

ST. BARTHOLOMEW'S ANGLICAN CHURCH IN THE TOWN OF TONAWANDA, NY
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"DEFENDING THE FAITH" (Apologetics - 7)

VI. What Has the Bible Produced?

We continue looking at how the Bible has impacted our world. In this study we will look at its influence in the fields of science. We begin with Psalm 19 which highlights the role of understanding God as the Creator and Law giver of both the natural world and the spiritual realm.

Psalm 19: *The heavens declare the glory of God, and the sky above proclaims his handiwork. 2Day to day pours out speech, and night to night reveals knowledge. 3There is no speech, nor are there words, whose voice is not heard. 4Their voice goes out through all the earth, and their words to the end of the world. In them he has set a tent for the sun, 5which comes out like a bridegroom leaving his chamber, and, like a strong man, runs its course with joy. 6Its rising is from the end of the heavens, and its circuit to the end of them, and there is nothing hidden from its heat. 7The law of the Lord is perfect, reviving the soul; the testimony of the Lord is sure, making wise simple; 8the precepts of the Lord are right, rejoicing the heart; the commandment of the Lord is pure, enlightening the eyes; 9the fear of the Lord is clean, enduring forever; the rules of the Lord are true, and righteous altogether. 10More to be desired are they than gold, even much fine gold; sweeter also than honey and drippings of the honeycomb. 11Moreover, by them is your servant warned; in keeping them there is great reward. 12Who can discern his errors? Declare me innocent from hidden faults. 13Keep back your servant also from presumptuous sins; let them not have dominion over me! Then I shall be blameless, and innocent of great transgression. 14Let the words of my mouth and the meditation of my heart be acceptable in your sight, O Lord, my rock and my redeemer.*

Note the progression of this psalm. The psalmist begins with how creation itself (the universe) reveals the glory and creative power of God. The universe consists of knowable order, design, and purpose. The sun serves as a perfect example of these realities. Who made the sun, who put it in its orbit, who designed its purpose and maintains its functioning? God! With this creative order which includes natural laws that can be understood and even applied, we can expect the same when it comes to God's laws concerning the life of man and his relationships. In other words, the natural world points us to the supernatural reality of God and the spiritual nature of mankind. Thus, we are called to learn the ways of our Creator (relationally our Father) and grow in knowledge and wisdom in our relationship with God just as we are to do the same with understanding the laws of nature. This Christian understanding of God's attributes being understood in the laws of nature and revealed in His Holy Word, the Bible, served as the basis for scientific inquiry in the Western World and laid the foundation for all the discoveries made by modern science.

D. Science – what we as “moderns” take for granite in terms of scientific inquiry and the many scientific discoveries that have occurred are the direct result of the Christian faith and the Bible! It could not have arisen from ancient religion that held to a universe filled with multiple deities and competing gods. It could not have arisen from African, Asian, and Native American religions that believed that the spirit world inhabits the material world – (worship of nature, rocks, trees, animals, etc.). It could not have arisen from Islam that forbids any criticism of Allah or the Koran, the free exchange of ideas, and the belief in fatalism—that is everything is predetermined. Finally, science would not have been birthed in India or the Far East where Hinduism and Buddhism believe that much of the material world is just an illusion. The truth is modern science was birthed in Western Europe during the late Middle Ages when the primary understanding was that we live in an ordered and rational world made by God where logic and reason can thrive.

J. Robert Oppenheimer, one of the physicists responsible for splitting the atom and developing nuclear power makes this point in an essay he wrote for *Encounter* magazine in October of 1962. Even though he was not a Christian, he says this about the origins of the scientific revolution: *"It took something that was not present in Chinese civilization, that was wholly absent in Indian civilization, and absent from Greco-Roman civilization. It needed an idea of progress, not limited to better understanding for this idea the Greeks had. It took an idea of progress which has more to do with the human condition, which is well expressed by the second half of the famous Christian dichotomy – faith and works; the notion that the betterment of man's condition, his civility, had meaning; that we all had a responsibility to it, a duty to it, and to man. I think that it was when this basic idea of man's condition which supplements the other worldly aspects of religion, was fortified and fructified between the 13th and 15th centuries by the rediscover of the ancient world's scientists, philosophers, and mathematicians, there was the beginning of the scientific age."*

