

The article below was meant to be a backup to the title "All religions lead the same way" that was attached to the letter sent out to Science Teachers Association and also to UNLV in my campaign to upgrade the science curriculum

Turtles all the way

The primary goal in this endeavor is to educate the 'elites' who regard themselves as shepherds of folks.

The innocent and humble crowds attending these teachings should be treated respectfully and left out of this exercise, because we know that the time will come when knowledge sips down to them in due time to make it palatable.

The 'movers and shakers' are the pastors and the zealous activists; this is the source of trouble that started the religious extremism that messed up civil co-existence.

The approach to this problem should be, I think, to take the following route.

First, we must answer their questions.

Second, we must throw questions at them questioning their stand.

Third, we must present them with the reality of the order in which the Universe, the earth and life

On earth proceeded from stage to stage pointing out fossil records, astronomical observations and evolutionary changes observed. That will leave them tongue-tied.

So, first to tackle some of their questions: -i.e. their attempts to poke holes in evolutionary theory.

What does science have to say about Soul?

Soul does not exist separately from the physical body. What we think as Soul is consciousness.

This can be created by joining molecules into DNA. It is like joining hydrogen and oxygen to produce an entirely different entity called "water". We have built bacteria that can move, feed and reproduce its likeness. So, that is life. We did not need to put soul into it.

Since Evolution is meant to be a gradual development, how did the Eye develop into completeness all at once? In other words, what good was half-an-eye in gradual development?

But there appeared molecules that became sensitive to light. For further advantage, they banded together to collect more light as it was beneficial to sense the surrounding motion. That gradually formed itself into lens that focused more light to interpret the surrounding.

How can Something come out of Nothing? This is to say that there has to be a maker.

The theory in science is that a small speck of entity popped up or materialized, and due to its high temperature, exploded in a 'Big Bang', thus creating Space and Time; and all the material around us emanated from there. The scientists ask back "How could God have been imagined popping out of Nothing to go about creating the Universe?" If a tiny little entity couldn't pop out of Nothing, how can

we expect such a supreme Being—Omniscient, Omnipotent and omnipresent—just pop out of Nothing by Himself? That is a harder proposition!

Now, if we are to imply that there could be something or someone behind that, this will only be transferring the question back to the original.

That reminds me of the time when people argued if the Earth was not flat and what it rested on.

An elderly little lady is said to have jumped up in a conference and reasserted that the Earth is flat and is supported on the back of a turtle.

“But what is the turtle standing on?” asked the scientist.

“On another turtle”

“But what is this other turtle standing on?”

Oh! It is turtles all the way down”.

So we have three scenarios here. One is free to take one’s choice.

There is also an alternative version—that of Hinduism, the oldest of religions, which declares “Brahma is self-born”. It clarifies by saying that “He sprang from Cosmic golden egg and then went on to create the Universe”

But, I say, give science more time and it will be getting better and better at answering our questions.

They ask:- What has science got to say about morality and godliness or spirituality in us?

But this morality of love and kindness springs from the need to help each other out in the face of hardships to overcome the challenges Nature throws at us to lead our lives. In other words, it is necessity that dictates cooperation and brotherliness. Saints and “messengers of God” sensed this reality and preached about it. Only, they put authority behind it by claiming that it is the will of God.

Just to mention one out numerous imponderables or incomprehensible teachings in the Bible, let us take Noah’s ship. It is said that Noah gathered two of each kind of animals onto his boat and kept them for 40 days until the water subsided. There are roughly a million different species of animals and birds living on Earth. If Noah had to take two of each kind, that makes two million in number. How could one fit all of these (including heavy- weights like elephants, giraffes, rhinoceroses, camels and other big animals) into the boat? The size of the boat, according to the Bible, was 450 ft by 75 ft and 45 ft high. He could not have miniaturized them into patties and packed them into cans to store for 40 days, because there is no indication of such thing in the Bible. It simply says the animals walked in and walked out.

Again, if that were to happen, it means the kangaroos had to hop from Australia all the way to Ararat mountain in The Middle East. Also, the Llamas of South America had to trek from the Andes mountains all across the Atlantic Ocean to take their place in the boat on Ararat. Credible?!

