

NORTHERN CARIBBEAN UNIVERSITY

SCHOOL OF RELIGION AND THEOLOGY

Thursday, February 18, 2016

SOLOMON HARRIETT LECTURE THEATRE, 11:00 AM -1:00 PM

RESEARCH: PATHWAY TO BEST PRACTICES

AN ITERATIVE APPROACH TO UNDERSTANDING THE LINK BETWEEN

FAITH AND SCIENCE

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INTRODUCTION

The systematic nature of research¹ dictates that enquiry must be guided by proven principles and methods that produce authentic results. Research is driven by questions. The questions that probe the link between faith and science may not have discrete answers. In the pursuit of a pathway to best practices, this presentation will utilize a particular principle of mathematics as a guide to examine arguments and scenarios that may lead to a progressive synthesis of both paradigms.

The *Faith* that will be examined here is faith in a triune God practiced by Christians that primarily engages the heart; while the *Science* will encompass departments of both social and natural sciences ranging from archeology to linguistics that primarily engage the intellect.

In Acts 4:13 it is written: "Now when they (the priests, the captain of the Temple, and the Sadducees) saw the boldness of Peter and John, and perceived that they were unlearned and ignorant men, they marvelled; and they took knowledge of them, that they had been with Jesus. On the other hand, in Acts 22:3 Paul's statement indicates that he was an intellectual who was formally educated, "I am a Jew, born in Tarsus of Cilicia, but brought up in this city. I studied under Gamaliel and was thoroughly trained in the law of our ancestors."

Faith and Science are often misconstrued to be at odds. However, faith involves both the intellect and the heart. Science also involves the heart as it seeks answers. Unfortunately, the faith community has sidelined cerebral matters as merely tangential to faith while too often the scientific community cancels out the faith factor which generates the formula for the

¹ "Research" *The American Heritage Dictionary* (New York, NY: Houghton Mifflin Company), 1160.

creation and sustenance of life. Arguably, the most documented life-changing inventions and innovations have been accomplished by individuals of faith equipped with the tools of scientific research, motivated by their zeal to improve the well-being of their fellow-humans, and driven by their relentless quest to understand more about their creator and His creation.

Mathematicians often use equations of iteration to solve complex and difficult problems.² Iteration is used when there is no other way to solve an equation. Iteration is a key element in much of technical computation. It is a procedure in which repetition of a sequence of operations yields results successively closer to a desired result. Each repetition of the process is also called iteration and the results of one iteration are used as the starting point for the next iteration.³

Fruitful dialogue between faith and science occurs when Christians and scientists meaningfully answer the questions that they pose to each other in a disciplined conversation that refines their perspectives iteratively, each respecting the diligent conscientious work of the other.⁴ When questions are answered in this way the answers then form the basis for the continuation of the discussion and agreed solutions chart principles and procedures for feedback and modification.

² C. T. Kelley, *Iterative Methods for Linear and Nonlinear Equations* (Philadelphia, PA: Society for Industrial and Applied Mathematics, 1995).

³ Revisionmaths.com, "Iteration," *Advanced Level Maths - Pure Maths – Algebra* (Gloucestershire, UK: Revision World Networks Ltd, 2016); <http://revisionmaths.com/advanced-level-maths-revision/pure-maths/algebra/iteration>, accessed Feb 15, 2016

⁴ Christopher C. Knight, *Wrestling with the Divine* (Minneapolis, Mn: Fortress Press, 2001), 2.

This method of resolution has its roots and precedence in what is known as the dialectical method. This is a discourse between two or more people holding different points of view about a subject but wishing to establish the truth through reasoned arguments. The iterative approach is dialectical and as such is not congruent to methods used by debaters or rhetoricians to persuade, or motivate an audience.⁵

The use of iteration to solve a simple mathematical problem is demonstrated here: Newton's iteration is an algorithm for computing the square root \sqrt{n} of a number n via the recurrence equation.⁶

$$x_{k+1} = \frac{1}{2} \left(x_k + \frac{n}{x_k} \right),$$

where $x_0 = 1$. This recurrence converges quadratically as $\lim_{k \rightarrow \infty} x_k$

Newton's iteration is simply an application of Newton's method for solving the equation

$$x^2 - n = 0.$$

For example, when applied numerically, the first few iterations to Pythagoras's

constant $\sqrt{2} = 1.4142 \dots$ are 1, 1.5, 1.41667, 1.41422,

The first few approximants x_1, x_2, \dots to \sqrt{n} are given by

⁵ Edward P.J Corbett and Robert J. Connors, *Classical Rhetoric For the Modern Student 4th ed.* (New York, NY: Oxford University Press, 1999), 1, 18.