What we find is that virtually every founder/father of various scientific fields was a Christian! Here are some notable examples:

1. Sir Frances Bacon (1561—1626) – often called the “father of the scientific method” for his emphasis on empirical observation and inductive reasoning said these words, *“There are two books laid before us to study, to prevent our falling into error; the first, the volume of the Scriptures which reveal the will of God; then, the volume of the Creatures, which express His power.”*

2. Robert Boyle (1627-1691) - natural philosopher, chemist, physicist, alchemist and inventor. Boyle is largely regarded today as the first modern chemist, and therefore one of the founders of modern chemistry, and one of the pioneers of modern experimental scientific method. He is famous for Boyle's Law – *which states that the pressure and volume of a gas are inversely proportional when temperature is held constant.* He was also a strong believer and student of the Bible, writing and translating works on the gospel and on apologetics. In his will he left a large sum of money to found the “Boyle Lectures” for proving the Christian religion.

3. Sir Michael Faraday (1791-1867) – renowned physicist who discovered electromagnetic induction without which we would have no engines or motors, and who then invented the world's first generator. He too was a devout Christian and wrote, *“The Bible, and it alone, with nothing added to it nor taken away from it by man, is the sole and sufficient guide for each individual, at all times and in all circumstances...Faith in the divinity and work of Christ is the gift of God, and the evidence of this faith is obedience to the commandment of Christ.”*

4. Lord Kelvin – William Thomson, (1824 – December 1907) - another renowned physicist who formulated a new temperature scale (named after him) that begins at “absolute zero.” He formulated the science of thermodynamics, giving us the first and second laws of thermodynamics and was the first scientist to use the concept of energy. Considered the greatest scientist of his time, he said, *“With regard to the origin of life, science.... positively affirms creative power.”* He was a devout Christian throughout his life and daily attended chapel services.

5. Jospheh Lister (1827 – 1912) - an English surgeon who helped develop antiseptic surgery and the use of chemical disinfectants – *Listerine* is named after him. Simultaneously president of the Royal Society of London and the British Association of Science, he said, *“I am a believer in the fundamental doctrines of Christianity.”*

6. Johannes Kepler (1571-1630) – brilliant mathematician and astronomer he is considered the founder of celestial mechanics. He once said, *“My wish is that I may perceive the God whom I find everywhere int eh external world in like manner with me.”* He saw astronomy as the glimpse of God's glory. Kepler believed that religion and science should both be rational. However, he

recognized that while truth in natural science is based on evidence and reason, truth in religion is based on the Word of God in Holy Scripture.

7. Galileo Galilei (1594-1642) – responsible for hundreds of scientific discoveries, he laid the foundation for modern mathematical physics and the science of motion. Some notable discoveries include: 1) affirming the “indestructibility of matter,” 2) formulating the principles of the lever and the pulley,” 3) discovering that a *“moving body will continue indefinitely in the same line and rate of motion unless interfered by some external force (i.e. “inertia”).* His most infamous discovery was that the sun, not the earth, is the center of our solar system. For this, the Roman Catholic Church tried him for heresy and threw him in prison. He was eventually released but his “sin” was really not a scientific one but rather defying the authority of the Church and its interpretation of the Bible. But it wasn’t the Bible Galileo had trouble with but the church’s view on the universe which was more Aristotelian than biblical. Concerning the Holy Scriptures, Galileo wrote, *“Holy Scripture could never lie or err, but its decrees are of absolute and inviolable truth. I should only have added that although Scripture can indeed not err, nevertheless some of its interpreters and expositors may sometimes err in various ways, one of which may be very serious and quite frequent, (that is), when they would base themselves always on the literal meaning of words.”* Note that I underlined “always.” While the *meaning* of God’s Word is always to be taken literally, sometimes the words themselves are not meant to be literally followed. Interpretation involves understanding the context and genre of the passage. Hence, for example when Jesus says to the rich man to sell all that he has if he wants to be a true follower is not literally for everyone else. But some in our world have taken it literally and done just that. While that may be right for them, it shouldn’t be applied to everyone else. There are hundreds of examples of this contrast in the Bible.

