

CAN SCIENCE AND CHRISTIANITY COEXIST IN THE MEDICAL PROFESSION?

THOMAS FREEMAN HONOR COLLEGE

SENIOR THESIS

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ABSTRACT

I know my choice of thesis question seems strange for a biology major. Like many of my Honor College brothers and sisters, I could have chosen to stay within the lines of my degree focus. I am admittedly noting that my thesis borders dangerously on a philosophical or moralistic debate. Refreshingly, I hope to defend neither nor endorse a particular sway of opinion. I am simply using this vehicle as a measuring device that challenges and explores an unavoidable dilemma faced by any scientific professional of faith, presumably. I pose this question in terms of Christianity simply because it is relative to my own beliefs. Still, I would assume the same question could be applied to any religion-related to a believing professional regardless of their belief structure, presumably. I hope it stirs an accounting in all that read it regardless of our differences of beliefs or lack thereof. As you will see later, I believe it is our “why” that will be most challenged, and in this area, there are significantly few physical benefits that may be adequate to sustain us in this path, in light of the pandemic effects on our fields. Since we have addressed the elephant in the room, I will continue. I am sure by now you all realize I don’t always follow the crowd. This subject is close to my heart because my ambition is to become an Optometrist and use my skill and influence to help my community and the world. As a strong female and dedicated student, I hope to show you that I can deliver a professional and articulate thesis on this subject in a respectful way.

The world has changed. It is safe to conclude that our daily lives and status quo changes have been altered irrevocably in many ways. I am sure on this point we can all agree. Our children attend school remotely. We now have to rethink how we meet and socialize. Rethink how we celebrate birthdays and anniversaries. Even our bucket list of travel has been altered or reorganized and, for some, eliminated. Our older parents and younger children need extra protection from the world outside our doors. Many of us have lost someone close or been touched by a villain that we can neither see nor feel, but we all must live with its presence and be aware and purposeful in our avoidance of it.

In this time of uncertainty, many aspiring health professionals face the reality of entering fields or career paths that would place us on the vanguard of the battle with this and future pandemics. As someone aspiring to be a medical professional, possibly for the first time in history, we are faced with evident and prevalent negative cons to pursuing such a field. Gone are the days of telling friends and family that you will provide medical professionals and receive enthusiastic cheers. Now we face raised eyebrows and a mix of pity and real fear for our safety and their safety. If we were doing this for the money or because our parents predestined a career in medicine, then this path's value may fade in its luster. We are leaving you to consider your 'why'. We see the nurses exhausted and discouraged on the news daily. Now more than ever, you must have a calling, a passion, to do this work. The coronavirus pandemic has changed the dynamics of the healthcare system in countless ways. At times like these, many of us have relied on something more profound than the degrees and diplomas we hang on our walls. For some, it comes down to protecting those they love. For others, it is the pursuit of regaining a new normal. For some, it is a faith of some type that inspires them to go on and continue to rise when the world is falling apart.

My thesis expounds that, within the context of proper application and the regulating core desire to provide beneficial medical services to all people, Christian faith and science are not in conflict and are complementary traits. My goal in this thesis is to conduct a respectful investigation of these two core elements and the effectiveness of their existence as reflected in the performance and professionalism of noted people and organizations who confidently affirm their faith as part of their profession. Using this methodology, I have supported my conclusions.

TABLE OF CONTENTS

Abstract.....	i
Table of Contents.....	iv
Table Lists.....	v
Vita.....	vi
Acknowledgment.....	vii
Chapter 1: Introduction.....	1
Chapter II.....	3
Chapter III.....	14
Chapter IV.....	21
Chapter V.....	31
Conclusion.....	37
Reference.....	38

LIST OF FIGURES

Figure 1	8
Figure 2	9
Figure 3	16
Figure 4	17
Figure 5	25
Figure 6	26
Figure 7	29

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CHAPTER I

Introduction

The subject of this thesis, in many cases, causes a flinching reaction. The issue of faith and science has been at odds since ancient times. Many who practiced Science in less enlightened ages were considered magicians and sorcerers by the Christian church at that time. Most of us have heard of the Salem Witch Trials, where many people who had no intention to perform offensive acts were burned at stake for their desire to advance knowledge and investigate the day's practices to improve areas like farming, medicine, engineering, and so much more. However, the church in that era forgot that Saint Luke was considered a developed physician. Even King Solomon created unique and innovative structures, far exceeding the capacity of knowledge at that time. Joseph, son of Israel, was known to have developed huge storehouses and distribution systems to save the ancient world from a famine that decimated that era. This argument is more than a simple Chinese girl can cover in a thesis. The following statement from the movie *the Kingdom of Heaven* sums up my thoughts on this argument, "We fight over an offense we did not give, against those who were not alive to be offended (Scott, 2005)."

To avoid as many of these offenses as possible, I have explicitly focused on this paper's four key points. I have proposed and supported that faith-based or influenced organizations and individuals in our global society have produced notable and beneficial results. Next, I have shown that faith is not without a dark past in the arena of science and medicine. Then, I have proposed

that many medical professionals of high regard to the medical and scientific community have been very vocal about their faith. Finally, I have demonstrated that religion has had a beneficial impact on some medical professionals and some of the clients they have served in light of the current pandemic. The ideal of success in my thesis title is, at best, a shot at the dartboard of the mind of the world. The definition of this almost abstract word has as many variations as the languages and personalities that define it. For the sake of this paper, success is determined by the effect that a person or organization has had on their society of focus and any notable additions to the community of medicine or science as a whole if they exist.

CHAPTER II

Faith-based or influenced organizations and individuals in our global society have produced notable and beneficial results.

A ship sits at the port of a small marina. The ship resembles a cruise ship in size but has a line of individuals that are not your usual travel crowd with their colorful shirts and sunscreen. This line has men, women, and children. Many lined up are not clothed in acceptable vacation attire but the best clothes they could muster to come to this great ship. They are not here to cruise the world but to find something far more valuable, help. The ship sits like a building on the water and has smiling faces disembarking and speaking many languages. Those in line are coming for medical attention and help with everything from simple checkups to major surgery. They come for dental, optical, and medical attention for severe conditions. The ship is one of many Mercy Ships sent out into the world to help in countries that don't have sufficient or, in some cases, adequate care for these conditions. The medical, dental, and optical staff have, in most cases, volunteered for this sailing schedule. They have a vast range of races, languages, educational backgrounds, and even religions. Their common goal is to help this organization fulfill its missionmandate.

