



The Enlightenment

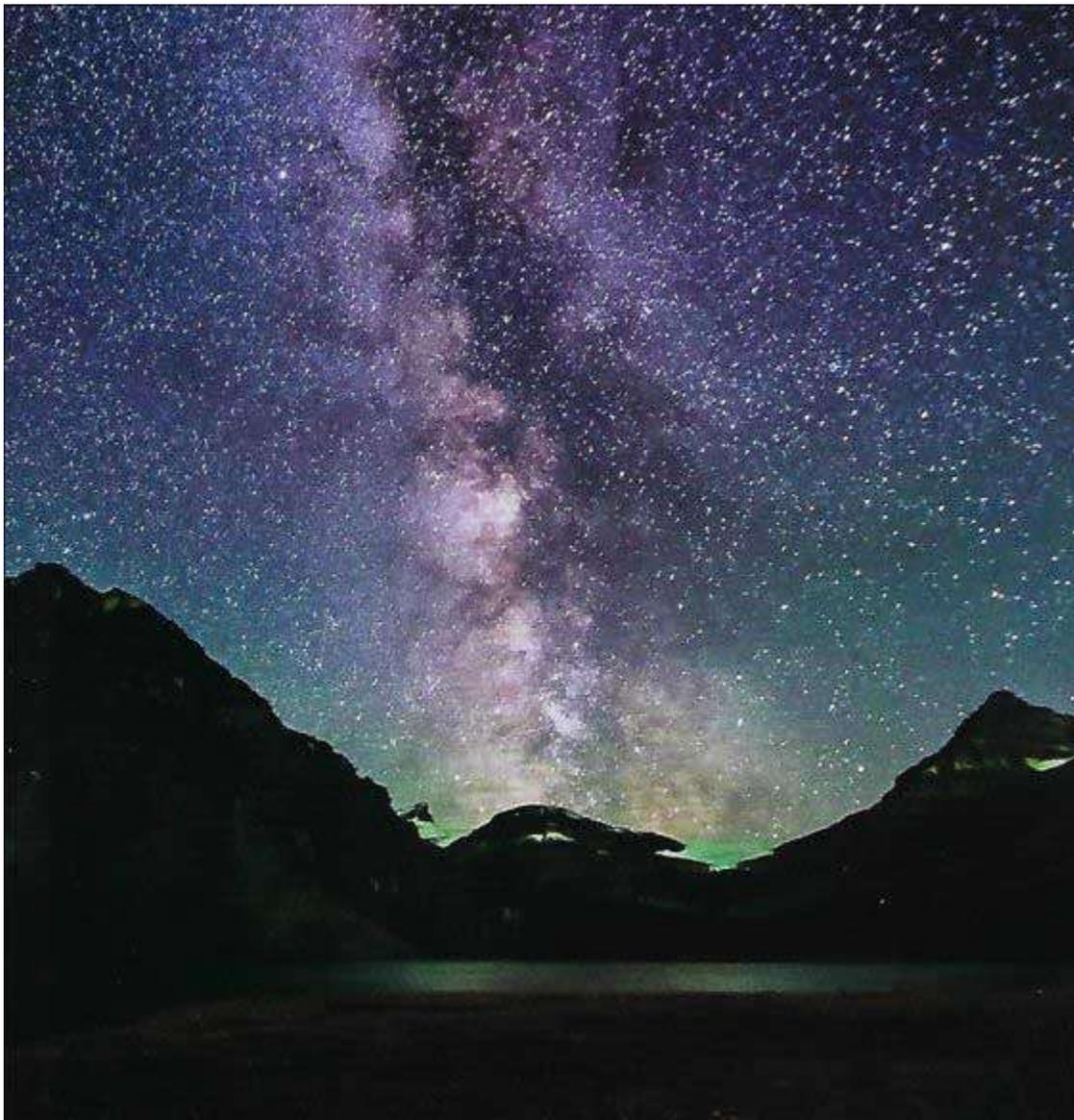


A Secular Mini-Journal for Inquiring Minds

Volume 1

Number 5

May 2020



The Milky Way As Seen From Earth

(Cont. on Pg. 2)

Galaxies

Every now and then a free magazine comes with my morning newspaper. Recently, a Canadian magazine entitled *Photo News* appeared with a picture of the Milky Way displayed on the cover. This picture is shown on the cover of this *Enlightenment*. It was taken by Christy Turner of Calgary Alberta, who specializes in taking pictures of the Aurora Borealis. But she also knows just when to photograph the Milky Way at its maximum brilliance, hence the picture overleaf. This picture blew me away and made me realize that only people living within a galaxy can view the swirls from within



Andromeda Galaxy

in the form of a concentrated band of stars, rather than as a flat disc, as when we view Andromeda, our nearest galaxy 2.5 million light years away, through a telescope. Andromeda is shown above.