8. Isaac Newton (1642-1727) – one of history’s greatest scientists, Newton formulated the theory of gravitation and the laws of motion. He discovered that white light is composed of the colors of the spectrum. He made important contributions to mathematics, astronomy, and physics. Newton was a devout Christian who studied and wrote on the Bible and ardently studied Bible prophecy. He believed there were two sources of knowledge – one revealed in the Bible and the other revealed in nature. In order to appreciate the work of the Creator and to know Him personally, one must study the natural scheme of things – the original ordering of matter and the laws that govern its composition and motion.

9. Carl Von Linnaeus (1707 – 1778) – devised the current labeling system (nomenclature) for all animals and plants. Each organism was given a Latin name in two parts – the genus and the species. For example, a domesticated dog is *canis familiaris* and a human being – *homo erectus*. Linnaeus’ inspiration for developing a universal system was from Genesis where it says that God made everything *“according to its kind.”* The Hebrew for “kind” is *min*. In the Latin Vulgate Bible, it is species. Prior to Linnaeus’ work, the names for the various animals and plants differed from language to language. Linnaeus believed all creatures were made by God and should have identities universally recognized. A botanist of the first order, his 1736 work, *Fundamenta Botanica*, set forth many of his rules. Those rules were expanded in his monumental book *Systema Naturae*. His tenth edition, published in 1758, is considered the beginning of modern scientific nomenclature. According to the International Rules of Zoological Nomenclature, all names given to animals before 1758 were disqualified.

10. Charles Babbage (1792-1871) and Blaise Pascal (1623-1662) – both mathematicians, they each contributed to the development of the computer. Babbage is considered to be the father of modern-day computer science. In 1822, he constructed a small, model calculating machine by which intricate arithmetical calculations could be correctly and rapidly performed. In his book, *Ninth Bridgewater Treatise*, he envisions a machine in which we can understand how the world works and to discover how the world is programmed. This is within, however, the framework of God. He is the ultimate programmer of everything. According to Babbage, *“We take the highest and best of human faculties, and exalting them in our imagination to an unlimited extent, endeavor to attain an imperfect*

conception of that Infinite Power which created everything around us.” Pascal invented the first adding machine which was a forerunner to the computer. He was also a theologian writing the Christian classic *Pensees* (French for thoughts). In his honor, the computer language Blaise Pascal was named after him.

11. Samuel F. B. Morse (1791-1872) – invented the telegraph and developed Morse code, one of the greatest innovations in the world of communications. It was the first network of instant communication through the telegraph pole and set the stage for future mass communication like the telephone and today the internet. Morse began his work on the telegraph in 1832. It was no easy task. After years of trial and error, on May 24, 1844 he astonished a gathered Congress in the Supreme Court chamber, by sending the words from **Numbers 23:23: “What hath God wrought!”** Morse wrote, *“That sentence was divinely indited, for it is in my thoughts day and night. “What hath God wrought!” It is His work, and He alone could have carried me thus far through all my trials and enabled me to triumph over the obstacles, physical and moral, which opposed me.”* He also said, *“I know, for I have felt, the substantial support of immediate and cheerful submission to God’s will under the pressure of sever trials...Anguish of mind can only exist while rebellion is in the heart. (But) an unqualified, sincere, ‘thy will be done’ will calm the severest tempest that can agitate the soul.”*

Numbers 23:23 in context: *“God brings them out of Egypt He is for them like the horns of the wild ox. 23“For there is no omen against Jacob, nor is there any divination against Israel; at the proper time it shall be said to Jacob and to Israel, what God has done!”* The context of that verse is one of prophecy of what God will do for His people in the future.