Now we have to bear in mind that it is desert tribesmen who lived about 3000 years ago who wrote the stories in The Old Testament. Those were the times when the Earth was believed to be flat and people didn’t know by what mechanism day changed to night. It is surprising that it is stuff those people wrote under those circumstances that is taken seriously for so long. Those people could not have known of the

existence of galaxies and billions of Earths besides ours. They did not get the opportunity that we have today. So, they wrote stories—some of which were horrendous, most were their pastoral folktales, domestic animals, wars, songs and prayers. Interestingly, they even recorded how God, like us, is fallible after all. (“I regret that I have made Saul king” He says and transfers the crown to David. [1 Samuel 15:11]). This is preceded by the order of God to Saul “Now, go attack the Amalekites and totally destroy all that belongs to them. Do not spare them; put to death men, women, children and infants, cattle and sheep, camels and donkeys”. Such blood-curdling order—the kind of which we don’t see even with our earthly dictators-- is all collected and presented to us as ‘God’s words’! How does that square up with our belief that God is love, merciful, forgiving and benevolent?

Now prominent among these writings are, of course, the essays of that creative and imaginative mind—the prophet Moses. He is purported to have written six of the books that were incorporated into the Bible, chief among which is The Book of Genesis. His 2nd book—EXODUS—is disputed by some critics who point out that the pharaoh mentioned in the book is not named anywhere and there is no evidence (archeological or other) that so many Israelis ever lived in Egypt at all. Further, if a few have crossed it, that was because it happened during a time of low tides when it was indeed crossable on foot (i.e. before the time the canal was dug deep enough for ship navigation). This then implies that the narrative of the exodus across the Suez Canal may be a folklore. Be that as it may, his ‘Book of Genesis’ is definitely a world-renowned book. It starts with the statement “In the beginning, (i.e. about 10,000 years ago) God created the Heavens and the Earth”. In this scenario, both were created at the same time. Following is the chronology of events: -

- 1st day Heaven and Earth created.
- 2nd day The Firmament
- 3rd day trees, shrubs, grass and all vegetation
- 4th day Stars (for the purpose of shining light on the Earth)
- 5th day Sea-life and Land-life i.e. all types of fish including whales; and animals and birds.
(by current account, that is about 8 million different species)
- 6th day Adam and Eve (the first human Beings) were created.

Science, on the other hand, claims that The Heavens (i.e. The Universe) was created some 13.8 billion years ago. The first generation of stars appeared 13.3 billion years ago, i.e. 500 million years later.

The Earth and Sun appeared just 4.5 billion years ago, i.e. some 9 billion years after The Universe was created.

Following is the chronology of events: -

The following chart is a short outline of the development the universe went through.

We can look at this time from one of two vantage points: Counting time from the start (big bang) or counting back from where we are today.

<u>Event</u>	<u>Since Creation</u>	<u>Counting Back in Time</u>
Big Bang	0 time	13.8×10^9 years ago
Stars begin shining	0.5×10^9	13.3×10^9
Milky Way cloud forms	1.2×10^9	12.6×10^9
Milky Way spiral galaxy	7.3×10^9	6.5×10^9
Sun was formed from remains of supernova	9.23	4.57
Proto earth	9.24×10^9	4.56
Moon (formed from debris of collision with planetoid)	9.27×10^9	4.53
Life on earth started	$9.6 - 9.9 \times 10^9$	$4.2 - 3.9 \times 10^9$ ago
First single-celled organism emerged	10.3×10^9	3.5×10^9 ago
Earliest multi-cellular organisms	11.7×10^9	2.1×10^9 ago
Last universal common ancestor (LUCA) of animal & plant kingdoms	10.3×10^9	1.6×10^9 ago
Plants (algae) & arthropods	13.35×10^9	450×10^6 ago

I like to express the whole period to fit into a week. In that way, we can easily grasp the rate at which events developed.

The chronology of the universe's history compressed into a week appears as follows:

First Day	0:00 time	Big Bang
	6:00	Stars shine
	14:36	Milky Way cloud formation
Fourth Day	16:48	Spiral galaxy took shape
Fifth Day	16:00	protoEarth
Seventh Day	18:30	Land life began

So all the rest of evolution that created the present species took place only in the last five hours until midnight.

As to humanity and other living things, they did not live at the same time (contemporaneously). For example, Dinosaurs ruled over the world for about 165 million years before they went extinct some 65 million years ago. Human Beings came on stage only some 2million years ago. That is a long interval!

Here follows the chronological order of change.

Chronology of Timeline on Earth (counting back in time)

Earth formed	4.6 x10 ⁹ years ago
Water formed	4.4 x10 ⁹
Earliest life in water	4.2 x10 ⁹
Universal common ancestor of plants & animals	3.9 x10 ⁹
Multi-cellular organisms	0.8 x10 ⁹
Fish	440 x10 ⁶
Land plants from algae	434 x10 ⁶
Dinosaurs	225 x10 ⁶
Mammals	161 x10 ⁶
Birds	155 x10 ⁶
Homo Sapiens in Africa	250 x10 ³
Replaced Neanderthals	50 x10 ³
Neanderthal goes extinct	30 x10 ³
Hunter-gatherer homo erectus	1.8 x10 ⁶
Homo habilis used stone tools	2.5x10 ⁶
Fire controlled	1.6 x10 ⁶
Spear used	0.4 x10 ⁶
Adam and Eve came on stage	0.17 x10 ⁶