⁶ Hu, "Newtons Iteration," *Mathematics Notebook* (Champaign, IL: Wolfram Research, 2016); <http://mathworld.wolfram.com/NewtonsIteration.html>, accessed Feb 16, 2016

$$1, \frac{1}{2}(1+n), \frac{1+6n+n^2}{4(n+1)}, \frac{1+28n+70n^2+28n^3+n^4}{8(1+n)(1+6n+n^2)}, \dots$$

This presentation will adopt some principles of iteration in an attempt to unite faith and science through cooperative understanding. The desired outcome which is already biblical: is that Christians and scientists will be encouraged to work towards a coherence that will be instrumental to integration of both as a step to understanding God and then loving Him based on the understanding. And thou shalt love the LORD thy God with all thine heart, and with all thy soul, and with all thy *might* (Deuteronomy 6:5).

וְאַהֲבַתְּ אֶת יְהוָה אֱלֹהֶיךָ בְּכָל-לִבְבְּךָ וּבְכָל-נַפְשֶׁךָ⁵
וּבְכָל-מְאֹדֶךָ:

The motivation for this study comes from this text that immediately follows the שְׂמָע (sh^ema 6:4).

To make this proposed mathematical comparison to negotiating matters such as the convergence of faith and science is a useful activity that may guide both the Christian and the scientist towards loving God. Those that love the Lord with “force” will make use of every available resource to bear fruits of understanding. The Hebrew adjective מְאֹד (m^eod) denoting “force,” “exceeding” or “muchness” here deepens the expression encoded in the sentence that constitutes this verse. It gives it the complexion of an idiom^{7, 8} that draws from the

⁷ Frank Boers, “Understanding Idioms,” *Language Awareness - MED Magazine - Issue 49 - February 2008* (London, UK: Macmillan Publishers Limited, 2008); <http://www.macmillandictionaries.com/MED-Magazine/February2008/49-LA-Idioms-Print.htm>; accessed Feb 22, 2016.

aforementioned faculties of heart and soul every iota of resource within and in the perimeter of (physical and mental) that can be “wrung-out” to serve the creator. Matthew Henry explicates “Love with an intelligent love; for so it is explained, Mark 7: 33. To love him with all the heart, and with all the understanding, we must know him, and therefore love him as those that see good cause to love him. With an entire love; he is one, and therefore our hearts must be united in this love, and the whole stream of our affections [and intelligence] must run towards him.”⁹

Hence, the diversity of the vectors that will be considered here; they are: **1) faith and archeology, 2) faith and astronomy, 3) faith and history, 4) faith and philosophy, 5) faith and socio-linguistics, 6) faith and the preservation of the word, 7) faith and intelligent design, and 8) faith and computational power and distributive processing.**

Christians must integrate their knowledge of natural and social sciences into their faith towards a better understanding of that faith that they espouse. The principle of iteration enables the ardent seeker of truth to apply, to reapply, and to apply the re-application recurrently and recursively for refinement, using the result of each application - the knowledge of each encounter or discovery combined with faith in God – to understand the love of God. It is intended that this presentation be a source for general principles in the negotiation of issues that require faith based solutions that may be informed by science.

⁸ F. Boers and S. Lindstromberg, eds. *Cognitive Linguistic Approaches to Teaching Vocabulary and Phraseology*, (Berlin, Germany: Mouton de Gruyter, 2008).

⁹ Matthew Henry, *Matthew Henry Commentary on the Entire Bible* Matthew Henry, *Matthew Henry Commentary on the Entire Bible* (Peabody, Massachusetts: Hendrickson Publishers, 1991), on-line document www.biblestudytools.com/commentaries/matthew-henry-complete/deuteronomy/6.html, Feb, 2016.

FAITH AND ARCHEOLOGY

Biblical archaeology involves scientific investigation of the material remains of past cultures that can illuminate the periods and descriptions in the Bible. The scientific techniques used are the same as those used in general archaeology, such as excavation and radiocarbon dating. Thus archaeology is a science in the sense of systematic knowledge.^{10 11} Faith and science converge in some archeological discoveries. For example, John Garstang,¹² a British archaeologist, dug at Tell es-Sultan from 1930 to 1936. The two most notable discoveries by Garstang's team was a collapsed city wall toward the top of the mound (built on top of a wall which was built on top of the revetment wall, possibly 3 different vertical walls), and evidence of a thoroughly violent destruction of the city. Garstang dated, based on pottery found at the same depth, the city was destroyed around 1400 BC. In his own words he writes:

"In a word, in all material details and in date the fall of Jericho took place as described in the Biblical narrative. Our demonstration is limited, however, to material observations: the walls fell, shaken apparently by earthquake, and the city was destroyed by fire, about 1400 B.C. These are the basic facts resulting from our investigations. The link with Joshua and the Israelites is only circumstantial but it seems to be solid and without a flaw."¹³

¹⁰ Johnson C. Philip and Saneesh Cherian, *Archeology and the Christian: Biblical Archeology Book 1* (Kerala, India: Philip Communications, 2013).