“We follow the 2000-year-old mandate of Jesus. We are bringing hope and healing to the world's forgotten poor. “Mission statement, who are we? (Mercyships.org)

“Globally, 5 billion people lack access to safe surgery. Children, teens, and adults suffer and die every day from treatable causes, and one child in eight will die before age 5.

With the support of people like you, we deploy hospital ships to combat this overwhelming statistic. Since over 50% of the world’s population lives near a coast, our ships are the best way to reach them with state-of-the-art medical care (Mercy Ships, n.d.)”

If we explore more profoundly, we realize that Mercy Ship organization utilizes 1,300 volunteers to run its massive ships worldwide. It had helped three million individuals since its incorporation in 1978. This is a clear example of a faith-based organization that uses its core belief to help others and remain a functional organization. Few would argue the benefit to the global community by such an organization. This example’s highlighted component is the 1300-1600 volunteers’ doctors, nurses, surgeons, dentists, optometrists, physical therapists, and you name it. These people have lives and families. These people still need to pay rent and put their kids through college. Yet, they volunteer for months to sail around and help people who cannot pay them at all. You may think they are all retired rich doctors, but deep down, I’m sure you understand the plausibility of that. Many are retired, but many young faces can be seen in the documentation. The question then arises. Why would a professional dedicate the time and lose the wages to go and help in these countries?

“Each year, 16.9 million people die due to lack of access to surgical care. Mercy Ships is on a mission to help the people behind this staggering statistic.

With 50 percent of the world’s population living near a coast, our hospital ships can provide a safe surgical environment that can reach the most people along the shores of Africa’s developing nations.

By providing life-saving surgery and life-changing medical training, we help strengthen Africa's fragile healthcare systems while leaving a lasting legacy.

Volunteering on boards a Mercy Ship is one of the most life-changing experiences you'll ever have. When you join a group of people committed to helping others, you become part of the solution.

Your unique skills and abilities contribute to life-saving transformation. You'll discover that bringing new hope and a new opportunity to others is one of the most satisfying things you'll ever do.

We are grateful to the more than 1,300 volunteers from over 50 nations who serve with Mercy Ships each year. With the variety of skills and abilities of our diverse crew,

we can operate a floating hospital ship that provides over 7,000 medical interventions each year—free of charge to our patients! We need people like you to join our Mercy Ships team and help bring more hope and healing to Africa's most vulnerable people.

Whether you have lots of training and experience or are just getting started on your career journey, you can make a difference. Doctors, nurses, and medical staff make up about half of the ship's volunteer crew, but there are many non-medical openings, too. IT technicians, cooks, photographers, engineers and deck crew, teachers, receptionists, hospitality workers—we have plenty of positions available!

We need your unique skills to power our ships! Find your place onboard." *Many Nations. One Mission*, (Mercyships.org)

We can see there are many reasons that medical and science professionals are drawn to such a cause. The heart to spend an average of ten years in some type of medical schooling and undergraduate education and then turn around and spend even a tiny season of your career on a

project like this shows there have to be other motivations. Not all these volunteers are Christian, and rightfully so. I would be mistaken and ignorant to assume that only Christian's help. I know many who are not Christian, and yet they are very motivated to help others. But for the sake of this paper, it is noted that this is a Christian organization that lovingly works with many other people from several religious beliefs to a common goal. We can also agree that three million served is a staggering number and fits well with our established definition of successful.

“It's no wonder Barki describes Mercy Ships' mission as “the purest form of medicine” he knows.

“As doctors, we go to medical school, residency training. Our first goal is to help people,” Barki tells Fox News. “But as you go through the system... it can be difficult, with [red tape] or dealing with money issues. Here, everyone's first obligation is to help. That's a big part of the reason Barki, 39, gave up what he described as a great job at a great hospital in Tulsa, Oklahoma, to join up with Mercy Ships.

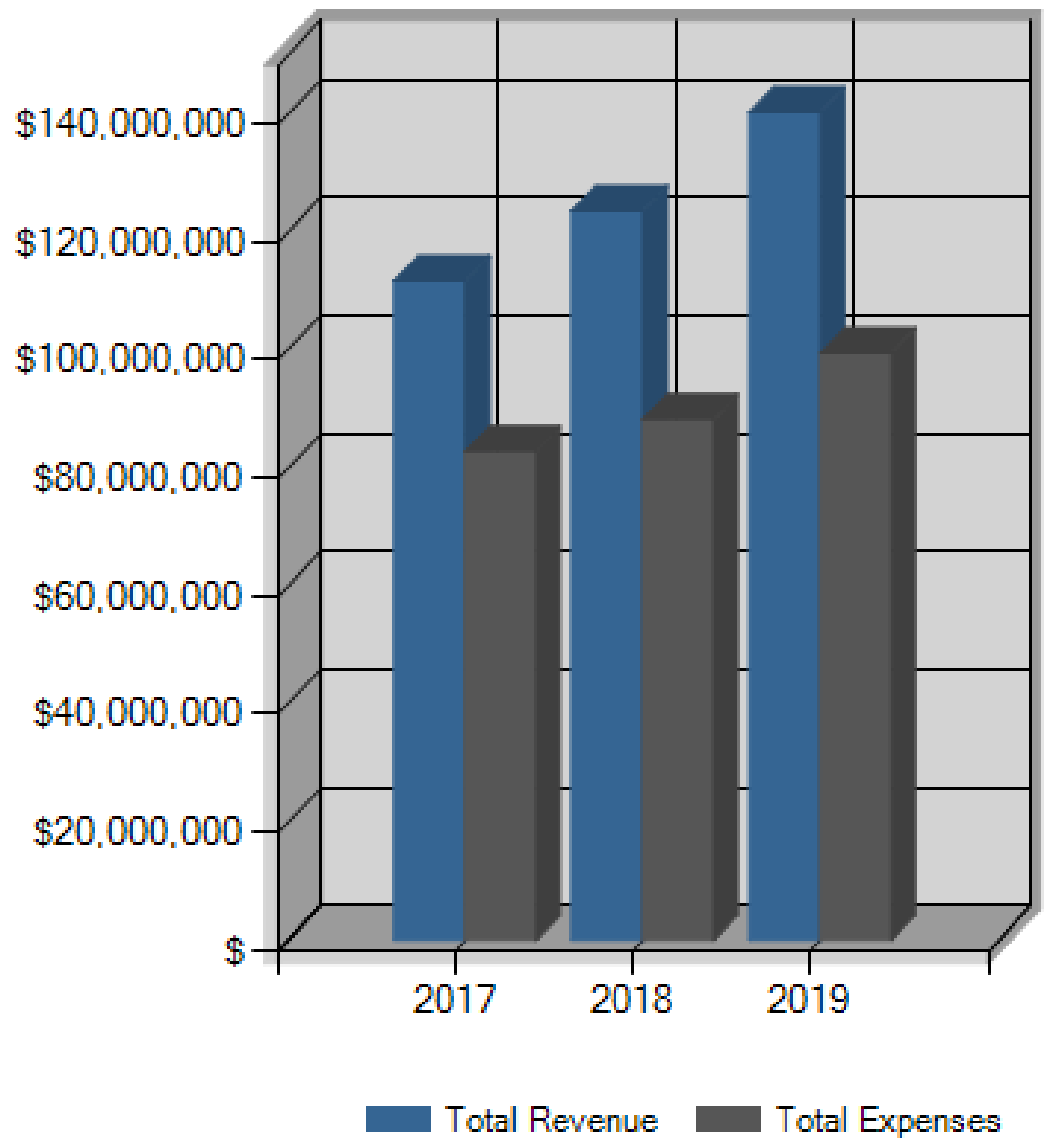
“I got this unsettled feeling; it felt like something was missing. So out of the blue, Jamie, my wife, said, ‘Why don't we look at Mercy Ships?’ remembers Barki. “I researched, and woke her up the next morning and said, ‘Let's do it.'”

