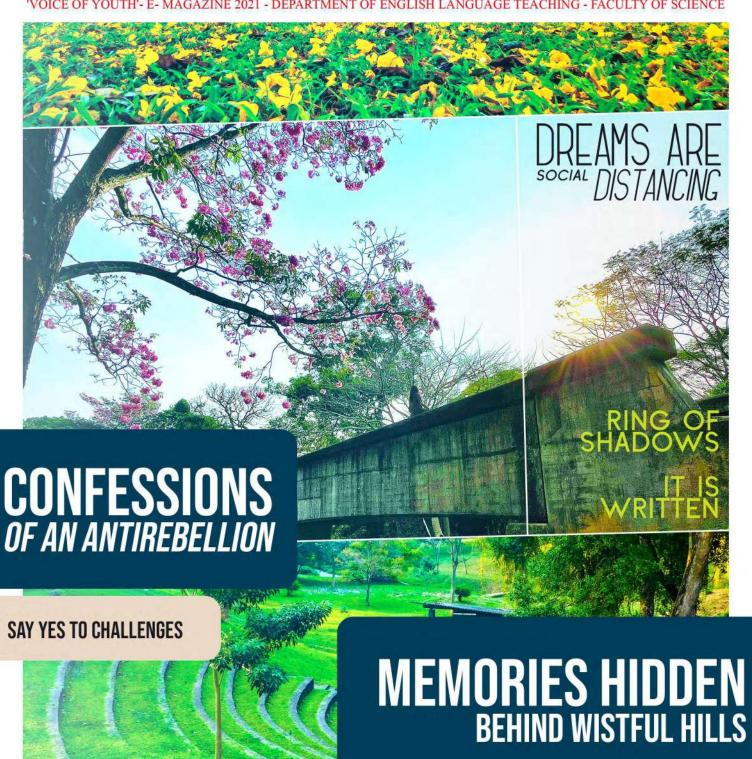


'VOICE OF YOUTH'- E- MAGAZINE 2021 - DEPARTMENT OF ENGLISH LANGUAGE TEACHING - FACULTY OF SCIENCE



COMPILED UNDER THE WORLD BANK - SPONSORED ACCELERATING HIGHER EDUCATION EXPANSION AND DEVELOPMENT (AHEAD)

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First, I wish to thank Professor Saluka Kodithuwakku, the Dean of the Faculty of Science, for providing us the opportunity and encouragement to carry out this project. Next, I would like to thank Professor Champika Hettiarachchi, AHEAD, Project Coordinator of Activity II for initiating a project of this nature to nurture the hidden literary skills of our undergraduates. I would also like to express my gratitude to the Coordinator of the Department of English Language Teaching, Ms. Apsara Vidanapathirana, who was instrumental in publishing this magazine.

I sincerely appreciate the constant guidance received from Ms.Kasun Galappaththy, who was a pillar of support to the Editorial Board. I am also grateful to Ms.Deepthi Kelanigama and Ms. Purnima Karunarathne who helped us in many ways. I also appreciate the contribution given by Ms. Sachitra Egodawatte in the process of editing the articles.

I wish to extend my heartfelt appreciation to all the contributing authors and photographers without whose untiring efforts this magazine would not have been possible. Last but not least, I would like to thank the Editorial Board, who worked their best till the end of this whole process despite their busy academic schedules.

My apologies to anyone whose help I have inadvertently failed to acknowledge.

Musna Sarooj President Editorial Board Literati 2021

MESSAGE FROM THE DEAN

It gives me immense pleasure to witness the launch of E- magazine 2021, initiated by the Department of English Language Teaching with collaboration of the students of the Faculty exclusively for improving the communication skills of undergraduates. I greatly appreciate the efforts of students in helping fellow students to showcase their talents.

Empowerment of students for their all-round development through education is our cherished motto. Today, education means much more than merely acquiring knowledge and it has extended to improving soft skills and building character of our young generation. Organization of activities of this nature also helps the students to develop skills that are essential to face future challenges. Steps taken by the University administration, contributions willingly made by the Faculty and the non-teaching staff and overwhelming response and enthusiastic participation of students in the recent past immensely contributed to the success of programmes of this nature. When all the constituents come together and work in unison, the expected results are bound to flow.

As the Dean of the Faculty, I feel honoured to be a part of this precious moment which will benefit many of our talented undergraduates. While wishing the event every success, I do hope that this will lay a strong foundation that will continue in the years to come.

Prof. S. R. Kodituwakku Dean Faculty of Science University of Peradeniya

MESSAGE FROM THE COORDINATOR DEPARTMENT OF ENGLISH LANGUAGE TEACHING (DELT)

It is with immense pleasure that we, the DELT, Faculty of Science and the undergraduates, present to you the first issue of the e-magazine.

The DELT has realized the wealth of creativity hidden in the souls of our undergraduates and has been nurturing their young minds in various ways. Therefore, I regard the e-magazine which was proposed under the AHEAD-ELSE project, as a platform for our undergraduates to express their creative pursuit and hidden talents.

The e-magazine is a compilation of immense effort put forward by our staff and students. We have for you, from our students, a wide range of poetry, short stories, photographs, drawings and some informative and inspirational articles.

While congratulating the writers, I extend my warm wishes and gratitude to the staff of the DELT, editorial board and the committee for their dedication, commitment and valuable contribution without which this would not have been possible.

I hope that the creative expressions shall promote better human values.

Apsara Vidanapathirana Senior Instructor Coordinator DELT Faculty of Science University of Peradeniya

LITERATI

VOICE OF YOUTH

E-MAGAZINE 2021 DEPARTMENT OF ENGLISH LANGUAGE TEACHING

PHOTOGRAPH BY
PATHLIM A REYKOON

Though it seems a bit hard to understand,
Why this disastrous pandemic was brought upon us...
One might argue that she wanted us to strand,
But the real truth lies beneath all care and fuss...

The grass seems greener and the trees stand still,
Fulgent rivers flow undisturbed, endowing a mosaic chill,
The occasional predator fed on weak prey,
But it's all fair play when it comes to her way...

