A Christian View of Science History –Part One The Ancients
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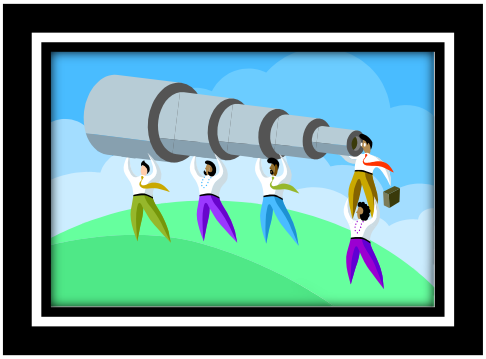

God created man and gave him dominion over the earth (Genesis 1:26 " And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. 27 So God created man in his own image, in the image of God created he him; male and female created he them. 28 And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.") Man was to subdue the earth and care for it. Implicit in this mandate is the need to explore, understand, and teach to the generations after us in the world that God has given us.

1. In a real sense the very first scientist was Adam.
    a. His very first activity was TAXONOMY – at the LORD's command
        i. Naming
        ii. Classifying
        iii. Describing kinds
    b. Far from the knuckle dragging Neanderthal referenced by modern science
    c. Adam was brilliant, insightful, and ignorant only of evil
    d. After the Fall
        i. Adam's sinful heart was darkened
        ii. His fellowship with God was broken
        iii. His race faced the curse of sin in a newly hostile world
            1. Because of the Fall mankind began to stray from God
            2. Our thinking and perception was impacted
            3. According to Romans 1, an unthankful mankind:
                a. Forsook God
                b. Turned to Lesser Things
            4. Romans 1:18 "For the wrath of God is revealed from heaven against all ungodliness and unrighteousness of men, who hold the truth in unrighteousness; 19 Because that which may be known of God is manifest in them; for God hath shewed it unto them. 20 For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse: 21 Because that, when they knew God, they glorified him not as God, neither were thankful; but became vain in their imaginations, and

their foolish heart was darkened. 22 Professing themselves to be wise, they became fools, 23 And changed the glory of the uncorruptible God into an image made like to corruptible man, and to birds, and fourfooted beasts, and creeping things. 24 Wherefore God also gave them up to uncleanness through the lusts of their own hearts, to dishonour their own bodies between themselves: 25 Who changed the truth of God into a lie, and worshipped and served the creature more than the Creator, who is blessed for ever. Amen. 26 For this cause God gave them up unto vile affections: for even their women did change the natural use into that which is against nature: 27 And likewise also the men, leaving the natural use of the woman, burned in their lust one toward another; men with men working that which is unseemly, and receiving in themselves that recompence of their error which was meet. 28 And even as they did not like to retain God in their knowledge, God gave them over to a reprobate mind, to do those things which are not convenient; 29 Being filled with all unrighteousness, fornication, wickedness, covetousness, maliciousness; full of envy, murder, debate, deceit, malignity; whisperers, 30 Backbiters, haters of God, despiteful, proud, boasters, inventors of evil things, disobedient to parents, 31 Without understanding, covenantbreakers, without natural affection, implacable, unmerciful: 32 Who knowing the judgment of God, that they which commit such things are worthy of death, not only do the same, but have pleasure in them that do them."

e. So the course of subduing the earth and the heavens
    i. and understanding God's works
        1. Became difficult
        2. And suffered a retreat
    ii. Much of the history of science
        1. Is the story of fallen man struggling
            a. To understand
            b. And explain
            c. What he should have already known.
        2. It is the story marked by
            a. Brilliant insights
            b. And dreadful errors
                i. Made by people of faith
                ii. And vision

2. THE PURPOSE OF THIS PAPER IS:
    a. To outline for you
        i. Some of the struggle
            1. Of men of Faith
            2. And others
                a. To understand
                    i. The world

