

## 2. WARFARE: PHONY AND REAL

Regrettably, many people view the relationship between science and faith as one of “warfare.” From a Christian perspective (as given for example by our diagram in Chapter 1), any warfare is in some sense a false conflict, a result of some faulty human interpretation. It may be bad theology, or bad science, or perhaps one side making claims it has no business making (asking the Bible questions it isn’t trying to answer, or trying to make science answer questions that it isn’t capable of answering).

However, even though in principle there should be no conflict, we seem to be at a point where warfare is often a reality. This chapter will largely be devoted to the history of how we reached this unfortunate state, because I think understanding how we got here can help us figure out how to make things better. After looking at some current conflicts, we will first go back in history to debunk the common assumption that warfare is how things have always been and must always be. Second, we will look at more recent history to see how extremes on both sides have pushed us into unnecessary warfare. Third, we will talk about the harm the warfare does and why it persists, and offer some preliminary thoughts (expanded upon in later chapters) of how we might move in a more healthy direction. Finally, we will give some examples of notable scientists who have been able to follow Jesus without warfare.

### Surveying the Battlefield

To understand the current state of “warfare,” it is helpful to see it from the perspective of “casualties” on both the Christian and the scientific sides. From the perspective of science, it can seem as though the attitude of Christians is stubborn ignorance, or trying to suppress the truth in order to maintain power. The standard example is the persecution of Galileo by the Roman Catholic Church 400 years ago, but we also see it today. An example was a few years ago when fundamentalists took over the Kansas School Board and tried to erase from the curriculum not only evolution but also most of the last 200 years of science.

From the Christian side, it can seem like scientists are out to tear down the faith. An example is the biologist Richard Dawkins. He writes about evolution, but he goes far beyond the science to make it an argument for atheism, to the point where his latest book, *The God Delusion*, is saying belief in God is like a mental illness that needs to be eradicated. Dawkins isn’t really representative of science or scientists, but since he’s a loud and articulate voice, it can seem like his agenda is the agenda of science in general.

Because these current battles are raging (fanned by the media, who pay more attention to extremes), many people assume that this warfare is the natural relationship between science and faith. If we look at history, we see that this assumption is mistaken.

### Warfare as Bad History

While there have been isolated conflicts in the past (like the case of Galileo), the idea that warfare has historically been the main relationship between science and Christianity is simply false. Most of the time, the two have coexisted fairly well. The picture many have of constant warfare, of science always trying to tear down the faith and Christians stubbornly reacting by suppressing science, is a modern myth.

How did this myth arise? Much of the blame lies with two popular books from the late 1800s. These were *History of the Conflict between Religion and Science* (J.W. Draper, 1875),

and *A History of the Warfare of Science with Theology in Christendom* (A.D. White, 1896). One can tell from the titles what perspective these books were advocating.

These books have been largely discredited by later historians. Both Draper and White had agendas that were served by propagating the warfare myth. They were selective and distorted in their history, for example repeating the false story that the Catholic Church opposed Christopher Columbus because they thought the Earth was flat.<sup>1</sup> Those two books, with their largely bogus warfare, along with some real warfare that was just getting started at the time, played a major role in creating the modern assumption that warfare is the standard relationship.

### **The (Mostly) Positive Contribution of Christianity to the Development of Science**

Not only has warfare not been the historical norm, but people have made a strong case that the Christian worldview, especially the Christian doctrine of creation, was a positive factor in the development of science. To see why that is, we need to talk about the Christian doctrine of creation. By “doctrine of creation,” I don’t mean whether God created in six days and so forth – I mean the basic truth that all Christians are affirming when we say “I believe in God the Father almighty, maker of heaven and earth.” In this regard, we can point to four aspects of the doctrine of creation.

First, God’s creation is Contingent. One element of the Judeo-Christian view (in contrast to many other creation stories) is that the creation is a product of God’s choice, and God is free to make it however God wants. This means that we can’t be like some Greek philosophers and try to deduce from pure reason what nature must be like; instead we have to look at it and see what God actually made.

Second, God’s creation is Orderly. Genesis pictures God setting boundaries and putting things in order. We can expect the creation to reflect God’s faithfulness, and if we have that expectation we can study nature without being afraid that the rules are going to change.