Barki adds that faith, too, played a role in his decision to seek out his calling in the medical field.

“In college is when my faith became important to me, and that’s when I became a Christian,” he says. "And I knew at that point God was calling me into medicine. I didn’t know what [my career] would look like at that point ... but Faith has been the most important part of guiding my career and life.” *Mercy Ships celebrates 100,000th surgical procedure: 'It's the purest form of medicine,'* by Michael Bartiromo, Fox News, Published 2019

Figure 1:

Comparative Financial Data of Revenues and Expenses



Note. Source: Enhancing Trust Ministries Website, 2019

Figure 2:

2014 Field Service at a Glance

 **15,453**
Direct Beneficiaries

 **1,778**
Life-Changing Surgeries

 **728**
Healthcare Professionals Trained

 **52**
Trained in Nutritional Agriculture

 **416**
Non-Healthcare Professionals Trained

 **2,555**
Medical Consultations

 **12,597**
Dental Procedures

 **1,034**

 **50**

 **669,793**

1,034 Individuals from over 50 Nations, volunteered, serving over 669,793 Hours

Bringing Hope and Healing to Those in Need.

Source: Mercy Ships 2014 Annual Report
<https://www.mercyships.org/wp-content/uploads/2015/07/MSUS-AR-2014-Final-R1-lo-pps.pdf>

Note. Source: Donor Perfect Website

Moving from the massive white ship on the African coast's shores, we turn our attention to Guadalajara's small hall. The air is hot, and you can hear the birds rustling in the trees around this small meeting area. A small girl sits as quietly as she can in a chair while a woman tells her how pretty she is. She tells the young girls to look into a strange contraption full of lenses, dials, numbers, and switches. The little girl has waited all day with her mom and brother. The Optometrist from New Jersey smiles and asks her in the best Spanish she can muster to see the letter A on the makeshift board. The little girl cannot see it. This is not new for her since her eyes have been like that for as long as she can remember.

Then something extraordinary happens. A flick of the wrist by the doctor, and she can finally read the board. She is so excited she screams and tells her mom, who has a tear in her eyes. The Doctor makes her a pair of glasses on the spot, and the little girl, for the first time, can actually see the board and answer the question confidently without being laughed at by the other kids who think she is just not brilliant. This is an example of doctors that work for VOSH or Volunteer Optometric Services for Humanity. We can also include the Fellowship of Christian Optometrist and many others. These organizations fall under a similar category of medical professionals who volunteer time and knowledge to help families worldwide:

“VOSH/International believes in the freedom to see. We are providing the gift of vision and eye health to people worldwide. We facilitate the provision and the sustainability of vision care worldwide for people who can neither afford nor obtain such care. Our goal is to increase our global impact whenever possible by supporting sustainable eye clinics, optometry schools, and optometric educators in areas lacking sufficient eye care. There are over 75 VOSH regional, state, and school chapters worldwide working to accomplish our goals. (Our Mission, nd.)

With all these great examples, we must consider the regular medical professionals who cannot travel worldwide to help others., Omaha Methodist Hospital notes:

“Founded in 1891 by members of the Methodist Church in Omaha, Methodist Hospital is a not-for-profit, 423-bed acute care hospital serving the Omaha metropolitan area. In 2016, the hospital celebrated its 125th anniversary of caring for the community.

Methodist Hospital admits over 22,000 patients every year. It was the first hospital in Nebraska to earn Magnet designation for nursing excellence from the American Nurses Credentialing Center and maintained that designation.

- A 55,500-square-foot addition to the south of the hospital opened to house Methodist Estabrook Cancer Center (MECC) and its outpatient surgery center (1991).
- Methodist Hospital cut the ribbon on a new three-story ambulatory care center (Methodist Health West) at 162nd Street and West Dodge Road (2000).
- A 20,400-square-foot addition at MECC was made to accommodate two new linear accelerators (2004).
- MECC expanded again to create physician offices and space for support services for cancer patients (2006).
- The Methodist Pathology Center-Schenken Pavilion opened on the 84th Street campus. The facility, named for legendary pathologist John R. “Rudy” Schenken and Jerald R. “Jerry” Schenken, is a center of excellence for pathology and serves a three-state area (2011).
- The regional leader in surgeries debuted its 15 new surgical suites, bringing to a close Phase II of the \$90 million surgery renovation and expansion project on the Methodist Hospital campus. The project encompassed a new sterile processing department on the

lower level, first-floor surgical suites and waiting for surgery area, and second-floor staff lounges and surgical department offices (2016).