1. God created
2. And gave to man
    a. For his dominion
    b. And stewardship

3. Let's begin with the Bible, the ultimate source of truth:
    a. While the Bible is NOT a book of Science
        i. When it speaks to science
            1. It speaks
                a. Accurately
                b. And with Authority
            2. Many "scientific" truths were revealed
                a. In the Bible
                b. Thousands of years before they were "discovered"
                c. By modern Science
        ii. We shall also see
            1. Because the Catholic Church
                a. Had embraced Aristotle as "gospel"
                b. They opposed many clearly revealed truths
                    i. As taught in the Bible
                    ii. And By Galileo
                    iii. And other Bible believing scientists
    b. Here are a few of the more obvious truths taught clearly in the Bible:
        i. The Earth is a sphere suspended in space.
            Isaiah 40:22; Job 26:7
        ii. The water-cycle keeps the land watered.
            Job 36:27-28; Ecclesiastes 1:7; Amos 5:8
        iii. The universe is running down. (2nd Law of Thermodynamics)
            Isaiah 51:6; Psalm 102:26
        iv. Ocean currents flow through the sea.
            Psalm 8:8
        v. Blood sustains life.
            Leviticus 17:11
        vi. The stars are incredibly distant from the earth and cannot be numbered.
            Job 22:12; Genesis 15:5; 22:17; Jeremiah 33:22
        vii. The winds form a circulating system.
            Ecclesiastes 1:6
        viii. Man's body is composed of the same materials as the earth.
            Genesis 2:7; 3:19; Psalm 103:14
        ix. Surgery should be performed while the patient is sleeping.
            Genesis 2:21
        x. DNA contains all the characteristics of the human just like pages of a book.

Psalm 139:14-16

xi. Hygiene demands separation from dead things and waste products.
Leviticus 12-15

xii. Diseases are caused by unclean germs transferred from one person to another.
Leviticus 12-15

xiii. Dietary laws reflect the dangers of eating animals that could not be properly prepared or preserved in Biblical conditions and climates.
Leviticus 11

c. Had men understood the clear teaching of the Bible
    i. They would not have followed the foolish teaching of "bad humors"
        1. Which led to the "bleeding" of George Washington
        2. When he most needed his blood
            a. with its life-giving oxygen
            b. which starved him for breath
            c. and led to more bleeding
                i. And finally his death in agony.
                ii. Ironically his Bible was open to Leviticus 17:11
                iii. "The life of the flesh is in the Blood."
                iv. Moral: IGNORANCE of the Truth can kill you!

4. Turning to other cultures and civilizations:
    1. The Greeks
        a. Among the descendants of Noah, the Greeks were the most prolific of writers and scientists
        b. The Earliest "scientists" where philosophers
            1. Philos ($\phi\iota\lambda o\sigma$) is Greek for love
            2. Sophia ($\sigma\omega\phi\iota\alpha$) is Greek for wisdom
                a. Therefore, a philosopher is a lover of wisdom
                b. And an asker of questions
                    i. And the study of philosophy asks some basic questions
                        1. Who am I?
                        2. Why am I here?
                        3. Is there a purpose to life?
                        4. Is there a designer or did things just happen?
                        5. What is the nature of reality?
                        6. What is everything made of?
                        7. Where should I look for answers?
                        8. How shall I behave?
                        9. What happens to me when I die?
                    ii. Once all men knew the answers to these questions when they knew the true God
                        1. But as man departed from the true God
                        2. And embraced false gods of their own making

3. Much of the knowledge of the human race
    a. Was forgotten
    b. Was rejected
    c. Was distorted
    d. Was exchanged for error (Romans 1)
    e. And God gave them over to
        i. Darkness
        ii. Lies
        iii. Superstitions
        iv. Fables
        v. Gross Immorality

c. The Greeks grew restless of their mythology
    i. And turned to philosophy to answer their deepest questions
        1. While most of their ideas were incomplete
            a. Inaccurate
            b. And many times directly opposite of the truth
        2. They, nonetheless, began to ask many of the right questions
            a. And revealed both the brilliance of the human mind
            b. And the utter emptiness of philosophy without God
    ii. Some of their philosophers rank among the first real scientists
        1. And they made remarkable discoveries
        2. Were idolized by many thinkers who followed them
            a. Causing stagnation in the arena of human learning
            b. And led to the dark ages
                i. Until the Protestant Reformation
                1. Rejected the blind teaching of their dogmas
                2. Fostered a renew of the examination of Science
                3. And the Scriptures
                    a. And led directly to the founding
                    b. And support
                        i. Of Universal Literacy
                        ii. And Universities
                        iii. And other institutes of learning.

d. The First Important Greek Philosopher "Scientists" were:
    i. Called the Pre-Socratic Philosophers
        1. Began appearing around 600 BC.
        2. Took their name from being before Socrates
            a. Who is one of three great philosophers
            b. Who appear in succession with one another
            c. And set the standard for the "Golden Age" of Greece Philosophy
    ii. The first of note was Thales ($\theta\alpha\lambda\epsilon\sigma$)
        1. Lived around 600 BC