¹² *Encyclopædia Britannica Online*, s. v. "John Garstang", <http://www.britannica.com/biography/John-Garstang>, accessed February 21, 2016

¹³ Walter C. Kaiser, *History of Israel: from the Bronze Age through Jewish Wars* (Nashville, TN: Broadman & Holman Publishers 1998), 150-152.

FAITH AND HISTORY

History informs Christians and provides some of the color to the backdrop against which Christians must analyze their beliefs. The case of Rastafari will show the danger of neglect of proper historical investigation. Rastafarian religion, belief and culture is a global phenomenon that rides on reggae music and the use of cannabis as a sacrament. The culture, hairstyle, and dress is popular and the adherents believe that Ras Tafari Haile Selassie I former emperor of Ethiopia¹⁴ now deceased was God in flesh fulfilling the prophecies of **Genesis 49:10** “The sceptre shall not depart from Judah, nor a lawgiver from between his feet, until Shiloh come; and unto him *shall* the gathering of the people *be*” and **Psalms 87:3-4** Glorious things are spoken of thee, O city of God. Selah. I will make mention of Rahab and Babylon to them that know me: behold Philistia, and Tyre, with Ethiopia; this *man* was born there.¹⁵

In the book *The children of Sisyphus* set in the background of the 1950s Jamaica, Rastafari is articulated as a religion rising from the Dungle (slums) of West Kingston but rooted in scripture with a charismatic prophet in national hero Marcus Garvey who prophesied the coronation and rise of Emperor Ras Tafari Haile Selassie I in Ethiopia and advocated for a repatriation of all Africans to Africa the original home of mankind (Rastafarian belief).¹⁶ Reggae superstar Bob Marley, his songs laced with Biblical texts has been the great evangelist and high

¹⁴ Haile Selassie I. *My Life and Ethiopia's Progress: The Autobiography of Emperor Haile Sellassie I.* trans. Edward Ullendorff. (New York, NY: Frontline Books, 1999).

¹⁵ Barry Chevannes, *Rastafari: Roots and Ideology* (Syracuse, NY: Syracuse University Press, 1994).

¹⁶ Orlando Patterson, *Children of Sisyphus* (Leeds, UK: Peepal Tree Press Ltd, 2011).

priest of the Rastafarian movement. Rastafarians claim that they are Biblical Nazarites having taken the vows similar to the Nazarite vow of the Old Testament (Numbers 6).¹⁷

If the legend of Ras Tafari is perpetuated into the next century then any enquiry into its history and origin may be blurred by time, extrapolation, or deliberate distortion by individuals who desire its propagation to add to the conundrum Bible-based faiths. Its propagation may be so successful, riding on the wings of its own rhythm, rhetoric, and garb that reference to its history may become lost in its hegemony. When this happens it will assume an air or facade of authenticity. Then, who will make the distinction? Those who can will be long dead and forgotten.

It is estimated that over 100,000 Jamaicans are Rastafarians, the majority are males, but a great many constitute families. Recent stats. Indicate that 0.6 million or 0.01% of the world's population are Rastafarians.¹⁸

Christians have centuries of commentaries written by eminent theologians who have distilled the events, thoughts, polemics, prejudices and predispositions of their time into timeless precious interpretations of scripture. Over two millennia of documented theological knowledge is available for research and reference. In every age the commentaries of theologians have reflected the social and natural scientific progress of their generation as well as the politics and culture of their people. These commentaries are historical lenses through which the Bible has been refracted. Christians in successive ages benefit from the output of

¹⁷ Leonard E. Barrett Snr., *The Rastafarians* (Boston, MA: Beacon Press, 1997).

¹⁸ Leonard E. Barrett, *The Rastafarians: A Study in Messianic Cultism in Jamaica* (Institute of Caribbean Studies, 1968); See also New World Encyclopedia contributors, "Rastafari," *New World Encyclopedia*, <http://www.newworldencyclopedia.org/p/index.php?title=Rastafari&oldid=988913>, accessed Feb 22, 2016.

Christians before them and add their iteration to the formula for a more informed theology with new layers of understanding based on their current methods of analysis and latest discoveries.