There are four kinds of galaxies in the universe: spiral, spiral barred, elliptical, and irregular. The Milky Way and Andromeda are both spiral galaxies. Our galaxy is estimated to contain from 100 to 400 billion stars. Estimates of the number of galaxies in the universe range from 100 billion to 200 billion.

It has been said so often that it is becoming a cliché, but it is a reality that in the big scheme of things, planet earth is just a tiny, tiny speck. Even in our own galaxy, we are just a tiny speck. But we still must ask, are we the only planet in the Milky Way that has spawned life? A very intriguing question!

The relatively recent discovery of exoplanets revolving around some stars in our Galaxy raises the possibility that extraterrestrial life could exist. And while most of these discovered planets are as large or larger than Jupiter, a few have been found that are smaller and could have a “goldilocks zone” like earth and could support life. Since the laws of physics and chemistry are almost certain to be universal, other earth-like planets could most likely have gone through an evolution resulting in intelligent human beings. With this possibility in mind, a program called the “search for extraterrestrial intelligence” (SETI) has been established using radio telescopes to listen for signals that might possibly have been sent by intelligent individuals. So far, no such signals have been detected.

Nevertheless, it seems to me that it is highly unlikely that our earth is the only planet in the vast Milky Way galaxy that is life-supporting. And if there are human-like individuals on other planets, is it folly to think they may have evolved to the state where they live in complete harmony with each other, rather than stumbling along like we have been with wars, inequality, and poverty? And if there is intelligent life elsewhere, more advance than we are, will we, Homo sapiens, continue to evolve and eventually achieve harmony and equality? We cannot possibly know at this stage in our development, but we do know where we are at present. We have good things and bad things and some things that are in-between. A few of these things are the subjects considered in the following article. (DAH).

The Good, The Bad, and the In-Between

Some Good Things

We humans have many good things to be thankful for. But for this article, I wish to centre on just four good things that are all the result of human creativity. They are science and technology, communication, medical advancements, and democracy.

For many millennia humans were unable to travel on land at a pace any faster than the speed of a horse or camel, and on sea any faster than the wind would allow. This all changed about 200 years ago at the start of the Industrial Revolution with the invention of the steam engine. Steam locomotives eventually attained speeds of over 100 miles per hour and steamships were no longer subject to the whims of the wind. And of course, the Industrial Revolution brought about many other changes in the way humans live their everyday lives today.

Science and Technology - The list of good things that are available to us now, thanks to science and technology, and not available to those living only 200 years ago, is almost endless. A short list includes ease of travel by rail, automobile, and airplane; lighting by electricity and all the other attributes that electricity has provided, including an array of electric appliances to make life easier in the home, and motors to replace steam engines and drive machinery in factories. All good stuff.

Communications - In 1800, communication was mainly by letters, and information was obtained from books. This changed with the invention of the telegraph, the telephone, radio, television, and now the ubiquitous internet and cell phones. Entertainment changed with the invention of the phonograph and the moving picture camera as well as radio and TV.

Medical Advances - We cannot forget the tremendous contributions of medical science. Average life expectancy in Canada in 1800 was 50 years. Today it is 81 years. Infant mortality in 1800 is estimated to have been 300 deaths per 1000 births. Today it is 4 per 1000 births. These improvements have occurred as a result of vaccines, improved hygiene, diagnostic apparatuses, medical science research, doctor training and specialization, and modern operating room technology, among other things. Things we all need to be grateful for.

Democracy - Back in 1800, Canada was a colony of Great Britain. This changed in 1867 with the union of four provinces, Nova Scotia, New Brunswick, Quebec, and Ontario to form a confederation, the Dominion of Canada. Today there are ten provinces and three territories operating under democratic governments. Our democracy is not perfect, but we are most fortunate to live under democratic rule with guaranteed freedoms and social safety nets, rather than under populist governments, communism or dictatorships.