2. From Miletus, Iona
    a. Then a part of Greece
    b. Today a part of Turkey
3. He thought all matter was based on water
    a. Which he took to be the first
    b. And primary element

iii. Next came Anaximander
1. He proposed that the world was composed of
    a. The interaction between aggressive opposites
        i. Light vs. darkness
        ii. Hot vs. Cold
        iii. Male vs. Female
        iv. Wet vs. Dry
            1. And it is easy to see his philosophy
            2. After all:
                a. Wet banishes dry
                b. Light dispels darkness
                c. The Sun dries up water
                d. Water puts out fire
                e. Darkness makes us unable to see light
2. He also taught a form of "evolution"
    a. He believed in the interaction between water and land
        i. That the earth was once covered with water
        ii. And that as the water retreated
            1. Warm slime appeared
            2. He believed live arose from that slime
                a. Living from non-living
                    i. Or Spontaneous Generation
                    ii. Which was long ago disproven
    b. Thus, he has the dubious distinction of being
        i. The very first EVOLUTIONIST!
        ii. Move over Darwin!

iv. Then there was Anaximenes
1. Like Thales thought the universe was a primary substance
2. But thought that substance was Air
3. Not water like Thales

v. Empedocles thought there were four types of matter
1. Earth
2. Air
3. Fire
4. Water

vi. Parmenides was not concerned about substances

1. But was interested in processes
2. He believed that matter
    a. Whatever it is made of
        i. Is eternal
        ii. It cannot be created
        iii. It cannot be destroyed
        iv. And whatever change we think we see
            1. Is merely an illusion
            2. Therefore, creation is impossible
                a. Matter
                b. Not God
                    i. Is Eternal
                    ii. And unchangeable

vii. The most famous of the Pre-Socratic philosophers
1. Was Pythagoras
    a. Who are argued that mathematics
        i. Is the basis of reality
        ii. And the essence of everything
    b. He would argue that only that which can be proven
        i. Mathematically
            1. Is true
            2. Real
            3. And actual
    c. If you are not mathematically gifted
        i. You are out of luck
            1. In the world of Pythagoras

viii. Two more really important names are in this group
1. Leucippus
    a. And his pupil Democritus
        i. Proposed that the world was made elementary particles
            1. That they called “atoms”
                a. A term we have adopted today
        ii. They taught
            1. Atoms where
                a. Indestructible
                b. Indivisible
                c. Without smaller parts
                d. Infinite in number
            2. Atoms came
                a. In three basic
                    i. Geometric shapes
                    ii. Forming everything in existence

iii. By combining infinite varieties

ix. So you see, they had some ideas that were remarkably close to the truth
    1. But just off enough
    2. To lead to other thinkers
    3. Better accepted than they were

e. And now, the three most important and influential of the Greek philosophers
    i. Their ideas affected the development of
        1. Science
        2. Physics
        3. Ethics
        4. Art
        5. Theology
        6. Politics
        7. And Metaphysics
            a. In Western Civilizations
    ii. Socrates (470-399 BC)
        1. Laid the foundation a method of inquiry
            a. That would be come to known as the Socratic method
            b. Was a question and answer process
            c. Which allowed both the teacher
                i. And his student
                    1. To come to understanding
                    2. And eventually find the truth
                    3. Together
        2. But his method led to his own death
            a. Questioning authorities
                i. Unlike questioning students
                ii. Caused Socrates to be labeled
                    1. A disturber of Public Order
                    2. And a corrupter of the youth!
            b. He was tried
                i. Found guilty
                ii. And ordered to be executed
                iii. By drinking poison – “Hemlock”
        3. Socrates did not pen any of his own teachings
            a. But what we know of him
                i. Comes from the pen
                    1. Of his most famous
                    2. And influential pupil
                        a. The philosopher
                            i. Plato!