A Confession

Mephitic air has disappeared, Refulgent blue skies reappeared, It seemed as if the end of mankind was neared, With it the annihilation of earth was veered,

We thought we've achieved the finest evolutionary brand,
But, the real truth became clearer thus and thus...
Oh! Great Mother Nature, it hurts to understand,
That you smile a lot brighter without us...

-Tilini De Silva-

A Love Letter to Shyself...

She was the peace I craved in this chaotic earth

A feeling when I am in solitude

A chance to remember everything

She's worth.

She walks around, wings held high gracefully,

At times painfully.

But she always made it away.

She had a light in her eyes that even the stars envied.

She was grace.

And the love in her heart could never be emptied.

Her touch was poetry

Her feelings were an ocean

And you have only seen a drop.

THILINI RAJAKARUNA

A MOTHER'S LOWE

Since I was born,
Up to now, it is unconditional love
My beautiful queen is her
I understand real love from my mom.

She loves my every smile She loves my every word She loves me no matter what I do or say She loves my bunch of dreams.

> My life doesn't need to be perfect When she is with me I am a perfect girl As well I am happy.

> > J.G ILAKSHIKA

ASECRET

Flowers of joy are blowing
And the sun of happiness is shining
Sound of the heart beat is amazing
The music of love is confusing

Dozens of stars shine in the sky
But only the sun can give them light
Be a person who shines so bright
In the life with the bubbles of joy

Yehara Disanayake

AM NO LADY

Before today I didn't know your name That was such a shame so to you I came Say "Howdy my lady, your servant, Sir Wayne" It made you smile widely while I went insane

Sparkly eyes on me, still you were no saint
Your voice was so candid you spoke still on flame,
"Honored is what I am, but you asked me in vain,
For I am no lady, oh! My dear Sir Wayne"

'VOICE OF YOUTH' 5

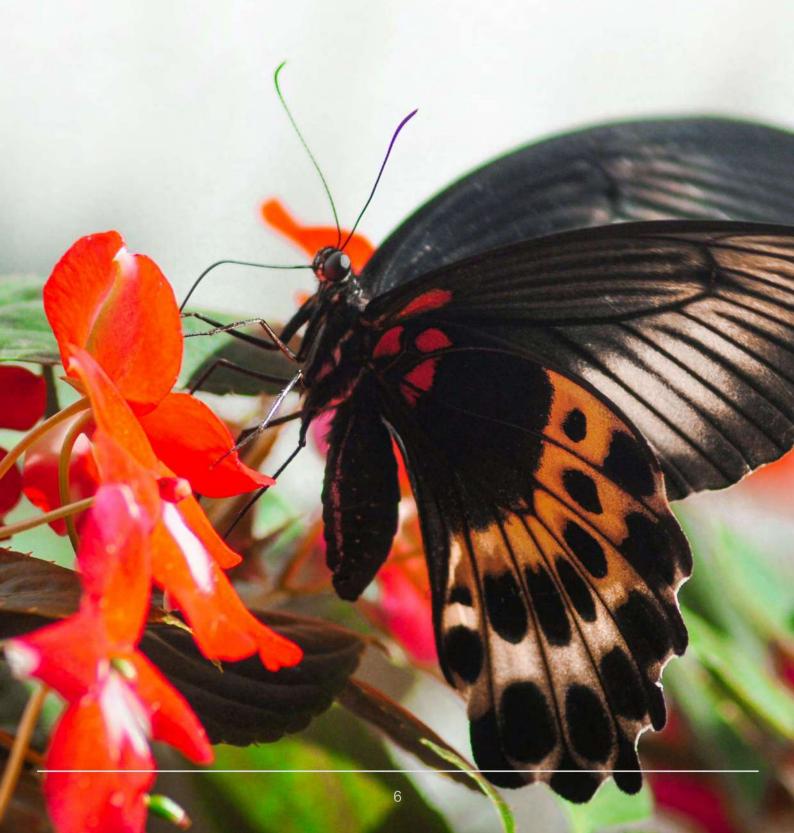
G.D.P. Fonseka

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'VOICE OF YOUTH

E- MAGAZINE 2021, DEPARTMENT OF ENGLISH LANGUAGE TEACHING

PHOTOGRAPH BY
MATHEESHA CHANDRASIRI



BLACK HOLES

Lahiru Wedasingha

INTRODUCTION

Black holes are among the most fascinating and mysterious objects in our universe. A black hole is a region where the force of gravity is so massive that not even light; the fastest knowing entity can't escape. It is a place where space, time and the laws of physics no longer apply. Black holes have been the center of attraction to plenty of researchers around the world for decades. This is an abridged article on the subject mentioned above.

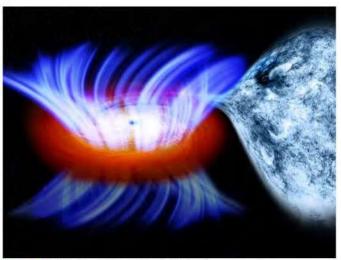
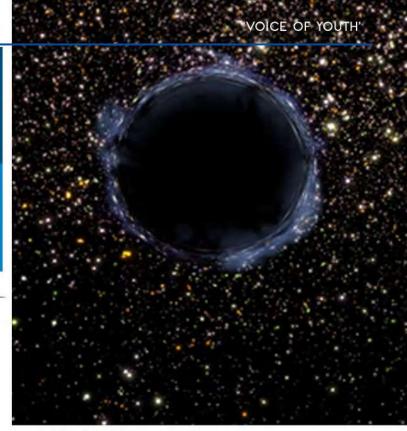


Image 2- Stellar-Mass Black Hole (nasa.gov)



WHAT IS A BLACK HOLE?

black hole is not truly a hole, it's a place in space containing a vast amount of mass packed very tightly together To have an idea about. the size of this celestial object, think of a star ten

times more massive than the Sun squeezed into a sphere. Also it can draw in more mass. Due to the strong gravitational field of black holes, not even light can escape from it. That makes it one of the most extreme objects in the whole universe.

There are three main types of black holes. The black hole's mass and size determine the type of it.