Thus the commentary of the 21st century theologian on scripture should use the results of previous iterations (the synthesis or integration of their knowledge) to build new iterations for the generations to come or the Bible may become vestigial. 21st century Christians should know history. It is interesting to note, according to Denis Alexander, even though religion played a greater social role during periods of Western European history, the popular idea that the mass of people in past centuries were innately religious and centered their lives on godly concerns in contrast to their modern godless counterparts is mistaken. Real history is more ambiguous and does not lend itself to neat hyperbolic curves. Alexander further states that the prime effect of modernization is not the decline of religion but the growth of religious and ideological plurality.¹⁹

FAITH AND PHILOSOPHY

Science writer Fred Heeren reasons that:

Because of their misunderstanding of the biblical doctrine of faith, some people argue that the gospel is not supposed to be logical – it's just supposed to be believed. For some it is a mark of spirituality to be able to throw all human reason to the wind in order to have faith. After all, are we not saved by faith alone? Isn't it impossible to reason our way to heaven? Doesn't the Bible itself say that the gospel is foolish? The expressions leap of faith and blind faith obviously leave no room for logic. While the Bible says that faith is the conviction of things we cannot see (Hebrews 11:1), it never says that faith is the conviction of unreasonable things that our minds cannot

¹⁹ Denis Alexander, *Rebuilding the Matrix* (Grand Rapids, MI: Zondervan, 2001), 51-53

comprehend. Science gives us many facts that we know even though we cannot see them; this does not make those scientific convictions illogical. The Bible does not say that faith is the conviction of things that contradict what we can see. Paul told the Roman governor Festus, “What I am saying is true and reasonable” (Acts 26:25). He admonished the Corinthian believers to stop thinking like children. He does not ask his readers to lower their standards of sense or judgment in order to believe him, but rather tells them: “I speak to sensible people; judge for yourselves what I say” (1 Corinthians 10:14).²⁰

Philosophers throughout the ages such as: Pythagoras, Athanasius, Augustine, Descartes, Hume, Kant, James, and Wittgenstein have proposed logical answers to questions of faith, existence, and science. In fact many have been the harbingers of morality and law in Western civilization. Samuel Henry Butcher suggests that, Aristotle, Plato, not to say Aeschylus, Sophocles and Euripides are still the modern masters of the intellect.²¹ They have been motivators and innovators of mathematics, astronomy, technology, science, government, and commerce in their respective societies and Christians cannot ignore their impact on religious tradition, even faith. 1st century Christianity grew in the matrix of Greek philosophy and had to respond comprehensively to that phenomenon.²² As well, multi-disciplinary researchers over the years have responded to the claims of scripture by examining texts from other analytical

²⁰ Fred Heeren explains in “Is the Gospel Logical”, *Show me God* (Miamitown, Ohio: Day Star Publications, 2000), 275.

²¹ See S.H. Butcher, *Harvard Lecture on Greek Subject*, (1904), 129, 203; and Gottfried Bernhardt, *Grundriss Der Griechischen Litteratur: Th. Innere Geschichte Der Griechischen Litteratur. 1867 German Edition* (Charleston, NC: Nabu Press, 2010).

²² Richard R. Hopkins, *How Greek Philosophy Corrupted the Christian Concept of God* (Alhambra, CA: Horizon Publishers, 2009); Everett Ferguson, *Backgrounds of Early Christianity* (Grand Rapids, MI: W.B. Eerdmans Publishing Company, 2003). Hopkins theorizes that: The net effect of the changes wrought by the well-intentioned Christian Apologists was to lead the interpretation of the scriptures away from a literal/symbolic interpretation of the scriptures to a Greek metaphysical interpretation never intended by the Hebrew writers of the Old and New Testaments. He attempts to show the meaning the Hebrew writers would have given to passages commonly interpreted in a metaphysical way.

viewpoints. Some Bible Commentators have examined the Old and New Testaments within the context of their authorship, transmission, literary genre, sources, scribal errors, and historicity that reveal interesting insights that should extend the breath of the 21st century Christians knowledge.²³ From these a unique understanding of the faith science paradigm emerges.

The Wise men from the East recognized a star that the High Priest, Priests, Levites, Rabbis, Scribes, Pharisees, Sanhedrin, and Sadducees failed to recognize. These men were “aliens from the commonwealth of Israel” (expression “alienated” used by the writer of *Ephesians* in chap 2:12 actually an interpretation of ἀπαλλοτριώ (*apallotriow*) or more forcefully נְכַרִּים (*nacrim*) which conveys the idea of the “uncircumcised” used in Gen 17:12 and in the *Hebrew New Testament* translation of the text under consideration.²⁴

Matthew, it is reasoned by several commentators, meant by the word “magi” that they were philosophers. They were the learned class who cultivated astrology and kindred sciences. Of the Magi, Dr. Schaff remarks: "The Saviour was not without a witness among the heathen. Wise men from the East guided miraculously by a star or meteor created for the purpose, came and sought out the Saviour to pay him homage"²⁵ They had knowledge of

²³ Konrad Schmid, *Old Testament: A Literary History*, trans. Linda Malolney (Minneapolis, MN: Fortress Press, 2012). The preface clarifies that: The multiple points of contact of the texts of the Old Testament make it extraordinarily apt for literary-historical examination.