A Few Bad Things

While we have been blessed with many good things that have come about in the last 200 years to make life easier and better for us, there are bad things that have been around seemingly forever, and they are still with us. These include war, terrorism, xenophobia, racism, crime, and poverty.

War - Wars have been around ever since the dawn of civilization. Wars have been fought over land, over religions, over systems of government, and simply over the desire of tyrants and dictators to enhance their control over people as well as for their own benefit, often through corruption. These are offensive wars and of course defensive wars must be fought to counteract the war-mongers. World War Two (WW II) is a perfect example of a successful defensive war.

Wars are despicable events. The human carnage on both sides is horrendous, not only for the military but also for civilians through collateral damage, not to mention the destruction of infrastructure. And for many millennia, slavery of the people on the losing side was often the norm.

Even today, as often in the past, religion is a factor in many wars or disputes. There are tensions between Hindus and Muslims in the Kashmir, between Buddhists and Muslims in Myanmar, between Chinese secularists and Muslim Uyghurs in western China (ethnic cleansing), and tensions between Sunni and Shia Muslims in the Arab world. The mess in Syria is partly a result of these Islamic differences.

Why are wars still with us? Have humans not yet reached the point where negotiations can be used to settle disputes instead of war? Apparently not, witness the war in Syria. But maybe there is hope. In his book *The Better Angels of our Nature: Why Violence Has Declined*, Steven Pinker notes that ever since the end of WW II, wars have been getting smaller with much less overall carnage than in WW II. He is hopeful the trend will continue. And fortunately, so far, the disastrous consequences of nuclear war have acted as a deterrent. Let's hope the deterrent effect continues and WW III never happens, because with nuclear ICBMs, drones and cyberwarfare, a future major conflict could obliterate civilization.

Terrorism - The perpetrators of terrorism today are mostly Islamic jihadis belonging to organizations like al Qaida and ISIS. Osama bin Laden's beef was more economic than religious, resentful of American influence in the Arab world, but ISIS wants to establish an Islamic caliphate extending from West Africa to the Philippines, and eventually the world. They have the dangerous belief that they are carrying out the wishes or even commands of Allah. These people must be stopped, and unfortunately there is no indication any Muslim nation or nations are prepared to take on this challenge, let alone encourage the abandonment of the insidious Sharia law and move into the 21st century. The West must be ever alert to the threat of ISIS until it and others like it are destroyed.

Xenophobia and Racism – According to UNESCO, the terms xenophobia and racism overlap. They differ, however, in that xenophobia is generally centered on behavior based on the notion of a specific people being adverse to one's own culture or nation or simply fear of strangers, while the latter encompasses prejudice based on physical characteristics. An example of xenophobia is the superiority the ancient Greeks felt over foreigners they considered to be barbarians, who were meant to be slaves. An example of racism is the white supremacist movement in the United States consisting of people who detest blacks.

Eliminating xenophobia and racism in the future will be a challenge. It seems that tribalism is an established trait imbued in many humans. Many people seem naturally leery of others unlike themselves and often find it difficult to accept them into their community. Nevertheless, progress has been made. Blacks in the U.S. today are accepted far more than they were in the past and there has even been a black president. Canada is now considered to be a multi-cultural country and took in more than its share of Syrian refugees, as did many European countries. On the other hand, there are countries like Hungary that won't allow refugees in,

and Donald Trump tried unsuccessfully to stop travelers from central America and certain Muslim countries to the U.S. These latter situations show there is still some distance to go.

Crime – “Thou shalt not steal” and “thou shalt not murder” are two of the Ten Commandments that should be obeyed in all civilized communities, and for several millennia laws have been enacted to establish punishments for people committing these crimes. I am far from being an expert on crime, but it seems to me that one way to reduce crime is through establishing prosperous economies. If unemployment is at a low level, surely there will be less crime.

Nevertheless, I will leave it to politicians, professional criminologists, and law enforcement personnel to continue to deal with crimes that have been with us for centuries. Instead, I wish to comment on newer kinds of crime being committed as a result of the digital age.

We have never before been in a position where one country can hack into another country’s computers and cause havoc, as well as using the internet to influence elections. Hacking into municipal or company computers and demanding ransom is also occurring more and more. And there are problems at the personal level as well. Almost routinely I receive emails from supposedly legitimate companies stating there is a problem with my system and to correct it I need to enter my password. Credit card numbers may also be asked for. These “phishing” expeditions are insidious, and seniors are particularly vulnerable. And they are occurring with phone calls as well. What kind of people stoop to this level?