- 1. PRIMORDIAL BLACK HOLES
- 2. STELLAR BLACK HOLES
- 3. SUPERMASSIVE BLACK HOLES

The smallest black holes are known as "primordial". Scientists believe this hypothetical black hole is as small as a single atom but with an enormous mass. These holes are formed soon after the big bang. Medium-sized black holes are called "stellar" black holes and this is the most common type. Mass of a stellar black hole can be up to 20 times more than the mass of Sun. These black holes form when the center of a large star collapses in on itself. Largest of the above-mentioned trios are called "supermassive". Supermassive black holes have masses greater than 1 million suns combined. Evidence suggests that all large galaxies contain a supermassive black hole located

black hole located at the galaxy's center. Ours is called Sagittarius and it resides at the center of the Milky Way galaxy.

STRUCTURE AND PROPERTIES OF A BLACK HOLE

There are two main parts of the structure of a black hole: They are singularity and the event horizon. Singularity is the region where all the mass of the black hole has been compressed to nearly zero volume. As a result of that, it has almost infinite density and creates a huge other like charge. Likewise, total mass inside a black hole can be found using Gauss's law. Also, angular momentum can be measured from far away using frame-dragging (is a theory which says that space is elastic, and particles in it will exchange energy with it) by the gravitational field. It is predicted that black holes emit radiation spontaneously from the conversion of quantum vacuum fluctuations into pairs of particles, one of which escaping at infinity while the second particle is trapped inside the black hole. It is named after the late physicist Stephen



Image 3- Supermassive black hole. Credit: ESO/M. Kornmesser(scientificamerican.com)

gravitational force around it. Once the matter is inside the black hole, it will fall to the center where singularity is present. Due to strong gravitational force, fallen matter squishes to tiny volume with infinite density. This is a place where laws of physics break down. The event horizon is considered as the boundary where an object can't escape. Also regarded as the "point of no return". It is not a physical surface, but a sphere surrounding the black hole that marks where the escape velocity is equal to the speed of light(R=2GM/CxC). Its radius is known as the Schwarzschild radius. A black hole has three physical properties: mass, charge, and angular momentum. When we look at a black hole from outside the event horizon, these properties are visible. For Instance, a charged black hole repels

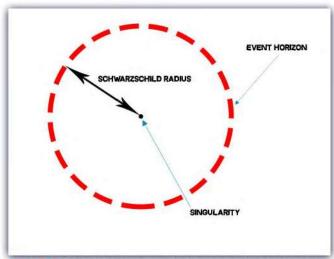


Image 3- A black hole has two basic parts. The singularity is at the center and the event horizon is the boundary(Credit: NASA's Imagine the Universe)

Hawking who has dedicated his entire life to studying subjects such as time, black holes, etc. This process is also known as "black hole evaporation" since it reduces the mass of the black holes.

When an object falls into a black hole, information regarding the fallen object is evenly distributed along the event horizon of the black hole and is lost to outside observers. The lost information consists of every entity that cannot be measured far away from the black hole. Physical information could permanently disappear in a black hole, allowing many physical states to devolve into the same state, which makes no sense according to physics laws that we follow. This anomalous behavior is called the "black hole information loss paradox".

What Happens to Matter Inside a Black Hole?

Once matter falls into a black hole it will be torn apart into its smallest subatomic particles which will be stretched and squeezed until they become part of the singularity and increase the radius of the black hole. When some matter is inside a black hole, everything outside the black hole would appear to be moving through time much more rapidly than the timeline inside a black hole. A few seconds inside a black hole would mean thousands of years of earth time.

History

The term "Black Hole" was introduced by Physicist J.A. Wheeler considering the properties and appearance of a black hole. In the 18th century, Laplace and Michell hypothesized the existence of a black hole with a mass that was able to cause an escape velocity greater than the speed of light which suggested that even light was unable to resist the vast gravitational field generated by this celestial being. This hypothesis got on with Newton's corpuscular theory but not with the wave theory. Therefore, it was rejected. But after the publication of Einstein's General relativity theory, black hole theory was again rethought because in GR gravitation was considered as a geometric variation of space and not a force.

According to the General Relativity theory, R represents the radius of the event horizon of the black hole.

According to the gravitational theory, a black hole represents a unit whose motion would not affect its behavior. According to the theorem, gravitational force is replaced with space and time wrap so

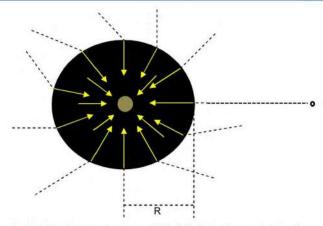
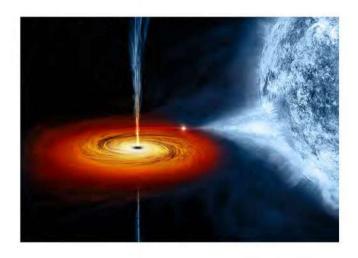


Image 5- Graphical representation of black hole in the gravitational theory. The observer is in the O point.

that mass of a black hole is greater regarding its volume and consequently the behavior of black hole is equivalent to a suction effect so great that even the light isn't able to escape.

Karl Schwarzschild was a German physicist and an astronomer. He introduced the Schwarzschild solution, which leads to a derivation of the size of the event horizon of a non-rotating black hole. Arthur Eddington showed that the singularity disappeared after a change of coordinates (singularity at the Schwarzschild radius was a non-physical coordinate singularity). In 1931, Subrahmanyan Chandrasekhar calculated that a non-rotating body of entity above a certain mass (now called the Chandrasekhar limit) has no stable solutions. This argument was opposed by scientists like Eddington and Lev Landau.

In the 20th century, which marked as the golden age of general relativity, black holes became mainstream research topics. At first, it was suggested that singularities would not appear in generic situations. In the late 1960s, Roger Penrose and Stephen Hawking calculated that singularities of a black hole appear generically. Later in the 1970s, a group of scientists led by Hawking formulated the laws of black hole thermodynamics.



First-ever digital photograph of a black hole

Scientists developed a global network of telescopes which was able to capture the first-ever picture of a black hole. They captured an image of the supermassive black hole at the center of a galaxy known as M87. This M87 galaxy is residing near the Virgo galaxy 55 million light-years from Earth. To capture this image, they have combined an array of telescopes known as The Event Horizon Telescope (EHT), which is a network of telescopes that consists of 8 powerful radio telescopes situated around the world. The telescope collected 5,000 trillion bytes of data, which later processed through advanced computer algorithms to retrieve a viable digital image of it. In April 2019, the first image of a black hole was published by the EHT Collaboration to witness the black hole at the center of galaxy Messier 87.