- The Methodist Community Health Clinic, which provides full-range medical services to those in need, opened (2017).” (Caring for Nebraska's Families for More Than 120 Years, n.d.)

This brings us to an unavoidable example of faith and medicine. The Christian founded a hospital. Most of us have or will be treated in big-name Christian hospitals like Methodist or St Lukes. Many children with burns are treated in St. Jude. The hospitals help millions and employ an army of medical professionals to meet the people of their community’s needs. This is not the missionary-type situation, but it more than meets our definition of both beneficial and successful. The Methodist Healthcare system alone in the Texas area has staggering numbers.

“Since opening its first hospital in 1963, as stated in their website, Methodist Healthcare remains committed to its mission of “Serving Humanity to Honor God” while reaching out to meet the growing needs of the community. Methodist Healthcare is the area’s second-largest private employer with more than 8,000 employees. In 2011, Methodist Healthcare provided services to nearly 90,000 inpatients and almost 390,000 outpatients.

Methodist Hospital was the first hospital built in the South Texas Medical Center. Methodist Hospital is San Antonio’s most preferred hospital for obstetrics, neurosurgery, robotic surgery, cardiac care, and back and neck surgeries. Methodist Hospital delivers over 5,000 babies annually. Methodist Hospital is accredited by the Joint Commission in stroke care and is designated as an accredited Chest Pain Center.

Methodist Children’s Hospital, a Methodist Hospital campus, opened in 1998 as the only hospital in South Texas designed and built especially for children. The hospital features a 78-bed advanced newborn intensive care unit for babies born prematurely or facing other medical challenges. Methodist Children’s Hospital’s emergency department has 32 individual treatment rooms handling more than 64,000 pediatric cases a year. The hospital includes a pediatric intensive care unit, pediatric surgical operating suites, and outpatient clinics for children with complex illnesses. Methodist Children’s Hospital is among the nation’s leading providers of blood and marrow stem cell transplants for children.” (Caring for Nebraska's Families for More Than 120 Years, n.d.)

Chapter III

The Negative Impact of Faith in the Medical Science History

The researcher deals with this area because lightness and darkness coexist at the same time - where there is light, there is also darkness. People are living at ease while particularly looking to certain people blaming them for significant world issues. One of the many examples is xenophobia growing after the news of the coronavirus spreading from Wuhan, China. This global pandemic's extreme losses leave many without jobs, business, health, and some without loved ones. Unfortunately, the nature of humanity is to lash out when no civilized course seems logical. Asians, especially Chinese, experience discrimination and assaults because everyone thinks that Asians are the virus. Even nurses trying to fight side by side to help in this pandemic find themselves receiving undeserved hostility. This pandemic should be a great area that faith should build bridges, but sometimes it can promote hate. In some pulpits, ministers are saying that a pandemic is a punishment from God in China. Thankfully this is not the message of any ministers who preach the truth, but there are bad ones in every bunch.

“(RNS) — On Tuesday (February 16), two Asian women were randomly attacked in New York City; one was punched in the face, the other in the back of the head. It is but the most recent

in a spate of anti-Asian violence since the start of a pandemic that was harmfully characterized as the "China virus," the "Chinese Flu," or the "Kung Flu" by former President Donald Trump.

Vicha Ratanapakdee, an 84-year-old Thai American man, was killed in an unprovoked attack; a 64-year-old Vietnamese American woman was attacked and robbed in broad daylight in San Jose; and Noel Quintana, a 61-year-old Filipino American, was slashed in the face with a box cutter as he rode the subway.

These incidents have been skyrocketing at an alarming rate following historical patterns of anti-Asian sentiment and hate that have always been a part of the racialized American landscape (Chang, 2021).”

Figure 3:

Protest in New York Chinatown Against Asian Violence



Note. Source: (Ajuede.com: Proudly Africa and Aboriginal, 2020)

This manipulation of belief and the degradation of a people's moral rights because they do not fit in a society is not new. The holocaust is a glaring example of men and women who felt that the Jewish nation was subhuman and could be treated in ways that still shake the soul of any whom dare remembers those atrocities. One such arena of horrors is the medical experiments done on those in the camps. The details do not need to be discussed in this paper, but we are all very aware. For many, the time's politics was more than just that, and it was a faith in itself. It is dangerous to mix twisted beliefs with twisted moral confirmation.

Figure 4:

Royalty-free Nazi Concentration Camp – Auschwitz



Note. Source: (War History Online. 2018)

In Hitler's Regime in Russia, the killings of innocent people, particularly the Jewish people, are legal. Christian Doctors ignore their oaths and refuse to treat other races and religions because they have different beliefs. During these times of slavery, Christian doctors refused treatment to

black slaves that could have saved their lives. Worse, many considered to be upstanding citizens, and church-going men purposely experimented or stood by while experimenting was done.

“The Tuskegee Syphilis Study is still recognized today as one of the most notorious cases of a prolonged and knowing violation of human subjects, according to a report titled *Why African Americans May Not Be Participating in Clinical Trials*. The study used mostly poor, illiterate Blacks who were infected with syphilis. “The study was designed to document the natural history of syphilis,” the report states. One of the main ethical issues, though there were many with this study, was the fact that participants were not given penicillin once it emerged as a standard treatment for syphilis in the 1930s, nor were they made aware that there were effective treatment options for the disease (National Library of Medicine, 1996).”

Looking at the other side, many people of faith run into problems when the healthcare providers do not respect what they believe. In many countries, having a doctor's consultation with the opposite sex against their will is very prevalent, unlike in the United States, where people have choices, which is a great benefit. However, for some religions, not experiencing this kind of benefit is still an issue.

“An individual seeking healthcare can have faith-based worries regarding their modesty, such as receiving treatment from someone of the opposite sex. Also, certain faiths have daily required prayers, which could ultimately affect the scheduling of someone's treatments. Diets also greatly influence many cultures and beliefs, which can lead to problems regarding healthcare treatment. A patient might need special accommodations to be made with their food, and potential medications, to make sure they fall in line with their beliefs (Cultural Link, 2016).”

