have recognized the potential dangers and have prohibited the placement of cell towers near schools, daycares, and hospitals, here in the U.S., these same facilities are being permitted to take advantage of the financial incentives paired with placing cell antennas on their buildings or property.⁷⁴ Cell phone companies provide substantial sums of

⁶⁶ Cooper, *supra* note 2, at 133.

⁶⁷ Id.

⁶⁸ *Id*. at 134.

 $[\]frac{69}{10}$ *Id.* at134.

⁷⁰ Id.

⁷¹ Cooper, *supra* note 2, at 134

 $[\]frac{72}{72}$ *Id.* at 135.

 $^{^{73}}$ *Id.* at 136.

⁷⁴ *Id.* at 139.

monthly "rent" to schools, and the like, for space on otherwise private or government-owned property.⁷⁵ Another commonly overlooked culprit is the installation of new Wi-Fi systems in schools.⁷⁶ Wi-Fi signals transmit at higher frequencies and have been found to have the same debilitating and degenerative effects as the radiation emitted from cell phone towers.⁷⁷ Municipal buildings, for example fire stations, are also popular homes for microwave antennas again because of the associated financial incentives.⁷⁸ Firefighters are concerned with the health of those who live in fire stations that have cell antennas located on the roof.⁷⁹ They worry that communities at large are at risk, because those firefighters who work to protect them may be incapable of carrying out their duties as a result of exposure to microwave radiation.⁸⁰

<u>Chapter Eleven</u>: The Consequential Impact on Our Youth

• <u>Summary</u>: This chapter proposes that our youth face a grave risk of serious damage by RF/MW radiation.

• <u>Discussion</u>: Children and teenagers are the fastest growing group of cell phone users and are the most vulnerable to the hazards associated with their use.⁸¹ Experts openly warn against children using cell phones.⁸² Studies have shown that the absorption rate of microwave radiation into the brain for children is 2.5 times that of an adult.⁸³ While microwave radiation is more

⁷⁵ Cooper, *supra* note 2, at 139.

⁷⁶ Id.

⁷⁷ Id.

 $[\]frac{78}{10}$ Id. at 140.

 $[\]int Id.$

⁸⁰ Cooper, *supra* note 2, at 140 ⁸¹ *Id*. at 147.

 $[\]frac{1a}{82}$ at

 $^{^{82}}_{83}$ Id.

⁸³ *Id.* at 148.

FALL 2010

easily absorbed into children's brains, their brain tissue is far more sensitive resulting in a greater degree of injury.⁸⁴ This information alone builds a strong case for limiting or prohibiting children from using cell phones. Even small amounts of exposure have been shown to have negative long-term effects.⁸⁵ A short call on their cell phones has been shown to affect children's brain wave patterns, altering their mood and affecting their ability to learn.⁸⁶

Teenagers are equally susceptible to brain damage caused by microwave radiation.⁸⁷ A study conducted in Sweden found a correlation between microwave radiation and brain damage in teenagers.⁸⁸ In fact, the same study also revealed that damage to the brain increased with exposure, and predicted conditions like Alzheimer's and dementia may occur at an earlier age as a result.⁸⁹ Because children are at a higher risk due to their increased exposure and their developmental susceptibility, organizations worldwide have begun to teach and warn parents of the dangers associated with giving their children cell phones.⁹⁰ While France and the U.K. have taken measures to inform their people of the potential dangers, the U.S. has done nothing other than suppressing the evidence.⁹¹ Both the FDA and the FCC have made statements that cell phones are safe even while acknowledging warnings provided by various government-funded groups.⁹²

⁸⁶ Id.

⁹⁰ *Id.* at 150-151.

⁸⁴ Cooper, *supra* note 2, at 148.

⁸⁵ *Id.* at 149.

⁸⁷ *Id*.

 $[\]frac{10}{100}$ Id. at 149

⁸⁹ Cooper, *supra* note 2, at 149.

 $[\]frac{91}{92}$ *Id.* at 157.

⁹² *Id*. at 158.

Chapter Twelve: Playing it Smart

• <u>Summary</u>: In chapter twelve, the author acknowledges the risks of microwave radiation and cell phone use and offers suggestions to reduce or mitigate those risks.

• <u>Discussion</u>: First, it is advised to use a corded landline whenever possible.⁹³ Cordless landlines can be just as harmful as cell phones.⁹⁴ Also, limiting cell phone use is promoted to be an effective method of mitigating the risk.⁹⁵ While reducing cell phone use is ideal, a somewhat more practical suggestion is to limit calls to sixty seconds or less.⁹⁶ Shortening the amount of time spent talking on a cell phone reduces the amount of exposure.⁹⁷ Another tip is to distance a cell phone from the body, because it will reduce the level of radiation exposure and absorption.⁹⁸ Therefore, it is strongly recommended that individuals refrain from carrying a cell phone on a belt, in the front pant pocket, or suit pocket, because such close proximity between a cell phone and important organs like the liver, kidney, and testes is presumed to be the cause of cancer and other degenerative conditions.⁹⁹

⁹³ Cooper, *supra* note 2, at 159.

⁹⁴ *Id*. at 160.

⁹⁵ Id.

⁹⁶ *Id*.

 $[\]frac{97}{10}$ Id.

 $^{^{98}}$ Cooper, *supra* note 2, at 161.

⁹⁹ Id.