Death of a Black hole

EVENTUALLY, BLACK HOLES DIE DUE TO THE PROCESS KNOWN AS HAWKING RADIATION, WHICH IS A BUILDUP OF QUANTUM EFFECTS NEAR THE EVENT HORIZON, AFTER A LONG TIME, THE BLACK HOLE WOULD LOSE MASS DUE TO THE ADDITION OF ANTIPARTICLES AND EVENTUALLY LOSE SO MUCH MASS THAT IT WOULD BECOME SMALL AND UNSTABLE, BUT THIS PROCESS TAKES A VERY LONG TIME, AND IT IS PREDICTED THAT EVERYTHING ELSE IN THE UNIVERSE WILL BE DISAPPEARED BEFORE THE LAST BLACK HOLE DIES.

Conclusion

Even with the latest technology that we have today, scientists are unable to explain what happens inside a black hole. Perhaps black holes are gateways to other universes called warm holes or else they are energy centers known as white holes. Even though these celestial beings are not observable to the naked eye, they seem to have the power to devour all of us into oblivion.

Sometimes Undiscovered reality is stranger than fiction!

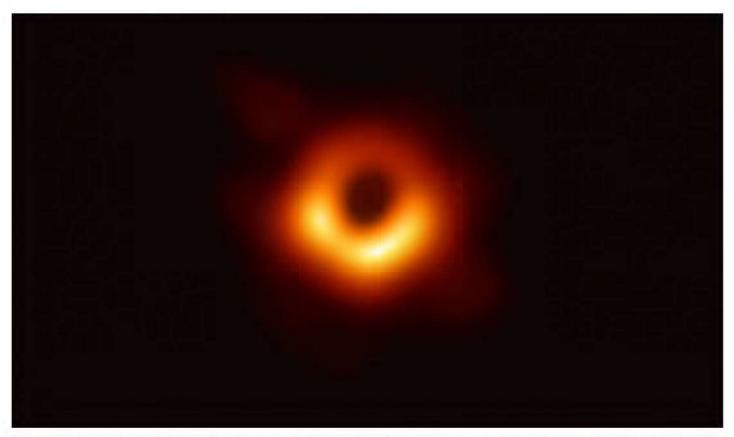


Image 6- The first image of a black hole where the ring is a bright disk of gas orbiting the supermassive behemoth in the galaxy M87. The spot is the black hole's shadow. (www.jpl.nasa.gov) [EVENT HORIZON TELESCOPE COLLABORATION]

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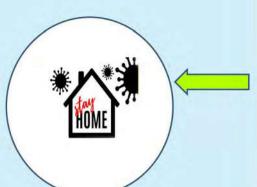
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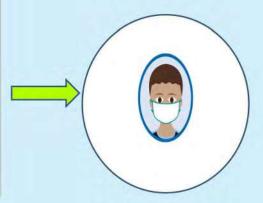


CORONAVIRUS

STAY SAFE SAVE LIVES







WEAR FACEMASK

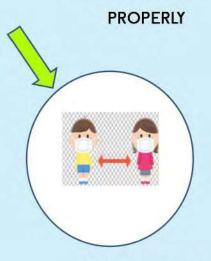


STAY AT HOME

AVOID CLOSE
CONTACT WITH PEOPLE
WHO ARE SICK



WASH HANDS WITH WATER AND SOAP



DISTANCE

PREVENTION IS BETTER THAN CURE

J.V.S. SAMANMALI



Our whole life is about choices. From the day we were born, our life is all about choices. Some are made for us, some we are pressured to make and some, we make on our own. It doesn't matter how these choices are made, they choose how we live our life.

The first choice of our life is made for us by our parents, which is our name. Have you ever regretted the name they have chosen for you? I bet you have. What about the other choices? You chose your O/L subjects, your A/L subjects and many other things.

When you chose these things, what did you consider? Did you choose them because your

parents told you to do so? Or because your friends chose them too? Or because of the pressure from society? Or did you actually think that in 5 or 10 or more years ahead of your life that you would regret if you do not make these changes?

Let me tell you a story. It is from this book called "Paper Towns" by the famous author John Green. It is about a boy and a girl who lived close to each other and eventually became friends.

The girl was very active, cheerful and careless and she made her own choices and although she got into trouble from time to time, she lived a very colourful and eventful life.

One day, close to their high school graduation, the girl disappeared and the boy went searching for her because he knew whatever the girl did, she always left clues for others. He tried hard to find those clues and made a lot of effort. He gave this mission his priority even it was so close to their graduation. The boy got into lot of troubles while he was searching for the girl and he did not stop until he found her.

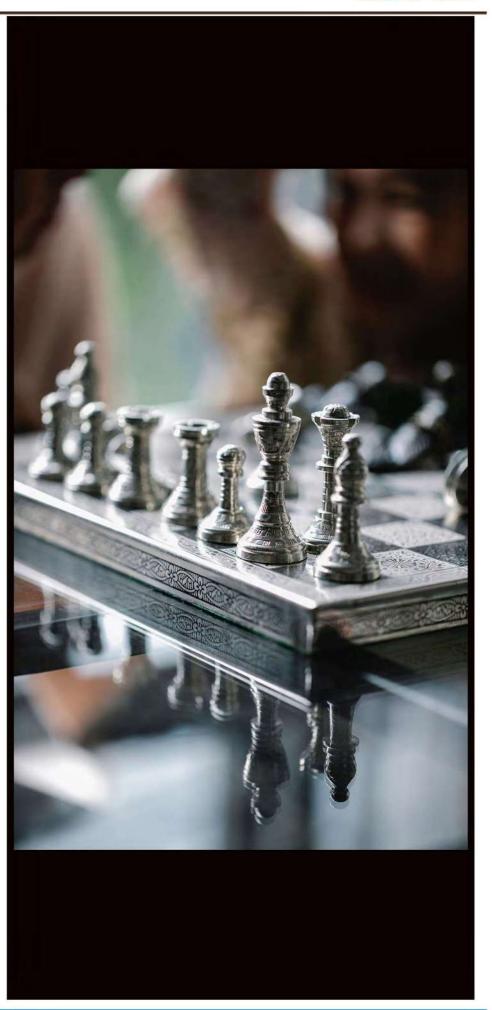
What do you think happened after he found the girl? When he found the girl, she told him that she wanted to travel and explore the world. You would think that the boy would go with her after the trouble he got into and the time and effort