This research is relatable to a personal experience:

I have seen this first hand, and I had high blood pressure for a short season. It was mainly due to some highly salty Chinese snacks I discovered in my local store that reminded me of home. Consuming them regularly made my head hurt. I decided to go to the doctor because, at the time, I had not discovered the real culprit yet. I visited a new doctor who noticed the issue and required me to take some medicines to bring down my condition. I was not comfortable with that since I do not use it very much in treatment since, personally speaking, I do not use it very much. She insisted, and I explained that I believe in the power of God to heal my condition. She laughed and stated she was a very spiritual person also and that I was irresponsible.

I understood her concern, and it is her directive as a doctor to try to help my situation using the means she was familiar with. Nevertheless, I felt her remarks about my faith to be disrespectful. In no way did she discriminate or refuse treatment, but I can see how that could have been a more severe conversation if the condition was more urgent. Ultimately, I prayed, and God helped me see that I was super loading my system with packages of this preserved veggie, and soon, my blood pressure was restored to normal. When I went back, she asked if I had taken the prescribed medicine, and I was happy to report that I had not.

This anecdote is a lighthearted way to end this section, but faith can negatively affect a science or medical professional's reasoning and responsibility to a patient's well-being.

Chapter IV

Successful Medical Professionals of Faith

A young man in Sainte-Foy-lès-Lyon France excelled in Biology. As a schoolboy, he would dissect birds and loved to understand the inner organs. His name was Alexis Carrel. He was a simple young man with an ordinary life. His dad worked in textiles. Unfortunately, his dad died when he was only five years old. So, for most of his life, he was raised by his mother. He also had brothers and sisters.

He received his bachelor's degree in 1889 from Lyons University. He received his medical degree in 1900. An interesting achievement is that he received the Nobel Peace prize in 1912, most notably because of his pioneering work in organ transplant and vascular surgery and his method to suture blood vessels. He once conducted an intriguing experiment. He took some tissue from an embryonic chick heart and kept the connecting tissue alive for two decades in a flask by regularly supplying nutrients. He was a vocal Christian and even told of the moment that transformed him.

There was a woman named Marie Baily who confirms him as a witness to her miraculous healing. This change of mind in regards to divine healing cause him issues with his prominent career. Many hospitals would not accept his views, and he ended up moving to Ontario, Canada. Another notable accomplishment was related to his collaboration with Charles Lindburgh. Together they pioneered the first perfusion pump with allowed organs to stay alive

outside the body. This event opened the door to modern methods of organ donation, transport, and transplant.

One of his greatest quotes is:

"Prayer is the force as real as terrestrial gravity. As a physician, I have seen men, after all, other therapy had failed, lifted out of disease and melancholy by the serene effort of prayer. Only in prayer do we achieve that complete and harmonious assembly of body, mind, and spirit which gives the frail human reed its unshakable strength (Carrel, azquotes.com)."

There are men and women of faith that have made substantial contributions to medical science and yet maintain a vital faith confession. Below are other examples of research about these influential men and women's lives. They are interesting that Alexis lost favor with many of his colleagues and peers after witnessing Marie Baily's healing. However, if this had not happened, he would not have moved to Canada and become the great pioneer of many groundbreaking procedures. The road to greatness as a person of science and faith is not always an easy one. This story is inspiring in many ways.

A young man born in Alsace-Lorraine was German back then, but it is now part of France. He was an interesting boy. His dad was a protestant minister. This town was strange in which the Protestants and Catholics both worshipped in the same church building. Not very common even today in our enlightened age. The young man was named Ludwig Philipp Albert Schweitzer. He would become a Nobel Peace Prize winner, but let us look into his early years. He was known as a rich man's son and often teased about it. His father was not rich but compared to the poverty of

his village mates, he was. It was said that he refused to wear an overcoat in the winter because his friends had none.

He was not a very good student in his early years for being a future Nobel Peace Prize winner. His grades were far from stellar. Nevertheless, he had many particular traits. He would become an accomplished musician. He had a unique awareness of life and once ran from an opportunity to kill birds for fun. He does not sound like someone who belongs in this paper, but what he was about to do would make him an excellent example for many and impact the world.

After finishing college, he became a theologian, author, accomplished concert musician, and a stellar student. He had the whole world in front of him. It was when he made the strange decision to go to medical school. It was not a sound decision for his family and peers. However, he got his medical degree and then moved to a small area of Africa. It was there that he started to build a hospital on the bank of a small river.

“Albert Schweitzer brought to the early 20th Century one of the most powerful and wide-ranging intellects the world has seen. He not only studied but also mastered philosophy, music, theology, and medicine ... Then Dr. Schweitzer demonstrated his gratitude for the gifts he had been given by devoting the majority of his life to relieving the suffering of the people of Central Africa (Carter, 2007).”

Albert Schweitzer's view of life and the rights all life must have if we respect God's purpose allowed him to write many books. Several became best sellers. His reverence for life philosophy was hugely influential. It contributed to his passion for the Africans. As a boy, he would read the papers and hear about the slave trade and the horrors one human bestowed on another. In 1952 he

received the Nobel peace prize for his reverence for life philosophy. He even advocated against the use of Nuclear arms along with Albert Einstein and other Nobel recipients. One of his famous quotes was:

"Seek always to do some good, somewhere... Even if it's a little thing, so something for those that need help, something for which you get no pay but the privilege of doing it (Schweitzer, goodreads.com)."

Figure 5:

Time Magazine photo of Albert Schweitzer



Note. Source: Chapman University, The Albert Schweitzer Collection

Figure 6:

Photo of Albert Schweitzer



Note. Source: Chapman University, The Albert Schweitzer Collection

I could have written this whole thesis on this single individual. What profound impact and what a selfless nature. In my research, I learned that Schweitzer and his family were captured and sent to a war camp as prisoners of war. The record recounts that he went back to Africa to continue

working with the hospital as soon as he was released. That takes dedication which I only hope to achieve.