Third, God’s creation is Good. That is declared several times in Genesis – the creation has value because God values it. In contrast to some religious traditions (including some distortions of Christianity) where the material world is evil and only spiritual things matter, or where the world is just an illusion, we have a world that’s real and it’s good. Because it has value, it is worth studying.

Fourth, God’s creation is Not divine. That is one of the main messages of Genesis 1 (to be discussed further in Chapter 3). The Israelites were surrounded by people who had multiple gods, who often viewed elements of nature (sun, moon, sea, etc.) as divine. But for us, there is just one God – everything else is God’s creation, and it’s not divine. This means we can investigate the creation without worrying that the atmosphere will behave differently tomorrow because the sky god is in a different mood.

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<sup>1</sup> The actual disagreement was about the size of the round Earth; church scholars and others thought it was too large for Columbus to reach India. It was Columbus who was wrong on that issue; he and his crew would have perished had they not been lucky and encountered the undiscovered New World on the way. For a fascinating account of the flat-Earth myths surrounding Columbus, see *Inventing the Flat Earth* by J.B. Russell (Praeger Publishers, New York, 1991).

Beyond the doctrine of creation, we have a Biblical mandate for science. Genesis 1:26-28<sup>2</sup> is commonly known as our “stewardship mandate.” There’s a lot in that passage, but the part to highlight here is the idea of dominion, which is intimately connected with being created in God’s image. That isn’t dominion like some oppressive dictator, it is a responsibility God has given us to be his lieutenants, to image God by ruling like God rules (as we see in Jesus, God is a king who rules with a servant heart). So this is a mandate for stewardship, for taking care of creation. If we are going to care for God’s creation properly, we should try to understand it, which gives us a mandate for science.

In combination, all of these factors make the Christian worldview very conducive to the pursuit of science. Many historians say this was a major reason why science developed faster in Christianized Europe than in other civilized societies (such as China and India) where other religious traditions were prevalent.

### **Seeds of Warfare: Charles Darwin and Ellen White**

If warfare was rare for most of the history of Christianity, how did it get started? We might think that tension would have arisen when scientists (mostly geologists) first realized that the Earth is quite old, that the 6000 years one gets from an ultra-literal reading of the Bible isn’t nearly long enough to account for the evidence in nature. This gradually became evident around 1800.<sup>3</sup> Most of those involved were Christians, and this didn’t bother them (in part because there were ways to read Genesis that allowed for more time, as we will see in Chapter 3). At about the same time, they realized that attributing all of geology to Noah’s flood didn’t work either, but this was not seen as a big challenge to the Bible. Most of the church also had no problem with these results, so there was almost no “warfare” until after 1850.

What happened around 1850? There are two names to remember. One of them you can probably guess – it is Charles Darwin, who published *The Origin of Species* in 1859. The other name may be a surprise – it is a woman named Ellen White. Since she is less famous than Darwin in most circles, we need to digress and tell her story.

In the 1840s, a preacher named William Miller built a big following in New England; among other things he was predicting the Second Coming of Christ in 1844. It didn’t happen. This was a significant societal episode, which historians refer to as the Great Disappointment. Soon after, some of Miller’s followers decided that Jesus really had come, but that he had only come part-way, and that it was very important for the church to keep the right Sabbath. It needed to be Saturday, the Jewish Sabbath, the Seventh Day. These new doctrines were supposedly communicated by God through prophetic visions, and their leading visionary was Ellen White, who became the leader of the Seventh-Day Adventists.

What does this have to do with our topic? Because the Sabbath was central to Ellen White’s theology, so was the seven-day pattern of Genesis 1. That pattern is mentioned as a

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<sup>2</sup> Then God said, “Let us make mankind in our image, according to our likeness; and let them have dominion over the fish of the sea and over the birds of the air, and over the cattle, and over all the wild animals of the earth, and over every creeping thing that creeps upon the earth.” So God created mankind in his image, in the image of God he created them; male and female he created them. God blessed them, and God said to them, “Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.”

<sup>3</sup> Incidentally, this shows that people who claim that scientists only believe in an old Earth because they are committed to evolution are mistaken. Science concluded the Earth was old at least 50 years before Darwin.

reason for the Sabbath in the Ten Commandments.<sup>4</sup> White was vehemently opposed to any interpretation that made those days in Genesis anything other than normal human days; one of her claimed visions even had God showing her the six days. Another vision had God showing her that the flood had shaped all the features of the Earth. Because Ellen White's visions were treated almost like Scripture by the Seventh-Day Adventists, that whole sect now had doctrine that was in conflict with science. Most of Christianity didn't pay attention to those views for a long time – we'll pick that up thread later.