The invention of the telegraph and Morse Code not only made for rapid communication by land but eventually even by sea when the first transatlantic cable was successfully laid from Newfoundland to Ireland in 1858. Test messages were first sent and then officially on August 16 when the first official message was sent via the cable: *“Directors of Atlantic Telegraph Company, Great Britain, to Directors in America: — Europe and America are united by telegraph. Glory to God in the highest; on earth peace, good will towards men!”*

Next was the text of a congratulatory telegram from Queen Victoria to President James Buchanan at his summer residence in the Bedford Springs Hotel in Pennsylvania, expressing hope that the cable would prove *“an additional link between the nations whose friendship is founded on their common interest and reciprocal esteem.”* The President responded: *“It is a triumph more glorious, because far more useful to mankind, than was ever won by conqueror on the field of battle. May the Atlantic telegraph, under the blessing of Heaven, prove to be a bond of perpetual peace and friendship between the kindred nations, and an instrument destined by Divine Providence to diffuse religion, civilization, liberty, and law throughout the world.”* Queen Victoria’s message of 98 words took 16 hours to send. Nonetheless, they engendered an outburst of enthusiasm. The next morning a grand salute of 100 guns resounded in New York City, streets were hung with flags, bells of the churches were rung, and at night the city was illuminated.

12. Matthew Fontaine Maury (1806 – 1873) – called the father of modern-day physical oceanography and the founder of hydrology, he derived many of his ideas from the Bible. An officer in the US Navy until an injury left him unable to sail, he was given an assignment at the *Depot of Charts and Instruments*. During his tenure there, he began collecting information systematically from naval vessels and merchant ships on currents, weather, winds, and other useful data recorded in Maury’s specially designed ships’ logs. From this data he became the first person to chart shipping routes throughout the world by mapping out the ocean and wind currents of the seas. His motivation? **Psalm 8:8** which describes *“the fish of the sea that pass through the paths of the seas.”* His charts made possible shorter routes that improved safety and reduced time for ships at sea. His work of measuring the depths and sampling the bottom of the Atlantic Ocean helped

prepare for the laying of electric cable across the ocean that would transmit messages across the ocean in minutes.

At an address in October 10, 1860 during the laying of the cornerstone of the University of the South (Sewanee, TN; Episcopal), Maury spoke these profound words,

"I have been blamed by men of science, both in this country and in England, for quoting the Bible in confirmation of the doctrines of physical geography. The Bible, they say, was not written for scientific purposes, and is therefore no authority in matters of science. I beg your pardon! The Bible is authority for everything it touches. What would you think of an historian who should refuse to consult historical records of the Bible, because the Bible was not written for the purposes of history? The Bible is true and science is true...and when your men of science, with vain and hasty conceit, announce the discovery of disagreement between them, rely upon it, the fault is not with the Witness or His records, but with the worm who essays to interpret evidence which he does not understand...As a student of physical geography, I regard earth, sea, air, and water as parts of a machine, pieces of mechanism, not made with hands....And when, after patient research, I am led to the discovery of one of these [mechanisms], I feel, with the astronomer of old [Johannes Kepler], "as though I had thought one of God's thoughts," and tremble. Thus, as we progress with our science, we are permitted now and then to point out here and there in the physical machinery of the earth a design of the Great Architect when He planned it all.

Other observations he found that matched the biblical witness include:

1) the Gulf Stream washes nutrients from the Gulf of America into the North Atlantic, benefiting whales, seabirds, and other oceanic creatures. This illustrates the scriptural principle of God's providential care for animals (**Job 38:41; Psalm 147:9; Matthew 10:29; Luke 12:6**).

2) the general system of atmospheric circulation is referred to in **Ecclesiastes 1:6**: *The wind blows to the south and goes around to the north; around and around goes the wind, and on its circuits the wind returns.*

3) the water cycle matches **Ecclesiastes 1:7**: *"All streams run to the sea, but the sea is not full; to the place where the streams flow, there they flow again."*

4) atmospheric pressure is a geophysical reality mentioned in **Job 28:25** as the "weight for the wind."