If we compress this time span into a week calendar, the following is how it appears:

<u>Time Zero</u>	<u>Earth Formed</u>	
First Day	2 p.m.	water formed
Second Day	16:00	single cells
Fourth Day	23:00	complex cells
Sixth Day	10 a.m.	multi-cellular organisms
Seventh Day	7 a.m.	insects
	2 p.m.	reptiles
	4 p.m.	mammals
	6 p.m.	birds
	6 p.m.	homo sapiens
	11:33 p.m.	Adam & Eve appeared

Finally, religion (in its organized form) did not appear instantly with Mankind. It developed over a long time; and Christianity itself is a very recent phenomenon. See the chart below.

Chronology of Religion

If we give religion a broad definition, burial ceremony (where objects like cloth, beads, food, etc. were buried as travel packages intended to be used in the afterlife) was started in 25,000 BC. The concept of life-after-death or the belief in the supernatural and hence the starting point of religion is taken to be that long ago.

Sites of worship have been found by archaeological digs dating back to 9000 BC.

Sacrifices to deity have gone on since at least 4500 BC. Stonehenge in England is still standing. It was built around 3100 BC as a cemetery and altar.

The pyramids were built around 2600 BC.

The famous Giza pyramid was completed in 2560 BC.

Goddesses were worshiped on the island of Crete in 2200 BC.

Hinduism, the oldest but still practiced religion was started in 1700 to 1100 BC. Some mark it at 2500 BC.

Abraham, the patriarch of both Christian and Muslim religions, lived about 2000 BC. Moses handed down the 10 Commandments around 1450 to 1250 BC.

Lord Krishna was honored around 800 to 600 BC.

Confucius was born in 551 BC and wrote about harmony of life around 500 BC.

Buddha was born 563 BC.

Jesus lived 4 BC to 30 AD and birthed Christianity. Orthodox church established around 33 AD.

Mohammed ibn Abdullah (The prophet) was born 570 AD. Islam was established.

Islam split into Sunni and Shite in 680 AD.

Other religions formed

Year Founded

Founder

<u>Other religions formed</u>	<u>Year Founded</u>	<u>Founder</u>
Roman Catholic	1054	Pope Leo III
Lutheran Church	1517	Martin Luther
Anglican (Church of England)	1534	Henry VIII
Calvinist	1555	John Calvin
Presbyterian	1560	John Knox
Congregationalist	1582	Robert Brown
Baptist	1609	John Smyth
Methodist	1739	John Wesley
Episcopalian (USA)	1789	
Disciples of Christ	1827	
Mormonism (The church of J.C. of latter Day Saints)	1830	Joseph Smith
7 th Day Adventist	1863	
Jehovah's Witnesses	1874	Charles Russel
Christian Science	1879	
Scientology	1952	

Compressing the whole period into a week highlights the fact that Christianity appeared around noon on the last (7th) day.

Now to get perspective of the rate of founding religions, let us compress the whole span of time into a week.

1 st day	00 time	Burial ceremony (food enclosed for afterlife usage)
5 th day	3:30 a.m.	Site of worship uncovered
6 th day	7:29 a.m.	Sacrifice to deity practiced
6 th day	4:11 p.m.	Stonehenge built (cemetery & altar)
6 th day	7:00 p.m.	Pyramid built
6 th day	7:55 p.m.	Hinduism started
6 th day	9:47 p.m.	Goddess worship practiced
6 th day	11:00 p.m.	Abraham lived
7 th day	2:58 a.m.	Moses
7 th day	7:00 a.m.	Krishna
7 th day	7:58 a.m.	Buddha

7 th day	8:22 a.m.	Confucius
7 th day	11:35 a.m.	Christianity started
7 th day	3:10 p.m.	Islam started
7 th day	3:36 p.m.	Shiite split from Sunni
7 th day	5:55 p.m.	Catholics split from Orthodox
7 th day	8:48 p.m.	Lutherans (Protestantism) started

Then Anglican, Presbyterian, Baptist, Methodist, Episcopalian, Mormonism, Jehovah's Witnesses, Adventist and others all followed in rapid succession.

So we have lived all week without Christianity; and now there is all this hoopla about it.

Turning COVID-19 into opportunity

Today there are 2.3 billion Christians and 1.9 billion Muslims along with some 1.6 billion Hindus & Buddhists. Islam is actually a spin-off from Christianity. Mohammed the prophet did not accept that Jesus is the son of God, He took him to be a prophet like all those mentioned in the Old Testament; and so went ahead and developed his own vision of faith.