For now, let's return to our other name, Charles Darwin. He published *The Origin of Species* in 1859 setting out the theory of evolution (which we will discuss further in Chapter 5).<sup>5</sup> Initially, that did not start much warfare. Reaction among Christians was mixed. Some Christian leaders had no objection at all to the theory; others accepted most of it but with limitations (for example, some drew the line at the evolution of humans). Others had serious objections, but almost nobody made a "big deal" out of it.

### The Warfare Escalates

If the warfare was still relatively mild even in the immediate aftermath of Darwin's work, what caused it to escalate in the subsequent decades? There were at least three factors:

1. *The atheists started firing shots.* Around Darwin's time, especially in England, there was already a movement of people wanting to diminish the authority of the church, to make society secular, and in some cases to push atheism. Some of them grabbed onto Darwin's theory as a weapon (much to Darwin's dismay). They started claiming that evolution meant God wasn't the creator of life, that science had showed the Bible was false, all sorts of things, in order to attack the church. Naturally, this sort of attack, even if most of their reasoning was faulty, caused many Christians to see science as a threat. These attacks continue today, like the biologist Richard Dawkins who I mentioned earlier.
2. *People began to apply the theory of evolution in inappropriate ways.* Evolution became associated with eugenics, which was the "science" of improving humanity by weeding out the weak. Of course, this conflicted with Christianity, which values the weak. There was Social Darwinism, which applied "survival of the fittest" to society and opposed efforts to help the poor. The Germans even used these ideas in World War I, saying that science dictated that the strong should conquer the weak. It was used to support racism, saying that certain races were more evolved and therefore better (and if a British gentleman was doing this classifying, funny how it turned out to be British gentlemen who were the most evolved). Most of these misuses had nothing to do with the actual science, so it was guilt by association, but it caused much Christian opinion to turn against evolution. An example is William Jennings Bryan, the famous populist politician who was on the prosecution side in the famous Scopes Monkey Trial (where a teacher in Tennessee was put on trial in 1925 for teaching evolution). Bryan was a conservative Presbyterian, but his crusading against evolution wasn't primarily due to Biblical concerns – it was a reaction against the way the theory was being used to promote un-Christian social policies.

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<sup>4</sup> Exodus 20; when the Commandments are repeated in Deuteronomy 5, a different reason (treating others better than they were treated in Egypt) is given for the Sabbath.

<sup>5</sup> Essentially the same theory was developed independently by Alfred Russel Wallace, but Darwin had developed the theory more fully and became the main person associated with it.

3. *The fundamentalist/modernist controversies.* This was a series of conflicts within many Christian denominations in the early 1900s. The modernists were theological liberals who saw themselves moving beyond traditional Christianity. They believed in “progress,” in society and humanity inevitably getting better (which is another way that evolution was misused), so they invoked science in saying Christianity needed to change. The fundamentalist movement was originally a reaction against that. Some early fundamentalists were actually accepting of evolution, but eventually if the modernists embraced something, the fundamentalists wanted to reject it, so opposition to evolution became a part of fundamentalism.

### **Escalation to All-out War: The “Creationist” Movement**

At this point in our historical survey, we are at about 1930. The atheists had started some warfare, in some cases making evolution almost an alternative religion. Christian concern was mostly about the social implications of evolution. Many fundamentalists also had Biblical concerns, but even for them the issue was mainly just evolution; many of them had no problem with the Earth being old. That’s the way things stayed through the middle of the 20th Century – some warfare, but not nearly as much as today.

Here is where Ellen White reenters the picture. Her unusual views already disagreed not only with evolution, but also with geology and much of the rest of science. White’s ideas were advanced in the early 1900s by a Seventh-Day Adventist writer named George M. Price. Price had no scientific training, but that didn’t stop him from coming up with all sorts of arguments about why geologists were wrong and how all the rocks and fossils could really be explained by the Flood. Price wrote several pseudo-scientific books setting forth these ideas, but not many people paid attention outside the Adventist church.