13. James Simpson (1811-1870) who discovered chloroform and helped lay the foundation for modern anesthesiology and **George Washington Carver (1864-1943)** who helped revolutionize southern agriculture through soil improvement and crops diversification, while devising hundreds of uses for the peanut, the sweet potato and pecans, are among hundreds of other scientists whose Christian faith inspired them in their scientific discoveries that improved the quality and duration of life for humanity. Simply put, it was all part of God's plan! **Jeremiah 29:11** *"For I know the plans I have for you, declares the Lord, plans for welfare and not for evil, to give you a future and a hope."* In other words, when people follow the Lord and His ways, they will not only be blessed but be a blessing to others. As God declared to Moses and the people of Israel concerning the covenant He established with them

B. Literature

Mt. 13:3: *"And He told them many things in parables..."*

The Bible has had a profound impact on literature. Here are just some of the notable authors inspired by the Good Book: Dante Alighieri (1265 – 1321); William Shakespeare (1564-1616); John Milton (1608-1674); John Bunyan (1628-1688); Fyodor Dostoevsky (1821-1881); Miguel De

Cervantes (1547-1616); John Donne (1572-1631); Jonathan Swift (1667-1745); Charles Dickens (1812-1870); CS Lewis (1897-1963); Flannery O'Connor (1925-1964) to name only a very few.

C. Missions – see my previous study on Church History

D. Exploration – see my previous study on Church History

E. Society

When we think of society today there are many areas that have been affected and influenced by God's Word. We didn't even touch on the innovations in education and the medical field. Certainly, our calendar is different because of the birth of Christ. However, the two greatest improvements to civilization as a result of the Bible's influence concerns the ending of slavery as a norm in society and the respect for human rights. While slavery was allowed at times by God's people it was never viewed as a permanent state or solution to man's problems. Rather the impetus of God's Word was for a free society where the rights of all would be respected. We see this in God raising up Moses to free the people of Israel from their slavery in Egypt (**Exodus chs. 1- 20**). We see this in the Law of Moses (God's Law) where slaves were set free after six years and that slaves had certain rights – they were to be treated fairly, receive their just wages, were not to work during the sabbath, and not to be treated harshly or severely harmed (Ex 20:10, Dt. 24:14-15, Lev 22:11; 19:20-22, Ex 21:20-21, 26-32.) We see it in the teachings of Jesus with the "golden rule" – *"do to others what you would have them do to you"* and the call to love our neighbor as ourselves and even our enemies. We see this in Paul's letter to Philemon who calls on him to welcome back his escaped slave, Onesimus, back as a free man.

While many Christians used the Bible to try to justify black slavery and servitude of the poor, many more used God's Word to show that slavery was evil and contrary to God's will. They called for slavery's abolition. In Great Britain, the primary leader in this effort was William Wilberforce (1759-1833), a long-time member of British Parliament and evangelical Christian. Through his efforts and many other believers, the slave trade and eventually slavery itself was abolished in the British Empire. In the United States, the abolitionist movement found its justification from God's Word and its strength from Christians of all denominations. Sadly, it took a catastrophic war to end slavery in America. Human slavery is still a problem in certain areas of our world and human trafficking is a modern-day form of slavery. But because of the witness of God's Word and those who follow it, slavery is more the exception overall than the rule in our world today.

Likewise, the idea of human rights and the requirement for government, businesses, and individuals to respect such rights rises out of a biblical worldview. The fact that there is a concern for those in need and disadvantaged, and a respect for minorities all stems from the understanding that every human being is to be valued and protected regardless of sex, race, ethnicity, creed, or background. Where did this idea find its roots? In the Holy Scriptures! We find it right at the beginning of God's Word in **Genesis 1:27** where it states that ***"God created man in His own image, in the image of God He created him; male and female He created them."*** If every person is created in the image of God, then they are of infinite value!

It is why Paul wrote in **Galatians 3:26-29** concerning salvation (eternal acceptance before God): ***"For you are all sons of God through faith in Christ Jesus. 27For all of you who were baptized into Christ have clothed yourselves with Christ. 28There is neither Jew nor Greek, there is neither slave nor free man, there is neither male nor female; for you are all one in Christ Jesus. 29And if you belong to Christ, then you are Abraham's descendants, heirs according to promise."***

Truly, the gospel is life affirming and liberating. It liberates us from the evils and condemnation of sin while at the same time showing us the way of love – a meek attitude of respect and service for others regardless of their background, status, or ethnicity. It is why we have seen progress in the human race and why there is always hope for the future!