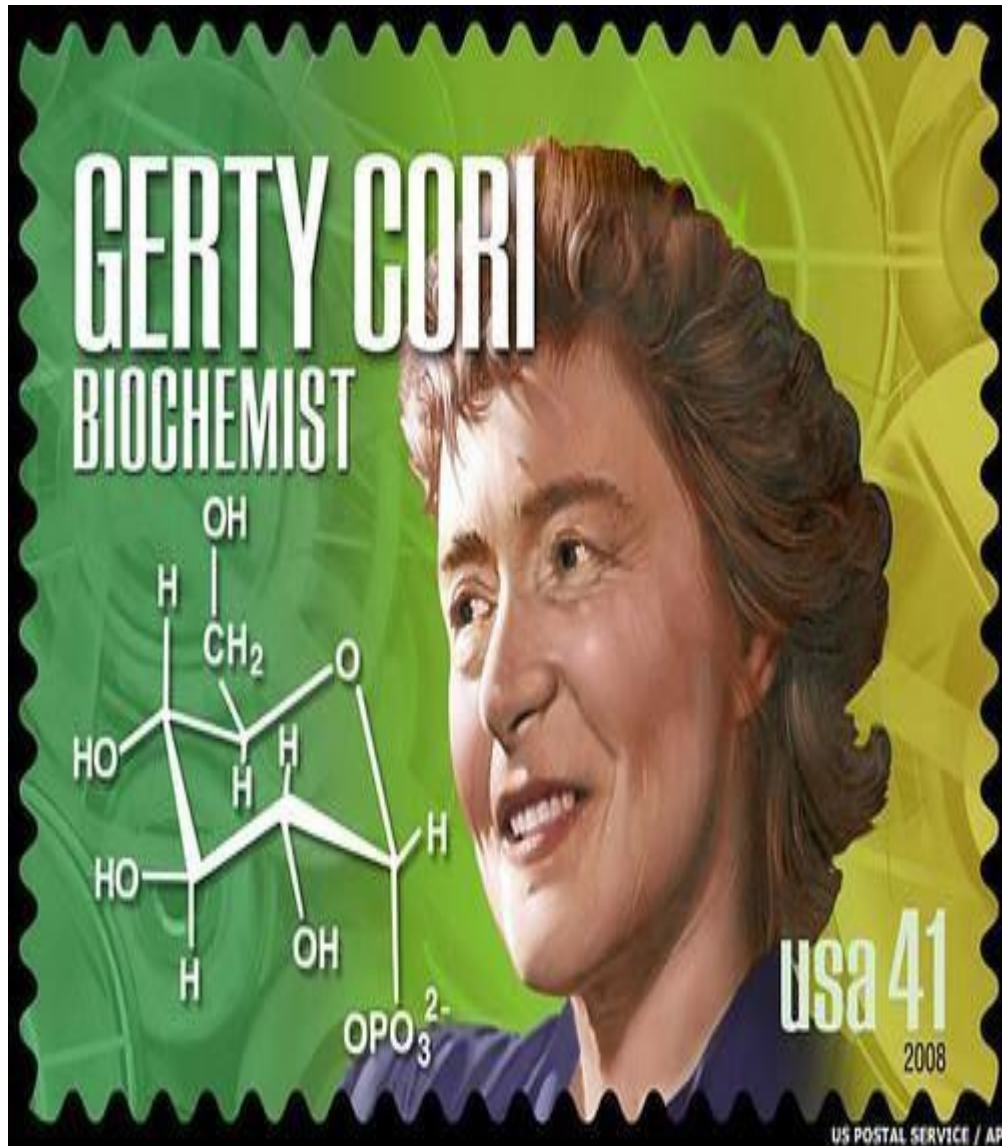
Most of us have never heard of the “Cori Cycle” for most. This non-impressive term may not even warrant a google search on our part. I find the name-sake of this term to be interesting because she is also a Nobel Prize recipient. That’s right. I said she. When it comes to medicine, there are very few females who have received the Nobel Prize. The apparent reason is that the medical community was not as gender enlightened as they are today. Who knows, maybe one day I will join them in this prestigious honor. Gerty Cori was born Gerty Theresa Radnitz. Ironically, she was named after an Austrian warship. I love that interesting detail. Her father, a chemist himself, invented a method that helped in the refining of sugar. Gerty was sixteen when she decided to become a doctor. This sounds great in “2021,” but in the early 1900’s this was a more daunting task, especially for a female. When Gerty checked into medical school admissions, she found out she was overwhelmingly underqualified. She was not even close to possessing a background in Latin, physics, chemistry, and mathematics she needed. This is usually where most of us give up, but not Gerty. She studied and completed eight years of Latin in one year. She met her husband, Carl Cori, in medical school. Together they had an interest in how glucose is used as fuel. Many work environments didn’t like the couple working together, but they carried on their experiments on the side. Together they discovered what we now call the “Cori Cycle,” which is still used today to define how glucose is broken down and used for fuel in the muscles. For this, she was awarded the Nobel prize in 1947. She was only the third female recipient in science to be a woman. The third time is the charm. She was also the first woman to receive the Nobel Prize in Medicine.

It is interesting to note that Gerty died from a bone marrow disease that was probably contracted from the time she spent learning about the effects of X-rays on humans. Faith wise she was of Jewish descent but converted to catholicism earlier in life. When accepting the Nobel Prize, Carl said,

“We believe that art and science can best grow and develop in a society that cherishes freedom and shows respect for the needs, happiness, and dignity of human beings. My wife and I are proud to have been honored by a country that excels in all these qualities, and we are happy to be guests in this beautiful and hospitable city. (Cori, 1947).”

FIGURE 7:

USPC Honors Nobelist Gerty Cori With Her Stamp by grrlscientist, 2008



Note. Source: Scienceblogs, 2008

Looking back at the people we have discussed; we can benefit the scientific community and the relation between their faith and their achievements. In all three cases, these individuals impacted the world to the point that they received one of the highest awards given in a lifetime of service. One essential thread between all three people of distinction was their desire to know more. They would not settle with the simplicity of current knowledge. They dared to challenge the

system. Even if it possessed the authority at that time, this is not a trait restricted to Christians but all who accomplish great things. I only note it because there were able to achieve these incredible feats without changing their moral compass.

Chapter V

Global Impact of Faith and Medical Practice During the Current Pandemic

So far, we have explored the surface of mega faith-inspired organizations that help millions. We have pulled away from the curtain of shame in times in history where faith or

distortions of those principles have caused and continues to cause injustice, inequality, and in some cases, horrible acts. Then we focused our attention on three notable Christian scientists and physicians who touched the world in such a way as to receive one of its highest honors, the Nobel Prize. Now let us bring this incredible journey back to the ground.