²⁴ R Laird Harris, Gleason L Archer Jr and Bruce K. Waltke, *Theological Workbook of the Old Testament* (Chicago, IL.: Moody Publishers, 2003). The root *nkr* carries several different meanings. First, it conveys the idea to "inspect" or "look over" something with the intention of recognizing it. Jacob invited Laban to "point out" (i.e. visually distinguish) his own possessions from those of Jacob (Gen 31:32). Likewise, personal items such as Joseph's robe (Gen 37:32) and Judah's signet, cord, and staff (Gen 38:25) are inspected with a view to identifying the owner of each. Ruth is surprised that Boaz "took notice" (*nkr*) of her when she was a foreigner (*nokriyâ* ; Ruth 2:10, 19; cf. 2Sam 3:36).

²⁵ *Dr. William Smith's Dictionary of the Bible Volume II Hackett's ed* (New York, NY: Hurd and Houghton, 1873), 1349

Astronomy which piloted them to the place of Jesus' birth. One cannot ignore the faith of these men, who evidently had been motivated by divine revelation. Other astronomers may have taken note of the star but failed to see its significance – A convergence of faith and science on the birth of the Savior.

FAITH AND ASTRONOMY

The following is an example of the interplay between Astronomy and faith in the early 16th century. On his 4th and final voyage to the New World, Christopher Columbus, a man of faith and science (a devout Catholic and able navigator of the high seas) was forced to abandon two of his ships and managed to beach the remaining two on the north coast of Jamaica, on June 25, 1503. Initially, the Arawak Indians welcomed them, providing them with food and shelter. Finally, after being stranded for more than six months, half of Columbus' motley crew mutinied, robbing and murdering some of the Arawaks, who themselves had grown weary of supplying cassava, corn and fish in exchange for trashy goods. With famine now threatening, Columbus formulated a desperate but ingenious plan. Coming to the admiral's rescue was an almanac created by a highly regarded German mathematician, astronomer and astrologer known as Regiomontanu. This almanac contained astronomical tables covering the years 1475-1506. They provided detailed information about the sun, moon and planets, as well as the more important stars and constellations to navigate by.

Columbus discovered from the tables that on the evening of Thursday, Feb. 29, 1504, a total lunar eclipse would occur, beginning around the time of moonrise. Armed with this knowledge, three days before the eclipse, Columbus requested a meeting with the Arawak

chief and informed him that his Christian god was very angry with his people for no longer supplying him and his men with food. Therefore, he was about to provide a clear sign of his vexation: Three nights hence, he would all but obliterate the rising full moon, making it appear "inflamed with wrath," which would signify the evils that would soon be inflicted upon all of them. On the appointed evening as full darkness descended, in place of the normally brilliant full moon there hung a bloody red ball in the eastern sky.

According to Columbus' son, Ferdinand, the Arawaks were terrified at this sight and "with great howling and lamentation came running from every direction to the ships laden with provisions and beseeching the admiral to intercede with his god on their behalf." They then kept Columbus and his men well supplied and well fed until a relief caravel from Hispaniola arrived on June 29, 1504.^{26,27} The misplaced faith of the Arawaks who believed in a sky-god and an earth-goddess prepared them for deception

Another twist to faith and astronomy occurred during most of the 16th and 17th centuries, fear of heretics spreading teachings and opinions that contradicted the Bible dominated the Catholic Church. They persecuted scientists who formed theories the Church deemed heretical and forbade people from reading any books on those subjects by placing the books on the Index of Prohibited Books.

Nicholas Copernicus and Galileo Galilei were two scientists who printed books about a helio-centric universe that later became banned. Copernicus faced no persecution when he was

²⁶ Ronald A. Reiss, *Christopher Columbus and the Age of Exploration for Kids* (Chicago, IL: Chicago Review Press, 2013), 114-118.