Now together the two religions account for more than half of the entire world population.

Thus it was that in relatively no time, the floodgates opened, and with 'the zeal of a new convert' the disciples and later the pastors and imams forged ahead in teaching and converting the people to Christianity and Islam. The movement spread like a wild fire, spawning religious wars, conflicts, political demarcations and 'Cold Wars'.

In my own life-time, I remember a firebrand of an orator by name Billy Graham, who came to my town (Addis Ababa) and mesmerized congregations so much so that some claimed to have been cured of their ailments including blindness as a result of attending his sermon.

Then followed pastors like Joes Osteen and Pat Robertson who managed to build megachurches and commanded the devotion of thousands upon thousands of worshipers. Televangelism, CDs, DVDs and writing books by these and others helped win the hearts and minds of millions of people (and along the way, earned the two above 40 million and 100 million dollars respectively).

The problem, though, was that some of their teachings went against the teaching of science. They claimed that it is faith alone that can come to their rescue. They simply defied science! That led to disastrous consequences.

A case in point is the Coronavirus disease of 2019 (code-named Covid-19). When the pandemic

flared up suddenly, people fell victim in their thousands. Soon, scientists realized that the way it can be prevented from spreading and infecting more people is to use facemasks and gloves and to keep a distance of 2 meters from each other. The pastors and priests on the other hand, preached the disease is a result of our sins in one form or other and the only way to overcome is to repent our sins and to pray to God. Some of them hopped on open-roof vehicles and burnt incense as they drove around the streets. people then rushed to gather around them to take blessing of the priests and to kiss the Cross. Subsequently, more and more people came to attend the churches and mosques to pray in crowded gatherings. That is precisely against the instructions of the scientists and Health-officials.

Now here is the problem. The Constitutions and similar governing proclamations protect 'freedom of worship', and so one cannot forbid preachers from advocating their beliefs.

But there is a heavy price to pay for undermining the teaching of science and the defiance of the workings of Nature. From my perspective, Nature seems to have felt disgusted at the defiance of its authority, and so came out in support of my argument that we should study its laws and abide by it. Simply setting off the virus (which is not even inferred in Creation in Genesis) will do enough to punish us and get us back in line by studying its laws and abide by its dictat.

Imagine now if we had not taught ourselves enough science to be able to figure out the nature of this virus and taken preventive measures, what would have happened? Millions of us would have been wiped out flat! How would our religiosity have ever managed to overcome this pandemic?? Our preachers, though, cannot be bothered to answer for this. they are, by law, not held accountable for their acts in preaching. But this is now defying Nature's working and hampering progress thereby dragging society backwards. across almost all continents, people have been preached that "only He can shield us from the virus; so if we repented our sins prayed to Him, we can get rid of it very shortly".

Now this is, as I said, in direct contravention to the warning issued by health-officials and government recommendations. this is the crisis at hand. Of course, this is not to say that there are no good things in the teaching. There is enormous benefit in them. We should recognize that religion continues to play a big role in teaching morality and humility in the society. It is instrumental in suppressing violence and conflicts of all sorts. It keeps fraternity, peace and cooperation amongst people. That is not to be underestimated.

On the other hand, urging people to go against science knowingly or unknowingly must be countered. The aim must be to cultivate the culture of scientific inquiry and understanding.

This may sound like walking a tight rope keeping the right balance. But I explained elsewhere, the need for morality and fraternity is a natural requirement for society to live in peace and

harmony. It has been in practice long before Moses and Krishna.

So the road ahead will be where we decrease the negative aspect of their teaching and increase

The width of the good side thus gently guiding the course of human progress in the right direction.

For the short term, the thing to do here is to form a science task force or some legal body that will track such activities, including the teachings of the radical extremists in all religions and point out openly when and where things go off-course and counter it with scientific evidence. Previous mistakes like those meted out to Galileo, The Spanish Inquisition, the various Religious Wars, and more recently, The ISIS in Middle East where thousands of innocent people were uprooted and expelled from their homes and many were slain and mutilated should be history lesson.

Over the long term, the curriculum for colleges must be upgraded to teach history of religious persecutions and misdirected prayers, but more importantly, introductory science subjects must be a requirement.

With these inclusions in the curriculum, I am confident that our graduates will be up to the task for the challenges of the 21st century.

I feel it is too immoral for our elites to sit back and watch unconcernedly while people are goaded and tormented by the prospect of eternal fire and brimstone by smooth-talking and eloquent self-styled "God's messengers". This is not the typical passive resistance to science, but an active opposition to progress. It is time to straighten the matter

As the saying goes "The only thing necessary for the triumph of evil is for good men to do nothing".