The world has changed. This statement still rings true even after the great and terrible areas we have covered. Looking at our world now, right now, we come face to face with the real-time effects on current medical personnel in an unprecedented global event. This pandemic has initiated a change that creates a new routine phenomenon. One issue, one problem affecting the poorest countries and richest countries without prejudice or favoritism. We all have lost loved ones or know those who have. We all have had to change the way we work or interact. Yet, it is the medical community that is marching on the front lines of this battle. The doctors, nurses, clinics, and hospitals. From vaccine research and production to vaccination centers. Our world's medical staff is being pushed to the brink. Longer hours, lack of rest, personal trauma, overwhelming numbers, political pressure, confusion, anger, and loss are at war with the medical process's established soul. Already thankless jobs now seem to push the limits of commitment, resolve, and even sanity.

What are the benefits of faith in these troubled times? If there is one, how can we quantify its effects? I picture in my mind a nurse I saw in a picture at one of the large hospitals. She is trying to get a moment's peace, and her face is covered as she slides down a wall and tears run from her eyes. She has to remove her mask to wipe her face and regain her composure. How do you deal with the lack of beds? The limits of supplies and the sheer mental and physical exhaustion of the staff. Knowing what to do and having the capacity to do it is not always possible. When the

outside is falling in, and the floor of your own life is falling apart, how do you muster the will to keep doing what must be done?

As stated in an assessment called *Interventions to support frontline health and social care professionals' resilience and mental health during and after a disease outbreak, epidemic, or pandemic: a mixed-methods systematic review* in The Cochrane Collaboration, “There is a lack of both quantitative and qualitative evidence from studies carried out during or after disease epidemics and pandemics that can inform the selection of interventions that are beneficial to the resilience and mental health of frontline workers. Alternative sources of evidence (e.g., from other healthcare crises and general evidence about interventions that support mental well-being) could be used to inform decision-making. When selecting interventions to support frontline workers' mental health, organizational, social, personal, and psychological factors may be important. Research to determine the effectiveness of interventions is a high priority. The COVID-19 pandemic provides unique opportunities for robust evaluation of interventions. Future studies must be developed with appropriately rigorous planning, including development, peer review, and transparent reporting of research protocols, following guidance and standards for best practice, and with an appropriate length of follow-up. Factors that may act as barriers and facilitators to implementing interventions should be considered during the planning of future research and when selecting interventions to deliver within local settings (National Library of Medicine, 2020).”

The above shows that even more experienced minds than mine can see the medical staff's unprecedented effects, noting that more studies will need to be created or implemented to truly learn from this event and articulate effective strategies to deal with this reality. This an excellent opportunity for the faith-based and research organizations to join together to help the

world deal with its new normal. According to Frank Kedzielawa, a Chaplin featured The Buffalo News,

“People die at the hospice, or they die in the emergency room, or they die on the table during high-risk surgery,” Kedzielawa said. “Nurses could have gone months without a patient dying in a bed on a floor in a hospital. And here, they were sometimes losing three or four or five people on a shift. It was unnerving. Nothing they were doing was working.”

Funeral directors and their staff felt the crush of too much business, fear of contagion, or both, he said, and some expressed reluctance when called to St. Joe’s.

The hospital was busiest in the first three months of the pandemic and the weeks after the winter holidays. Death rates have fallen dramatically since early in the pandemic because of better treatments and new vaccines.” (Scanlon, 2021).”

Later he is quoted saying.

“The staff often huddles for a small prayer when a patient is struggling mightily or has died.

“I like to point out that they are the finger of God at work in the world,” Kedzielawa said. “When Jesus healed, he didn't just snap his fingers. And most of the time, he didn't just say something. But it was done with physical touch to another human being.”

He tends to work the evening shift Monday to Thursday, hours when the hospital is quieter. That generally deprives him of the most joyous hospital occasion: helping to wheel a discharged patient to loved ones outside.

The Rev. Lou Klein, hospital chaplain and pastor of Queen of Martyrs Church in Cheektowaga tends to lead a prayer reflection an hour or so into the morning shift; Kedzielawa does the same for the night shift at about eight or 8:30 p.m. (Kirkham, 2020).”

It is at moments like this that I reflect on the point of this thesis. This is not a proverbial thumping of a bible and commanding of the wayward soul to repent. This is a wide-eyed view of Christianity’s role in the lives of medical professionals from various perspectives. Who can accurately say how many of Chaplain Kedzielawa’s nurses and staff believed as they held hands to pray? That is not my focus. My focus is the benefit to the people in that circle. Did they receive some sense of hope in a terrible situation? Did they find some measure of peace that life is not so quickly snuffed out but continues beyond the physical body? I don’t know the answer to those questions. It would seem that there are very positive effects of faith in even the horrors and uncertainty of a global pandemic. This is the focus of this section. There are many other accounts of similar situations. The scene is the same as the above. Some cases are worse, and others are not as bad, but it would seem when people come to the end of their capacity, all they can do is hope. For Christians, hope is followed by faith in the one we believe can change the natural from the supernatural.

Yet hope is hope in essence. We all need it, and many find it in various ways. I once saw a Muslim praying at lunch on his rug, he brought with him. I have never known a kinder soul and his smile shows a heart that just warms mine. He had his hat and long beard, and he always seemed to be calm in troubled times. The need for faith is always debatable, but there are many examples of the benefits of confidence in the heart. However, we may not always agree on the path and

source of that hope. It does not negate the need for hope. As I stated earlier, and this helps us do what must be done when our world is falling apart.

The medical field is unlike any other area. We grapple with the human condition in ways few others can understand. It will outlast any event, disaster, or pandemic after we come out of our homes and see the sun. When airplanes fill up again, and tourists flock to distant lands again. When all of the postponed weddings and long overdue birthday parties resume, people will still need Hospitals, doctors, nurses, dentists, optometrists, surgeons, anesthesiologists, research facilities, and so on. As long as people have medical needs, we will need this field. As long as sickness and disease remain, we will need this field. Yet, we all have limits. We can only deal with so much. Even those sworn to protect and help those in need. Something must remain. Something must drag them across the room to a patient after patient even when there is no cure or hope in sight.