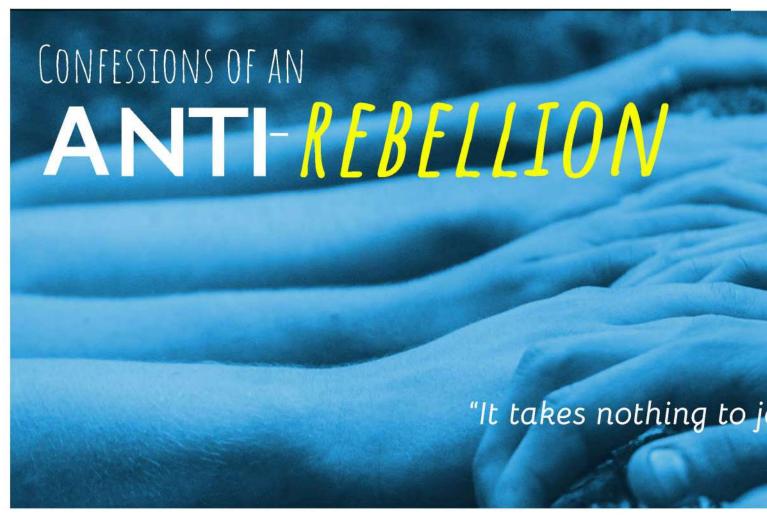
it took him to find her or she would go back with him. But the girl went on her journey and the boy went back to his hometown.

For a second, I was so disappointed that the author did not end the book with a happy ending. But then I understood that it was actually not a sad ending, the boy made his choice while the girl made hers. The boy would have never imagined what would have happened if he did not even try to find the girl because he knew it. He will never regret anything because he made his choice and he found himself while she went to find herself.

Our life is all about choices. We should make those, so that we won't find ourselves regretting the choices we made while we sit behind a desk or drink a hot coffee.

Anonymous





When I first came to the prestigious University Peradeniya, I clearly and most certainly believed that my vears spent here would blossom fragrantly as a pretty pink flower dancing to the rhythm of the spring breeze. The lush green ring of Hanthana Mountain range promised me so. Centuries old brown crusted tall handsome trees whispered to me so. At least the giant board which greeting welcomed us, freshers to the premises told me so. With that, piled up the expectations, higher than the Hanthana Mountain itself. Expectations of joy, pure brotherhood, being a member of a certain family away from home.

But little did I know that, if the mountains could talk, I wouldn't be empty and hopeless about the social life of the university, as I am today.

Rebelling is fun to do as hot-headed youngsters who are searching a value for themselves, who are misused by political parties redeeming their value furthermore. They say that the cream of the nation resides in higher education institutes. Believing that they can change the world, chanting that when injustice becomes the law and thinking that rebellion becomes the cure, they fight for god knows what. Rebelling needs a clear vision, a true and spontaneous overflow

powerful desire to gain something that is so dear to you more than anything in the world, more than your parents in this case. The real heroism is to fully give yourself to your aim until you accomplish it. Many of those rebels only know the surface of what they are fighting for and eventually become commoners with just the desire to feed their family after graduating. Then they become selfish.

Then, why were they going to pickets, rallies and getting into trouble with the police, shouting as high as they could, when no change was brought as a result? The parents and family who have brought them up until they become an



adult were forgotten the second they enter the university with the brainwashing done by the so-called seniors. After the tide of graduation hits, the rebels will leave with nothing but a mere pass of a degree as the next tide brings in a new batch of victims for the lords to play with.

I have seen seniors hitting freshers just to start a spark of the fire of hate inside their immature brains. Fresh adults are keen to grab anything which gives them pride and superiority. If violence does that, then so be it. I have seen the huge plank of wood in the dungeon called "the student common room" shake violently by the harassment happening behind

it.

Seniors did not give us wings, rather they molded us into a frame for which they can use us according to the orders of a superior being. I, myself, did not complete the course, being a left out from a group of about 400 people. I was kicked out, cornered, neglected to be gobbled up by my own thoughts. Life was not happy as I expected it to be. I was feeling like a looser-until one day: a day that changed my whole perception about myself and the day that I learned that my name was on both the special lists of my principal subjects. Then only did I realize, I had chosen the right path from the beginning-a rebel among the rebels.

My batchmates were not in the university anymore and I was not allowed in the batch photograph. But as I see it, it is a greater reward for me not to be in it. After learning many life lessons, I have realized that university life was not as entertaining as I thought it to be, but it certainly made me who I am today-better person.

NFORESTS OF

he blue planet of the solar system, the Earth, is unique because of the presence of the ocean. Ocean is the alien world of the planet. It acts as the source of life and controls everything on the Earth such weather, climate and oxygen concentration. The healthier the ocean, the healthier will be the Earth. The gardens of corals hidden under the waters of the ocean are responsible for the health of the ocean.

Coral reefs are not colourful rocks. They made up of thousands of small structures called polyps. These polyps have miniature plants; the micro algae living inside them are called zooxanthellae.

These are the organisms that coral reefs a the spectacular colour. This algal partner is provided with a shelter and carbon dioxide to photosynthesize. In turn, the polyps are provided with nutrition, the sugar produced algae the photosynthesis. The polyps secrete calcium carbonate and build a protective covering of what we call coral reef. As these polyps are living inside the non-living calcium carbonate shell, the coral reefs are considered as living. Apart storms, and flooding. Apart from humans, corals are the from providing home to milonly organisms that can build lions of marine organisms, their own environment.