This changed around 1960. Two fundamentalists named John Whitcomb and Henry Morris decided that taking the Bible very literally, starting with Genesis 1, was essential. So, they agreed with Ellen White about how important it was to have creation in six literal days. They picked up the work of Price and repackaged it, calling it “flood geology”, and made it central to their arguments about how science was wrong and their interpretation of Genesis was right. Their book *The Genesis Flood* was published in 1961. That was when the modern “creationist” movement really began.

Most people probably know what I mean by the “creationist” movement, but I should describe it briefly. It insists on reading Genesis very literally, with creation in six 24-hour days and the earth and the universe just 6000 or so years old (so it is often called “Young-Earth Creationism”). Other key doctrines include the complete absence of death (not just for humans, but for all creatures) before the Fall, and a worldwide flood that accounts for everything the geologists say took millions of years. But it isn’t just a matter of having those particular beliefs; many Christians have believed many of those things through the years. The distinctive of this movement is the idea that their interpretation is essential to the Christian faith, that the only two choices are to agree with them or to reject the Bible completely (an example of the fallacy of the excluded middle discussed in Chapter 1). Since the leaders of this movement like to present themselves as the defenders of traditional Christianity, it is important to remember that their approach was just a small fringe until about 1961.

After *The Genesis Flood* was published, the movement really took off. It is an interesting question why it grew so fast, but I can only speculate. Perhaps it had to do with the 60s and 70s being times of social turmoil when many Christians felt like society was falling apart and wanted

some alternative to grab onto. Perhaps it was largely a matter of the movement being well-funded and effectively packaged and promoted. Perhaps it was because this was a period when many Evangelicals gave increased emphasis to fundamentalist approaches to the Bible, which was a good fit for the creationist movement. In any event, within 30 or 40 years, the movement gained great influence in the church, convincing many Christians that science must be wrong in order for the Bible to be true. With the rise of the Young-Earth Creationist movement, the warfare reached new levels of destructiveness.

I shouldn't leave you with the impression that this "creationist" movement is the only source of warfare from the Christian side. There are other combatants that we will discuss later, but this movement is the loudest and most influential.

### **Harm of the Warfare**

Now that we better understand the origins of the current warfare, it is worth considering the specific ways in which it damages the Christian cause.

First, it damages the witness of the Gospel to scientifically literate people. Many such people won't even consider Jesus because they think being a Christian requires them to believe stupid things, and because often Christians treat them like enemies (not like Jesus said to treat our enemies, but like the world treats enemies). If we are supposed to share the Gospel with all the people groups in the world, here is a group where we are failing miserably by placing stumbling blocks in their way. There is a classic quote about this from St. Augustine:

*"Usually, even a non-Christian knows something about the earth, the heavens, and the other elements of the world .... Now it is a disgraceful and dangerous thing for an infidel to hear a Christian, presumably giving the meaning of Holy Scripture, talking nonsense on these topics; and we should take all means to prevent such an embarrassing situation, in which people show up vast ignorance in a Christian and laugh it to scorn ... If they find a Christian mistaken in a field which they themselves know well and hear him maintaining his foolish opinions about our books, how are they going to believe those books in matters concerning the resurrection of the dead, the hope of eternal life, and the kingdom of heaven ...?"*

Augustine, in *The Literal Meaning of Genesis*

It is sad but true that much of today's warfare from the Christian side consists of "nonsense" and shows "vast ignorance," and the Gospel suffers as a result.

Second, this warfare sets up young people to lose their faith if we tell them science has to be wrong in order for Christianity to be true. They may take a college science class or study the real world and decide the church has lied to them. For people who have built their faith on the flimsy foundation offered by the "creationist" movement, learning that its claims about the natural world are wrong can be a faith-shattering experience.

Third, as a consequence of the demonization of science in many churches, many Christians avoid scientific careers. This is unfortunate, because (just as in any other profession) there is a great need for Christian witness within these fields.

Fourth, the warfare has created a situation where Christians tend not to trust science or scientists. Of course, we should not unconditionally trust anybody except God. But, to pick one timely example, our stewardship suffers when Christians don't listen to scientific findings about how some human activities are harming God's creation. As another example, our health suffers if we don't listen when science tells us how new-age alternative medicine is without merit.