²⁷ Nigel Griffin, *Las Casas on Columbus: Background and the Second and Fourth Voyages* (Chicago, IL: Brepols Publishers, 1999)

alive because he died shortly after publishing his book. Galileo, on the other hand, was tried by the Inquisition after his book was published. Both scientists held the same theory that the Earth revolved around the sun, a theory now known to be true. However, the Church disapproved of this theory because they believed that the Holy Scriptures taught that the Sun moved over a stationary earth (e.g. Joshua 10:12-13; Psalm 93:1; Psalm 104:5).

However, according to Catholics:

Anti-Catholics often cite the Galileo case as an example of the Church refusing to abandon outdated or incorrect teaching, and clinging to a "tradition." They fail to realize that the judges who presided over Galileo's case were not the only people who held to a geocentric view of the universe. It was the received view among *scientists* at the time.

Centuries earlier, Aristotle had refuted heliocentricity, and by Galileo's time, nearly every major thinker subscribed to a geocentric view. Copernicus refrained from publishing his heliocentric theory for some time, not out of fear of censure from the Church, but out of fear of ridicule from his colleagues.²⁸

Denis Alexander maintains that the leaders of the Protestant churches were hostile to Copernicus. In the 1530s Martin Luther made a contemptuous reference to Copernicus as the 'new astrologer who wants to prove that the Earth moves and goes round' Calvin asked who will venture to place the authority of Copernicus above that of the Holy Spirit.²⁹

Our educated society today still holds to some bizarre paradigms of historical belief that have been proven to be wrong. The myth that medieval people believed that the world was flat has been passed down like a mutant gene from generation to generation via a lineage of carriers that can be traced, isolated and identified. The flat-earth error was passed down through popular books until it gradually spread and became the generally accepted view of

²⁸ Galileo Galilei , *The Essential Galileo*, trans. Maurice A. Finocchiaro (Hackett Publishing Company, Inc, 2008)

²⁹ Denis Alexander, *Rebuilding the Matrix*, 124-125

what people in a previous era believed. It was perpetuated by Antoine-Jean LeTronne who argued that this was so because it fitted his hypothesis that the advance of scientific discoveries had swept away the ignorant beliefs of the Christians. This cycle became so embedded in the thoughts of individuals that it helped to form their worldviews in ways that make them impervious to genuine evidence. If educated society can hold to such bizarre and mutant paradigms of historical belief, can it also be wrong about its image of science and scientists, or its notion of faith, or, in particular the relationship between the two.³⁰

FAITH AND SOCIO-LINGUISTICS

Linguistics is a science that is concerned with the formal study of human languages. The Bible is written in human languages and so linguistics as a discipline should be relevant to everyone who is trying to understand and to interpret it.³¹ The science of linguistics has broken down barriers to communication. The learning of languages and the translation of scripture into these languages along with the translation of other religious literature have opened doors in previously unchurched linguistic communities. Missionaries no longer simply learn the language of the community and communicate the Gospel in their language but they use the latest language acquisition theories to teach individuals from these communities the dominant modern languages in order to give them access to broader bases of literature.

The iterations towards successful methods of missiology involve integrating the dissonant voices of different linguistic communities through an understanding of the principles

³⁰ Ibid, 26-27

³¹ Peter Cotterel and Max Turner, *Linguistics and Biblical Interpretation* (Downers Grove, IL; InterVarsity Press, 1989), Preface.

of language enunciated by linguistics. Missiologists have discovered that missionaries must have an understanding of socio-linguistics that will aid the spreading of the story of Jesus in a way that can be understood and accepted. Good intentions can be misinterpreted and lead to confusion and misunderstanding and war that has plagued some colonial settlements. The indigenous languages and culture with their idiosyncrasies and idioms must be placed in the equation and the results refined as more knowledge is obtained in order to avoid exercises in futility. If a greater understanding of God's love and His resultant peace that passes all understanding is not the ultimate result of the Christianization of a community, then the iterations need to be carefully considered and re-applied.

The Piraha, members of a hunter gatherer tribe live in the rain forest of northwestern Brazil. In a 2007 *New Yorker* article John Colapinto explains that they have no numbers, no fixed color terms, no perfect tense, no deep memory, no tradition of art or drawing. The tribe embodies a living-in-the-present ethos so powerful that it has affected every aspect of the people's lives. Committed to an existence in which only observable experience is real, the Piraha do not think, or speak, in abstractions. It has been suggested that the Piraha's dedication to empirical reality or "immediacy-of-experience principle" explains their resistance to Christianity.³²

One missionary after facing years of difficulty communicating with the Piraha Indians, came to the conclusion that because they could not relate to Jesus Christ's death, resurrection, and second coming that something was wrong the message that he brought to them. Not one

³² John Colapinto, "The Interpreter: Has a Remote Amazonian Tribe upended our Understanding of Language?" (The New Yorker, April 16, 2007. http://www.newyorker.com/reporting/2007/04/16/070416fa_fact_colapinto) July 23, 2007.

single Indian was converted. These natives did not relate to time so they disregarded their history, and did not make plans for the future. In frustration, he gave up missionary work and went back to university after several years in the mission field.