A complex coral reef system is massive and it hides many surprises for us. It is more like a

city that shelters millions of marine lives. The more complex the structure is, the more will be biodiversity. This is similar to the houses in a city. Coral reefs are such an important ecosystem existing on the Earth They control amount of carbon dioxide in the sea. They absorb the gas and invest it in skeleton formation. Thereby they make the marine life feel better with less acidic water. They produce breakwaters and buffer the seashores against waves, coral reefs act as a suitable nursery for many juveniles. Coral reefs consist of a spectacular array of colours which attracts the tourists. Reef tour-

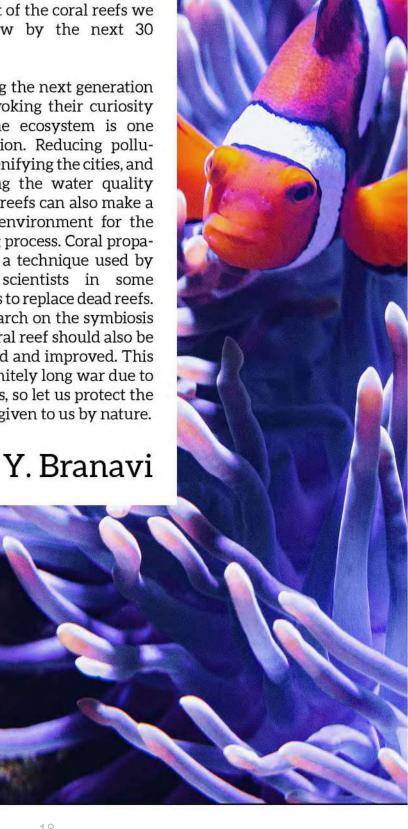
ism is a good source of income for many countries. In developing countries, these reefs provide a source of food and income to millions of people. The components of these reefs are used in manufacturing of drugs such as prostaglandin and bryostatin which fight cancer, and the researches are still going on to invent more valuable drugs.

The sad part is these valuable organisms are sensitive to water temperature, global warming or climate changes, ocean acidification, ecotourism, land runoff, and commercial overfishing. These lead to the worst thing that can ever happen to a coral reef, coral bleaching. We think that just one degree of increase in global temperature will not matter to us. But it actually matters especially to the coral reef ecosystem. It is because the Earth's temperature is similar to the body temperature of coral reefs. When it increases, the reefs get temperature stressed, and as a result, they get bleached.

Bleaching is similar to fever in humans which is a stress response. In the last 30 years, we have lost 50 % of the world's coral. With the industrial revolution, the release of carbon dioxide to the atmosphere increased. It is a greenhouse gas. It is able to trap heat. 93% of this heat will be transferred to the oceans, so the temperature of water rises up which is critical to the existence of reefs. Now, we have reached a temperature that is too hot for

them. This results in massive bleaching events. The occurrence of bleaching within a small time period without giving a chance to recover is the major issue these fragile corals face these days. If the current trend of bleaching continues to occur, we will lose most of the coral reefs we have now by the next 30 years.

Educating the next generation and provoking their curiosity about the ecosystem is one good action. Reducing pollution, greenifying the cities, and improving the water quality near the reefs can also make a healthy environment for the repairing process. Coral propagation is a technique used by marine scientists in some countries to replace dead reefs. The research on the symbiosis of the coral reef should also be continued and improved. This is an infinitely long war due to our deeds, so let us protect the treasure given to us by nature.



Can you guess the colour of love & life?
Some may assume that it's gray, while
Some may ask you to cut you with a knife
"Oh! here comes out the colour of fertile"

My belief is relatively odd than others
That love she gives makes all hearts flutter
No one can surrogate her with another
Yes! It's all about dear nature mother

Blood is red due to oxygen carrying heme But there's no oxygen without beloved trees So RED! isn't the colour of lifeline as may it seems The complexion of each and everyone is GREEN!

Chamudi De Silva



H! IAM AN ENGINE!

My name is ChevyV8. Please don't mind my name I know it's a little messy but my master loves my type of engines lots. Okay, that's enough chit chat. Let's get down to the business.

I am here to explain to the ones who don't know how I work. Yeah! I work like hell you know. My history is like an endless sky; still spreading.

Our Ancestors were going here and there on their foot. But finding of the wheel was a huge breakthrough for them. They invented a "thing" to drag their goods to here and there. Time passed. Now I think you know what my situation is. A great creation I say.

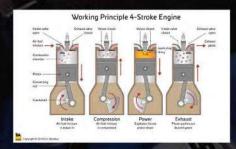
Let's take a look inside of me. I also have many, complex organs like you guys. I breath in, I breath out, I eat but with a little difference. My waste system has only one output while you have... yeah get it X). That is my exhaust system.

To make an exhaust, what would be my inner process??

I eat fuel. Different fuel types for different types of engines. As examples: motorcycles use PETROL while vans use DIESEL.

Fuel is my energy source. I stall when I don't have it. It is same as you faint if you haven't eaten in the morning. However, there is a method of making a huge power to drag tons of weight, speed like the wind. It is called "Internal combustion". I'll use a motorcycle engine to explain this to you.

That consists of valves, spark plugs, piston as you can see in the picture.



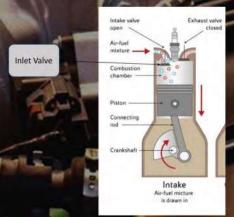
The piston is connected to a metal thing called "crank shaft" by a metal thing called "connecting rod". The Piston, crank shaft and the connecting rod support the cycling process

To cycle there must be a push or pull on the piston. Right! YES. Actually, it is a downward push in a massive power.

To make that push I need a proper mixture of air and fuel. For that I open a doorway and it is called a "Valve". Actually, I have 2 valves - "Inlet" & "Outlet". The mixture comes



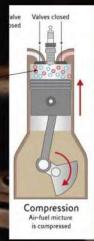
from the inlet valve as the piston comes down. (Because piston makes a suction)



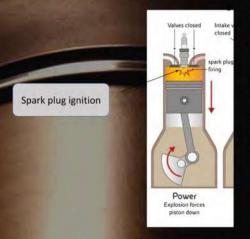
Okay. Now we have a proper mixture inside the cylinder. I told you that piston is going up and down in a cycle. After the mixture event the piston comes up. What do you think will happen? The mixture compresses.

I compress the mixture because without a compression it is difficult to proceed to the next step or I could say the next step is just useless without the compression. With that being said I think, "an engine is just all about compression."