iii. Plato (427-347 BC)
    1. Wrote a series of conversation teachings
        a. Called the Dialogues
            i. In which Socrates
                1. Is the main speaker
                2. And through which we learn
                    a. About the teaching of Socrates
                    b. (Just a side note – there is a great deal more evidence about the birth, life, death, and resurrection of the Lord Jesus Christ than there is that Socrates ever existed, but no serious scholars deny the existence of Socrates, yet many so-called scholars deny that Jesus ever existed.)
    2. One of Plato's interests was in how people acquire knowledge
        a. As such he represents a transitional figure
            i. Between the purely philosophical teachers
                1. Like Socrates
            ii. And the Naturalist Philosophers like
                1. His own pupil
                    a. Aristotle
                    b. Who is considered by many
                        i. To be the first real Scientist
        b. He was in a sense also a much like a Hindu
            i. In the sense that he taught we actually don't learn anything
                1. But through an endless series of reincarnations
                2. We gather information
                3. Only to re-remember it in the next life!
        c. In his famous Allegory of the Cave
            i. Plato argued that the first duty of the philosopher
                1. Is to determine the truth behind reality
                2. Or the truth behind the way things seem to appear
            ii. To Plato, ideas were the only real things
                1. Our perception of them may be faulty
                2. Our senses cannot be trusted to tell us the truth
            iii. In his allegory he pictured men as slaves bound to a post
                1. Facing a cave wall
                2. And watching endless shadows
                    a. Moving on the Wall behind them

b. From their perspective a bright light
c. Was shining over their shoulders
d. And endless men and animals were moving up and down a road at their backs
    i. This was the slaves only vantage point
    ii. Thus, it was their reality and world-view
e. But Plato taught that if one of the slaves
f. Was freed and marched out of the cave
    i. He would see that he was in cave
    ii. The light was merely a lantern
    iii. The shadows caused by "men and animals"
    iv. Were only puppets held up to the light
    v. To fool the slave observers
g. The Freed slave would see the brilliant light of day
    i. Learn there was a much larger and more beautiful world out there
    ii. And learn about the reality of the world outside the cave
h. The Slave would then return to the cave
    i. And attempt to tell his fellow captives
    ii. The truth about the world around them

d. Thus, it was the moral duty of the philosopher (scientist) to open the eyes of others about the nature of reality.

3. Plato taught his students
    a. In the garden of Academus ($A\chi\alpha\delta\epsilon\mu\upsilon\sigma$)
        i. From which we get the names
            1. Academic
            2. Academics
            3. Academy
            4. Academies
        ii. And he taught while "walking around" the garden
            1. Giving us the words

a. Peripatetic – $\pi\epsilon\rho\iota\pi\alpha\tau\epsilon\tau\iota\epsilon\omega$ a method of teaching, originally meant walking around, now means to repeat over and over
b. Pedagogic – $\pi\epsilon\delta\alpha\gamma o\gamma\iota\epsilon\omega$ means to take walk, literally to take a student by the hand and lead them to truth

2. Plato's ideas impacted his greatest student, Aristotle
    a. Who went on to be the teacher of the son of Philip of Macedon
    b. A young man named
        i. Alexander the Great
        ii. Who conquered the known world
        iii. And spread his ideas all over the world

iv. Aristotle (384-322 BC)
1. Aristotle was as much a naturalist
    a. As he was a philosopher
    b. And so he might well be called the first "scientist"
        i. In the modern sense of the term
    c. Making keen observations of
        i. The Structure
        ii. Habits
        iii. Distribution
        iv. And Development of Animals
    d. And making detailed anatomical drawings
        i. Which he included in his works
        ii. The very first of their kind
2. As philosopher he rejected much of Plato's theories
    a. And inserted his own doctrine of the intellect
        i. Which elevated human reason
        ii. And speculation
            1. To the highest place in reality
    b. And rejected any notion of a personal God
    c. Trumpeting the interrelation between all living things and truth
        i. Thus making Aristotle a hero to modern scientists
        ii. Who seek to elevate human intellect over divine revelation

3. But Aristotle was also embraced by the decidedly non-atheistic Roman Catholic Church
    a. As the nearly infallible source
    b. For scientific truth from around 300 AD
    c. To the time of the Protestant Reformation in the 1500's
        i. Why was Aristotle so embraced?
            1. He taught the Universe is geocentric
                a. Meaning that everything in the universe
                b. Revolves around the planet Earth
            2. And that the Universe was divided into two domains:
                a. The Astronomical – or Heavenly realm contains
                    i. The planets,
                    ii. Stars
                    iii. And other bodies
                    iv. And is surrounded and filled with Ether – a substance unknown on earth
                b. The Sublunar – or Earthly realm is made of four substances:
                    i. Earth
                    ii. Air
                    iii. Fire
                    iv. Water
                    v. (Remember Empedocles?)
                    vi. Which make up all physical things
            3. Aristotle taught that these realms were all connected by a series of interconnecting spheres (56 in all)
                a. And that the action of one sphere caused movement in the next lower sphere
                b. On the outside sphere was the largest sphere called the PRIME MOVER.
                    i. The Church Fathers saw this as a proof positive for the existence of God
                    ii. As the Divine Prime Mover