CONCLUSION

In conclusion, what have we learned in this journey? I would argue that we have been able to observe the presence of faith in many scenarios involving medical professionals, despite their level of fame. We have looked into the faith of Nobel Prize winners. We have looked at faith as a core value in mega humanitarian medical organizations. We have looked at faith in the complexity of front-line responders, especially in the pandemic setting. We knew that the light is only half the story, so we looked directly into the window of the twisted and compassionless belief that led to moments in history and even currently that we would rather forget. We walked outside to look at a world in a pandemic and discussed faith in the new norm.

What did we find on this journey? We found commonality in the people who make a difference every day in the lives of millions. That commonality is hope and compassion. We found the desire to understand and improve known processes and treatments. We found different value systems and the ability to move beyond obstacles.

Comparatively, we see that even conviction and strength in purpose without compassion and the moral value of life and all people can lead to regrettable tales of horrible injustice. If we then can eliminate this, we can see those that shine brighter. Because we see the

compassion that was refused to so many, we can quickly identify the traits of those who show the character foundation we need to observe.

With or without the presence of a higher moral character, these individuals have touched so many lives. Yet, we can say that the examples of faith and Christian values demonstrated in this thesis used the foundation of their faith to improve their careers and professions. In many cases, they improved and contributed to the science and medical community as a whole. For some, they used their faith as a sustaining force in their own lives. For others, their faith was a compass that showed them the best place to improve the human condition in the short time they had on the earth. I hope this thesis showed the role of faith in a medical science professional's career as a beneficial trait. Is faith required to become successful? That is another good question. As for this thesis, I have respectfully and elegantly presented that Christianity and Science can coexist in a successful medical professional?

REFERENCES

A Fleet of Ships: Transcending Borders, Changing Lives. (n.d.) Mercy Ships. Retrieved April 8,

2021 from <https://www.mercyships.org/volunteer/why-serve/>

Albert Schweitzer Institute. (n.d.) Albert Schweitzer Photograph. [Photograph]. Chapman

University. [https://www.chapman.edu/research/institutes-and-centers/schweitzer-](https://www.chapman.edu/research/institutes-and-centers/schweitzer-institute/exhibit/index.aspx)

[institute/exhibit/index.aspx](https://www.chapman.edu/research/institutes-and-centers/schweitzer-institute/exhibit/index.aspx)

Bartorimo, M. (2019, May 21). Mercy ships celebrates 100,000th surgical procedure: 'It's the

purest form of medicine' *Fox News*. [https://www.foxnews.com/health/mercy-ships-c](https://www.foxnews.com/health/mercy-ships-celebrates-100000th-surgery-its-the-purest-form-of-medicine)

[elebrates-100000th-surgery-its-the-purest-form-of-medicine](https://www.foxnews.com/health/mercy-ships-celebrates-100000th-surgery-its-the-purest-form-of-medicine)

Carl cori banquet speech. (n.d.) NobelPrize. Retrieved April 8 2021 from <[https://www.nobel](https://www.nobelprize.org/prizes/medicine/1947/cori-cf/speech/)

[prize.org/prizes/medicine/1947/cori-cf/speech/](https://www.nobelprize.org/prizes/medicine/1947/cori-cf/speech/)>

Caring for Nebraska's Families for More Than 120 Years. (n.d.). *Methodist*. [https://bestcare.org](https://bestcare.org/locations/methodist-hospital/history)

[/locations/methodist-hospital/history](https://bestcare.org/locations/methodist-hospital/history)

Chang, R. & Reyes, M. A. (2021, May 2021). Let the church declare: Asian lives matter.

<https://religionnews.com/2021/02/19/let-the-church-declare-asian-lives-matter/>

Donor Perfect. (n.d.) Merryship's 2014 Annual Report [Photograph]. Donorperfect Website.

<https://www.donorperfect.com/nonprofit-technology-blog/donorperfect/what-not-to-include-in-your-nonprofits-annual-report/>

Enhancing Trust in Ministries. (n.d.) Comparative Financial Data of Revenues and

Expenses. [Photograph]. ECFA. <https://www.ecfa.org/MemberProfile.aspx?ID=9247>

Jimmy carter receives first albert schweitzer humanitarian award, addresses nuclear arms issue. (September 25, 2007). The Carter Center. https://www.cartercenter.org/news/editorials_speeches/schweitzer_award.html

Lincoln, R. (2018). Royalty-free Nazi Concentration Camp – Auschwitz [Photograph]. War

History Online. <https://www.warhistoryonline.com/world-war-ii/faces-of-evil-female-camp-guards.html>

Methodist healthcare system fast facts. (n.d.) *Methodist Healthcare*. <https://sahealth.com/about>

[/mission-values/methodist-healthcare-system-fast-facts.dot](https://sahealth.com/about/mission-values/methodist-healthcare-system-fast-facts.dot)

Our Mission. (n.d.). Vosh International. <https://vosh.org/about-us/our-mission/>

Pollock, A. Campbell, P. Cheyne, J. Cowie, J. Davis, B. McCallum. J. McGill, J. McGill, K.

Elders, A. Hagen, S. McClurg, D. Torrens. C. Maxwell, M. (2020). Interventions to

support the resilience and mental health of frontline health and social care professionals during and after a disease outbreak, epidemic or pandemic: a mixed methods systematic review. doi: <https://doi.org/10.1002/14651858.cd013779>

Preston, R. B. (2016, February 8). How the christian hospital movement changed the world. *God Reports*. <https://www.godreports.com/2016/02/how-the-christian-hospital-movement-changed-the-world/>

Scott, R. Second Initial. (Director). (2005). *Kingdom of heaven*. [Film]. Scott, R.

The Impact Religion Can Play in the healthcare (October 17, 2016). Cultural Link. <https://theculturalink.com/2016/10/17/the-impact-religion-can-play-in-healthcare/>

United States of America 80th Congress. (1948). *Congressional record: Proceedings and debates of the 80th congress*. United States Government Printing Office.

United States Postal Service. (2008). Gerty Cori Stamp. [Photograph]. Science Blogs. <https://scienceblogs.com/grrlscientist/2008/01/17/usps-honors-nobel-winner-gerty>