Finally, the warfare creates fragmented lives. By pitting one aspect of God's truth against another, it keeps us from having a coherent view of reality, informed by science and scripture.

## Why Does the Warfare Persist?

At this point, we might ask why this warfare persists, and even seems to be worsening. Part of the reason is probably the nature of discourse in modern society, where (especially in the media) extremes get all the attention. Part of it is simple ignorance; warfare is the only picture most people are given, and without any knowledge of more constructive alternatives they tend to accept it unquestioningly.

However, on a deeper level, I think the warfare persists because the extremes who are driving it have more in common than they might admit. Both those who are pushing atheism in the name of science and those in the “creationist” movement share at least two common assumptions that promote warfare. First, both extremes assume the Bible is making scientific truth claims. Second, both extremes assume that “natural” explanations are in competition with God, that finding a natural explanation for something automatically excludes God. From a Christian perspective, both of these assumptions are wrong, as we will discuss in Chapter 3 (about reading the Bible in context) and Chapter 4 (about our theology of nature).

## Peacemakers

As in other cases of harmful “warfare,” Christians are called to be peacemakers. How do we do that? A first step is learning the real history and getting a Christian perspective on how we have gotten into this mess. A second step is seeing the extremes in the warfare for what they are, recognizing that neither science nor Christianity has to be defined by those extremes. Third, and perhaps most important, we need to reject the common assumptions made by both extremes. If we can get across the point that we shouldn’t ask the Bible questions it isn’t trying to answer, and that God is sovereign over nature so that “natural” explanations don’t exclude God, most of the impetus for warfare will vanish.

Many Christians throughout history have been peacemakers, integrating their Christian faith and the practice of science at the highest level. We will conclude this chapter by listing some prominent Christian scientists, past and present. Of course there are many non-famous Christians in science (like me) – the American Scientific Affiliation<sup>6</sup> is an organization for Christians in science with over 2000 members, and similar organizations exist in other countries. Many others could be added to the following list, but these should suffice to show that excellence in science is compatible with following Jesus.

Our first example is *Blaise Pascal* (1623-1662). Pascal made important contributions to mathematics (particularly probability), and to the understanding of fluids, air pressure. He was the first to demonstrate and explain the reduction of atmospheric pressure with altitude. Pascal is also known for his Christian writings, particularly for a collection of profound short thoughts known as the *Pensées*.

*Michael Faraday* (1791-1867) was the discoverer of electromagnetism and many things in chemistry. When asked late in life if he had speculations about life after death, he said “Speculations? I have none. I am resting on certainties. I know whom I have believed and am persuaded that he is able to keep that which I have committed unto him against that day.”

*James Clerk Maxwell* (1831-1879) provided the theoretical description of electromagnetism, paving the way for modern fields such as optics and electrical engineering. He was a devout Christian. On the topic of his life, he said, “I have the capacity of being more wicked

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<sup>6</sup> [www.asa3.org](http://www.asa3.org)

than any example that man could set me, and ... if I escape, it is only by God's grace helping me to get rid of myself, partially in science, more completely in society – but not perfectly except by committing myself to God.”

*Asa Gray* (1810-1888) was a Professor at Harvard and the leading American biologist of his time. Grays Peak, a prominent mountain in Colorado, is named after him. Gray was a leader in communicating Darwin's theory in America, seeing no conflict with his strong Christian faith.

*Charles Townes* won the 1964 Nobel Prize in Physics, for the invention of the Maser (which paved the way for the laser).

*John Houghton* is a prominent British atmospheric scientist. From 1988-2002, he was Co-Chair of the Intergovernmental Panel on Climate Change, which is the international scientific body devoted to climate-change studies. He is now serving as President of the John Ray Initiative,<sup>7</sup> a British educational ministry concerned with caring for God's creation.

*William Phillips* won the 1997 Nobel Prize in Physics for his studies on manipulating atoms at temperatures extremely close to absolute zero.

*Francis Collins* achieved great success in genetic research and is now the Director of the Human Genome Project, the U.S. government's project to map human DNA in order to enable new medical advances. Collins recently wrote a book called *The Language of God* about the harmony between science and faith in his own life. Collins and Townes are both on the Advisory Council for the American Scientific Affiliation, mentioned above.

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<sup>7</sup> [www.jri.org.uk](http://www.jri.org.uk)