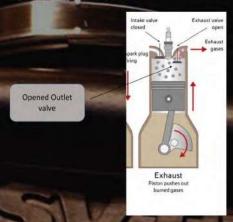


Just after the compression, the spark plug activates. A spark plug creates a huge amount of voltage enough to make an electron pass from its cathode to anode (from - to +). That spark ignites the air fuel mixture and creates that massive push I told you about earlier. Due to that push, the piston rushes down again.



Now... inside the cylinder we have the residuals after the ignition. Those are my waste. What should we do to our waste? We get rid of them right! I do it too...

I do it by opening the second valve and cycle back up the piston. The waste comes out from the cylinder after opening the outlet valve and it comes out through a long tube called "silencer".



That's it!

As you can see it is a Four step procedure. Afterall four of them, it is a clean start. Because of that we call it "FOUR STROKE ENGINE".

Are there any number of strokes regardless of four?? YES, but it's just one. It is "TWO STROKE". In those types we close the cycle in two steps. It is a bit complex. But you can get an idea of how I work with above diagrams and information.

If you might be wondering "How these valves open and close?"

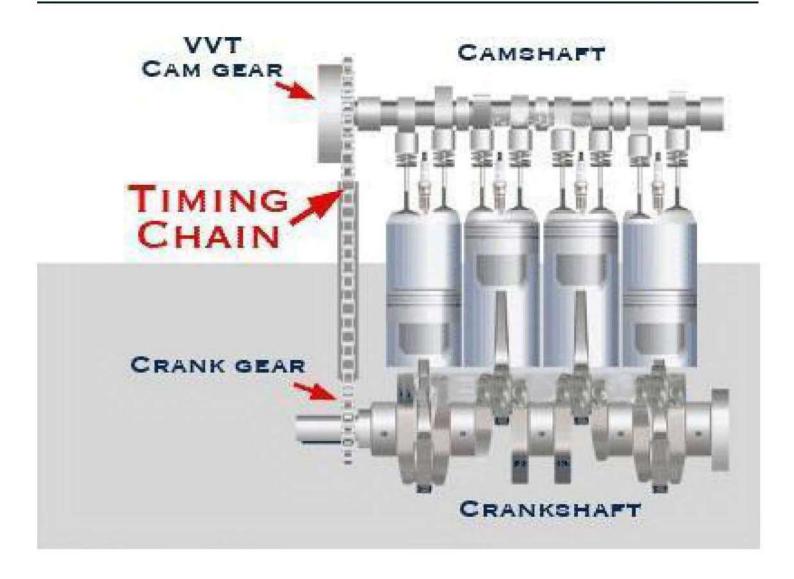
I must say that it is a very interesting part. So here it goes!

You know that as the piston goes up and down, the crankshaft also goes in cycles. A toothed-wheel is attached to the crankshaft located outside the combustion chamber. As the crankshaft is cycling, that toothed-wheel is also turning in rounds. That toothed-wheel is connected to the metal thing called "CAMSHAFT" via a chain located overhead of the valves.

Now you must know that camshaft is cycling as the crankshaft is cycling. In this camshaft, you'll see weird heart shaped lobes. These lobes are the things that open and close the valves at right time of the cycle of the piston. "right time" gives us a sense to call the chain as "The Timing Chain". If the timing chain is lost, I won't be started.

If it is out of timing, I won't be started.

Here take a look by yourself!



There are several types of engines.



Inline - Pistons are in a row (most common type)



V - Two piston rows in a shape of the letter "V"



Horizontal - Pistons are laying horizontally.



Radial - Multiple engines in a circle.

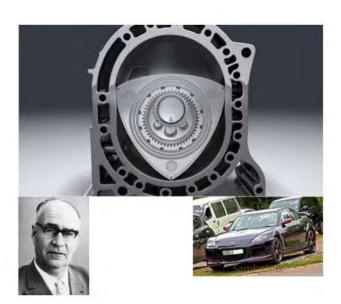


The number of cylinders' matters. If the number of cylinders go up, the power of the entire engine will also go up.

After a great climb there is also a drop. That means that with multiple pistons the fuel consumption is also really high.

Nowadays engineers try to reduce the fuel consumption and increase the power of the engines. By our beloved physicists and motor mechanic engineers, in the future we will turn the world upside down.

I hope you have understood the mechanism inside me. When you travel in a vehicle, think of me. Remember how I pull your weight and your staff. Keep your safety and drive responsibly. Thank you!



Wankel - quite wasteful type. In Mazda RX8 (Piston Principles in a different perspective by Felix Wankel)

-Anonymous-

Down the Aisle



Strangers we were
Friends we became
Never knew when
Lovers we ended
All those dates
The little fights
Sweetest memories

Flash in my mind
In every step I take
To you my love
Down this aisle
With all my heart



-NIMESHA GUNAWARDHANE-

LITERATI

VOICE OF YOUTH'

Who would ever like me When I would never like me?

I felt so insecure Couldn't find the right cure

Suddenly Mr.Right came out of nowhere And I threw my insecurities into thin air

Days, weeks & months passed by Here I am walking down the aisle

Oh darling! Only if you knew He is ready to say 'I do'