In the translation/interpretation of Biblical text into any language, two studies of language, synchronic and diachronic, are important to us in that they warn us against two errors in studying words: the error of thoughtlessly explaining one writer's use of a word by reference to another person's use of the same word, and the error of explaining one person's use of a word by reference to how it was used by someone else and at a different time. These comparisons must always be made with care. Synchronically or diachronically language is non-homogeneous.³³

Some say God would never allow his word to become vestigial (meaning irrelevant in this case) but do we recognize that it is already irrelevant to many that sit behind linguistic barriers while many highly intelligent Christians with linguistic abilities twiddle their thumbs (idiomatic expression). Faith and science must combine for progression towards the pre-population of God's kingdom.

FAITH AND THE PRESERVATION OF THE WORD

Whereas ancient societies were largely oral societies that passed down information through poetic discourses, the recording of information was expensive and time consuming, and therefore was managed by intellectuals who possessed resources, technology and material for writing. It was the duty of the most intelligent and advanced scientifically to encode and

³³ Peter Cotterel and Max Turner. *Linguistics and Biblical Interpretation*. Downers Grove, IL: InterVarsity Press, 1989), 25-26.

store information that was vital to the propagation of the nation's religion, rituals, customs, tradition, and heritage.

Christians today are more informed about the transmission and preservation of Biblical texts. Early translations of the English Bible were done from the Greek and Hebrew manuscripts that were available then. Newer translations make use of manuscripts that have been discovered since that time. The Dead Sea Scrolls were discovered in the 20th century; hundreds of manuscripts were discovered in the 17th, 18th and 19th centuries. The UBS and the NASB have produced eclectic texts that take into consideration all the manuscripts available. They have apparatus that inform the reader of variations in the manuscripts. The production of these eclectic texts has been the result of iterations over a number of years that have the desired result of portraying the autographs more accurately. To achieve 100% accuracy is impossible but by applying iterative principles a better picture of what the autograph may have been is portrayed.

FAITH AND EVOLUTION

Christians should never be afraid of scientific debate nor appear to be inept. Theologian Hugh Montgomery, while defending creationism against neo-Darwinism argued that there was no reason for the whiteness of polar bears since they had no predators and therefore would need no camouflage, completely ignoring that they needed to be invisible to the prey that they hunted.³⁴ He blundered even in defending what most Christians agree to be correct because he never carefully considered the arguments of neo-Darwinist.

³⁴ Christopher C. Knight, *Wrestling with the Divine* (Minneapolis, Mn: Fortress Press, 2001), 2-5.

On the other hand, lack of theological expertise among scientists interested in the possibility of a dialogue between faith and science has led to a lack of depth in proper understanding of the exchange. According to Charles Colson in his foreword to the book written by William Dembski:

As the pressures of the Enlightenment built, people surrendered the notion that God was necessary to explain creation. Having capitulated on this point, they readily surrendered the notion that God was necessary for the formulation of moral law of behavior. Over the years the fact-faith distinction became more firmly rooted, so that, in the end, Western Intellectuals insisted on basing science and morality on naturalism. At the same time, religious believers, bitten by the same Enlightenment bug, became increasingly private in their faith. In adopting the fact-faith distinction, they compartmentalized their faith and cut it off from the rest of the world. The result has been a whole-scale abandonment of meaningful cultural engagement.³⁵

This false dichotomy says Colson has continued to dominate Western thought. Many scientists cling to the view of naturalism that promotes self-generating and self-explaining universe along the lines of Darwin's theorem in which everything proceeds by chance including the emergence of human life. These theories have failed to explain many things and the advocates of intelligent design now use scientific theory to counteract scientific theory and secular thinkers can no longer dismiss intelligent design as a religious idea.