iii. And adopted the thinking of this Pagan Philosopher as Gospel truth

2. The Greeks were way off base in much of what they believed and taught
    a. But they were right about a number of things
        i. Eratosthenes, for example, a Greek philosopher
        ii. And Mathematician
            1. In the 3rd Century before Christ
            2. Understood the earth was round
                a. And using basic trigonometry
                    i. Was able to measure the circumference of the Earth
                    ii. To within 400 hundred miles
                        1. Which is given its size
                        2. Pretty close indeed!
    b. They were right about the unity
        i. And consistency in nature
    c. And they understood even without microscopes
        i. The intricate Nature
        ii. Of the design of the material world
    d. But rejecting a personal God
        i. They fell into the error of missing God's hand in nature
        ii. Or acknowledging its testimony of Him to them.

3. Let me briefly mention the contributions of two other old societies
    a. The Romans
        i. The Romans were not noted for their own inventions
            1. They were chiefly plunderers
            2. Who took the ideas of others
                a. And put them to use
                b. Or improved upon them
        ii. But two of their number stand out as fairly interesting:
            1. Gaius Plinius Secundus
                a. Lived from AD 29 to 79
                b. Was better known as Pliny the Elder
                    i. Was a Roman General
                    ii. And amateur naturalist
                        1. Who wrote prolifically
                        2. And produced a work called
                            a. Natural History (Historia Naturalis)

b. Which was a huge work
    i. Touching on astronomy
    ii. Zoology
    iii. Botany
    iv. Mineralogy
    v. And Medicine
c. But sadly this work is such a mixture of fact,
    i. Speculation,
    ii. Superstition,
    iii. And observation
d. That it is of very little scientific value

2. Claudius Galenos
    a. Lived from AD 129 to 199
        i. Better known as simply Galen
            1. Was a Roman Slave
            2. Of Greek Extraction
                a. Who was trained as a physician
                b. And lived in Rome
    b. He specialized in a study of anatomy
        i. And was keenly interested in direct observation
            1. He was forbidden by law to dissect human bodies
            2. So he dissected animals to aid his understanding
                a. And he experimented with animals
                    i. To Disprove the superstitions
                    ii. He had been taught
    c. Remarkably, he was able to prove the brain controls the muscles through nerves
        i. And that the kidneys produce urine
        ii. And that damage to the spine can cause paralysis
    d. But though he was brilliant he was not always right
        i. Nonetheless, he was regarded as the absolute authority on human anatomy
        ii. For 1000 years
        iii. Until the Protestant Reformation

b. The Egyptians – Much of what the ancient Egyptians gave us is utter superstition, though we know they
    i. Practiced delicate surgery with high survival rate
        1. Even brain surgery
    ii. And built magnificent pyramids
        1. Which are to this very day

2. Testimonies to their amazing skills in mathematics
3. And engineering.

iii. But in AD 100-170 an Egyptian Astronomer and Mathematician named
1. Claudius Ptolemy
a. Of Greco-Roman-Egyptian extraction
b. Simplified Aristotle's 56 rotating spheres
i. To eight perfect crystalline spheres
1. Circling the earth
2. Which lay at its center
ii. And included a sphere for the
1. Sun
2. The Moon
3. And the five known planets
a. Mercury
b. Venus
c. Mars
d. Jupiter
e. And Saturn
4. The eighth sphere held the stars
iii. Each were thought to resonate at a different frequency
1. Like a musical tone
2. Hence the "music of the spheres" from This is My Father's World
3. Reflects a Ptolemic understanding of the Universe

4. These great men, and great thinkers
a. Represent the best of ancient Science apart from Scripture
i. Sadly they lost their way
ii. And It would require the Gospel
1. And the return to the Study of the Scriptures themselves
a. In the Protestant Reformation
b. To return Science to something beyond the human reasoning
i. And error filled speculation of the ancient philosophers
1. And Scientists who plunged the world into darkness
2. And professing themselves to be wise
a. Exchanged the Glory of the incorruptible God
b. For the folly of unregenerate man
i. And professing themselves wise
ii. Became "Foolosophers"