Poverty – Poverty, like crime, has always been with us and again economics are involved. It is plainly obvious that there will be less poverty in a prosperous environment with a large thriving middle class than in an economy with high unemployment. Unfortunately, today, with increasing inequality and a shrinking middle class, poverty and homelessness are on the increase in many municipalities. My own city of London Ontario has one of the highest rates of poverty and homelessness in Canada.

On a global basis it has been pointed out that there have been great strides made in decreasing poverty. For millennia, 90% of populations lived in poverty. Today the figure has been stated as being 10%. But with wealth amassing in the 1% and increasing inequality, poverty is almost certain to rise. What is the solution? We need to find government and business leaders who can facilitate strong economies and convince the wealthy to be less greedy and more compassionate while paying their fair share of taxes. A tall order!

The In-Between

There are some things that have good qualities and also bad qualities. We will look at three: science and technology, fossil fuels (coal and oil) and religions.

Science and Technology – A few of the good benefits of science and technology are outlined on page three. However, the fruits of science and technology can be used not only for good, but also for what may be described as evil, as in war. As time has gone on, the destructive power of weapons has increased dramatically, resulting in great amounts of carnage. And criminals have also taken advantage of increased firepower in using military grade weapons like AK-47s. It is not, however, science and technology per se that is the problem, it is human behavior. Why are there those human individuals who are willing to commit atrocities against other humans?

Fossil Fuels – The unprecedented progress made since the dawn of the Industrial Revolution outlined above could not have occurred without fossil fuels – coal to fire steam engines and oil to power and lubricate internal combustion and jet engines, not to mention natural gas for heating our comfortable homes. But we now know fossil fuels are a double-edge sword in that they are a major cause, although not the only cause, of global warming.

So, the time has come to begin reducing the use of fossil fuels. If we do not, global temperatures, both on land and sea, will continue to rise, and by 2050, reversing the trend may be impossible. The time to act is now! Politicians must work with scientists, engineers, and technologists to hopefully replace most internal combustion engines with electric motors. At the same time, the use of fossil fuels to generate electricity must be reduced, relying on nuclear, hydro, wind, and solar. This will be a huge challenge for countries now relying on coal to generate much or most of their electricity.

Religions – Napoleon said, “religion is excellent stuff for keeping the common people quiet,” and, “religion is what keeps the poor from murdering the rich.” So as far as he was concerned, religion was a good and necessary thing. Yes, in some respects they have been good, but in other respects, bad.

The origins of most of the religions existing today date back to what is known as the Axial period around 500 BCE. It was then that Hinduism and its offshoots Buddhism, Sikhism, and Jainism began to flourish in the east, along with monotheistic Judaism in the middle east that later spawned Christianity and Islam. All had aspects of the supernatural, claiming some form of future existence, reincarnation for the oriental religions and heaven or hell for the monotheistic religions. It was this fear of hell that convinced many believers to try and live virtuous lives. In the long run, this was probably a good thing.

Without further comments on the oriental religions and Judaism, both Christianity and Islam have done bad things. They are well known. In Christianity there were the crusades, inquisitions, burnings at the stake for offences such as blasphemy and witchcraft, and religious wars between Protestants and Catholics. Fortunately, these are mostly in the past, and in western democracies, Christianity is fading away as church affiliation continues to decline. Even in the United States, the most religious country in the West, a recent Pew Research Center survey shows half of U.S. millennials no longer consider themselves to be Christians. Except for the remaining evangelical minority, Christianity is not a problem.

Islam on the other hand is a different story. As mentioned above, Islamic jihadists are creating havoc in some areas, and archaic Sharia law still exists in some countries. Islam needs to reform, as Christianity did, with the Protestant Reformation, and join the modern world.

Yes, religions have been good and bad, but surely in our present scientific and digital age, they are outmoded and should eventually disappear as the world becomes more secular. But it will take time.

Conclusions. The common theme present throughout this article is of course human behavior. Why are some people good, and others bad, or in some cases even evil? Why are some people compassionate and content with what they have while others are greedy and wanting more? While some government leaders are concerned for the well-being of all citizens, others rule for the benefit of themselves and the wealthy. Why? Will psychologists and other specialists who study human nature be able to some day answer these questions, and more importantly, offer solutions that work? Does anyone know? (DAH).