Albert Einstein said, I, at any rate, am convinced that God is not playing at dice."³⁶ God carefully created a world that he cares for and loves; all nature sings that song beautifully; as the ancient poet wrote, Psalm 19:1 (KJV) "The heavens declare the glory of God; and the firmament sheweth his handywork." (NLT) "The heavens tell of the glory of God. The skies

³⁵ William Dembski, *The Design Revolution* (Nottingham, England: InterVarsity Press, 2004), 15-18

³⁶ Max Born and Albert Einstein, *The Born – Einstein Letters 1916-1955* (London, UK: Palgrave Macmillan, 2005)

display his marvelous craftsmanship.” Intelligent design sees signs of intelligence in biological systems. Blind natural causes cannot generate complexity that is specified (e.g. the complexity of bacterial flagellum – a molecular motor that spins at 20000 rpm – would challenge the best of bio-chemical engineering system that simulates nature). According to intelligent design the world contains events, objects, and structures that exhaust the explanatory resources of undirected natural causes and can be adequately explained only by recourse to intelligent causes.³⁷

The consensus of the modern scientific community is that the universe had a beginning, a “creation event,” as scientist often call it. Three broad lines of evidence make this conclusion practically inescapable: the laws of thermodynamics, Einsteins’s general theory of relativity, and the observation of astronomy.³⁸ On the other hand, the steady-state theory’s demand for a continual creation of new matter violates the first law of thermodynamics. To say that no new matter is being created is to agree with the Bible’s statement that “the heavens and the Earth were finished” (Genesis 2:1), that God “rested” from His work of creation (2:2).

FAITH, COMPUTATIONAL POWER and DISTRIBUTIVE PROCESSING

Christians and scientists now have access to historical and current research that impact every sphere of life. Critical bases of information include: sustainable development, biodiversity, molecular science, genetic engineering, geographic information systems, the ten commandments, salvation by faith, the stock market and political developments locally and

³⁷ Ibid, 35-37

³⁸ Fred Heeren, *Show me God* (Miamitown, Ohio: Day Star Publications, 2000), 127-137.

internationally. Massive databanks supported by distributed networks of powerful Internet servers have revolutionized information availability. Independent corporate companies, publishers, and private interests are combining their resources in a comprehensive project to digitize all books, periodical, journals, newspapers and magazines. Soon, everything on paper will be available digitally. This systematic digitization of source materials has resulted in the availability of data previously locked by geographical, political, sociological and financial barriers.

This revolution is reminiscent of the commissioning of the printing press in the 15th century. By the middle of the 15th century several print masters were on the verge of perfecting the techniques of printing with movable metal type. The first man to demonstrate the practicability of movable type was Johannes Gutenberg (c.1398-1468).³⁹ By virtue of duplicatory power and efficiency the printing press progressively changed the world so that proprietary information became common knowledge as books were copied and sold at affordable prices. The production of books through the printing press was an iteration that increased the rate of acceleration of knowledge acquisition.

The dialectical method that has been employed by truth-seekers and the iterative method being here described provide objectivity within contextual studies. Systematic thought can benefit from scientific methodologies such as natural language processing and information technologies that provide a more objective understanding of systematic thought. Decision scientist, Hajime Murai, believes that it is possible to analyze the abstract thoughts and value

³⁹ See for detail, Diana Childress, *Johannes Gutenberg and the Printing Press* (Minneapolis, MN: Twenty-First Century Books, 2007).

systems of the Christian corpus of texts with scientific methodologies. Hajime proposes that it is possible to represent key conceptualizations through objective analysis of the canonical texts.⁴⁰

Today, analytical exegetical studies are enabled by eclectic methodologies and wider knowledge bases that promote both associative, critical and creative thinking. Initially word parsers driven by SQL (structured query language) were able to identify the occurrences of words and phrases in data, count them, as well as provide other statistical data and organize the results according to the demands of users; today such exploration and research is being driven by artificial neural networks that can identify patterns, isolate paradigms, and identify trends in data. The cumulative effect, is that iteratively our knowledge is increasing about our world and God through deeper study of Scripture in combination with ultra-modern science and technology. How can we truly seek God while ignoring the intricacies of His world that the powerful microscopes and magnificent telescopes reveal to us? Knowledge must refine our theology.

CONCLUSION

A number of vectors have been considered here that have been described as part of an iterative process towards a better understanding of the relationship between faith and science. None of these elements by themselves offer a path to reconciliation but they represent steps or iterations comparable to the mathematical procedure of solving difficult equations where no

⁴⁰ Hajime Murai, "Exegetical Science for the Interpretation of the Bible: Algorithms and Software for Quantitative Analysis of Christian Documents." *Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing Volume 492 Studies in Computational Intelligence* 67-86 (Cham, Switzerland: Springer International Publishing, 2013), 67-68.

single calculation gives the result but with each calculation one approaches a more accurate answer.

In the case of the iterative equation the answer is never 100% accurate but is as close to the true answer as to be a workable solution. The more iterations then the more accurate the answer becomes but even an infinite number of iterations will not give the exact answer.

Proper consideration of propositions by both proponents of faith and science will help to resolve issues that promote the dichotomy and mitigate against the convergence of both.

These considerations provide the framework for solutions that will prescribe how associative work in both theology and science can proceed in a respectful and considerate way.

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