I was about to scream And I woke up from my dream

Chamudi De Silva

Grandfather

L.R.M.K.R. Jayathilaka

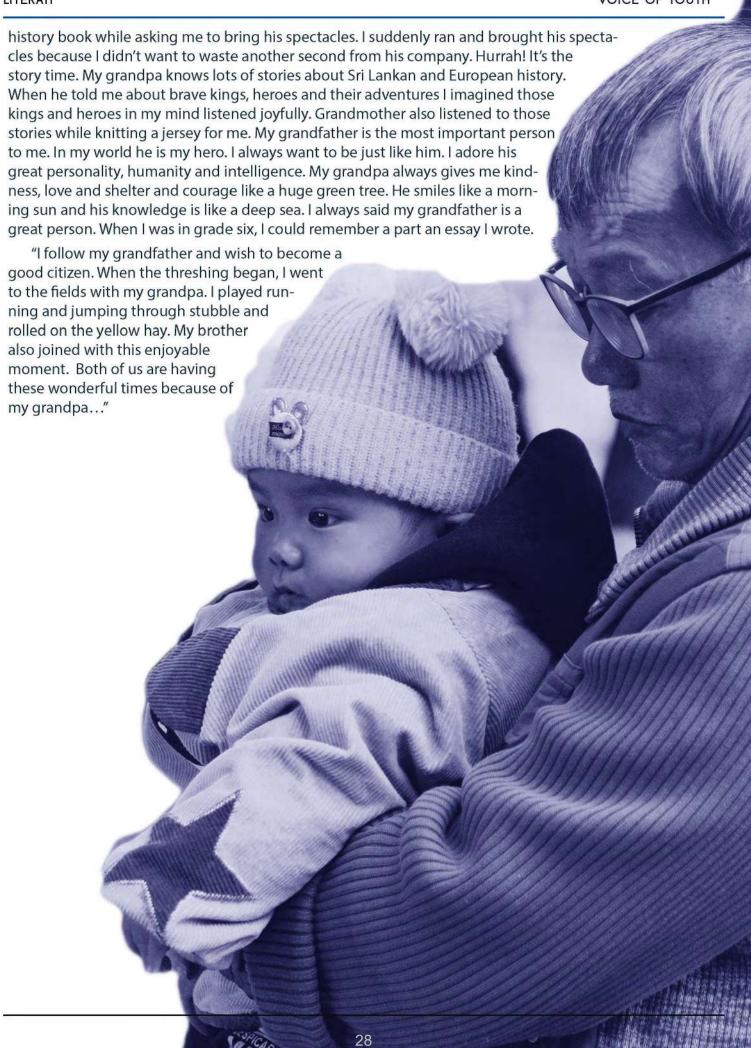
There is a huge paddy field beyond the village. The golden paddy is about to harvest as the result of the hard-working famers. The cool breeze whispers through the fields making the paddy hiss and move here and there. Sometimes the environment is full of sounds where the sweat birds sings and the sounds of fruitful jack tree's dropping leaves. On the other side there is a stream which fertile the fields. Next to the stream there is the "Wagura" and above that there is "Purana"; which belongs to my grandfather. "Kukula" is a huge plantation. My grandfather was a retired land commissioner in Uva province. He is genuine, sentimental, intelligent and very quiet person. But his heart is full of love and compassion. My childhood memories are full with wonderful moments with my grandfather. When I blithely remember those memories, I feel so happy deep in my heart. Whenever I go and whatever I do those memories always with me.

In the middle of April, when the paddy become golden the famers busy to harvest their crops. Actually, it is wonderful time for children like us to spend times in outdoors. Usually I and my younger brother went with my grandfather to see the harvesting. But we most like to see the threshing. Four of us walked at abreast along the foot path surrounded by bamboo trees. First Timmy wandered brushing his tail with full of joy and chased the rabbits barking blithely. Then I and my brother marched down along the road and grandfather followed us watching our great excitement. Both of us ran to the hay and jumped in. Timmy also joined with us to play hide and seek. We ran through the stubble and play with buffalos until the sun set. Grandfather sat in the hay hut and watch over us with full of happiness.

When windy season comes, it makes me feel exited. The whole environment is full of freezing wind that flow through huge trees and shake their branches. Sometimes I listened to the sound of the wind and thought about a big kite. The wind whisper to my heart and inviting me to fly a kite. The wind blows throwing lots of leaves and sticks in to our garden. Someone may think it is a big trouble but not for me and my grandfather. We always enjoyed cleaning the garden. When I heard the sound of dry leaves hiss, I suddenly jumped outside the blanket and ran to the garden to help.

Some days we went to the fields with a big colorful kite. I fly the kite while running through the stubble. My grandfather sat on a rock and looked at me smiling gently with full of love. I put off my hat and let the wind blew through my short black hair. My grandfather never scolds me to put my hat, because he knew I like lustily to play with wind without my hat. When the wind became strong, he also joined with me. After playing with the kite both of us sat on a rock and listen to the wind and feel the beauty of nature. Sometimes the friend of my grandfather's joined with us and had a little chat.







Isaac Newton is a superhero in the physics world because he created a new theory about gravity. Of course, he discovered Law of Universal Gravitation. It is the best discovery.

Isaac Newton was born on 4th of January 1643 in Lincolnshire, England. He was a child of a farming family.

Isaac Newton Began his primary education at King's school in Grantom before enrolling at the university of Cambridge's Trinity College in 1661. He studied Mathematics and Natural Philosophy. He obtained his B.A degree in 1665 and M.A degree in 1668. He became a professor in mathematics at the age of 26 in 1669.

He has many scientific achievements. Some of them are generalized binomial theorem (1665), World's first working reflection telescope, Calculus, Law of Universal Gravitation and framework for modern physics. Isaac Newton is the author of the book "Principia."

He was very religious. For example, he read the Bible every day.

He did a lot of testing with Mercury. Unfortunately, he died on 20th of March 1727.

Reason for his death was the availability of high level of mercury in the blood stream.

HARINDRA DILSHAN

LETHAL

~ Chamudi De Silva ~

That was a meloncholic night, I should say
To forget your smile, I couldn't find a way
My exhausted mind was full of ineffable thoughts
Even an analyst wouldn't have been able to sort

So I came out with a pen and a piece of paper Wanted to write a poem about a traitor The stars were shining so bright I couldn`t think of a thing to write

I was searching for the most lethal word You might think that this is absurd The sun was rising up and above The only word I could find was 'Love'



With everything that's transpiring around the world at present, it is safe to say that we living are in unprecedented times. The breakout of a deadly virus brought our lives to a standstill caused and immense emotional trauma as millions of lives were swept away. The Australian bushfires that preceded this crisis was vet another devastation to the planet. Although we have gradually begun to resume our normal lives as far as the pandemic is concerned, we are constantly being made aware of other disasters that struck various parts of the world so unexpectedly, the floods in China being one of them. Aside from this apparent

unrest in the natural world. there seems to be an undeniable rise in tension among people. From the global protests that were ignited by the death of a black American. to the constant suspense of war in the Middle East, it wouldn't be an exaggeration to say that most people don't look upon each other as their fellow man, but rather a rival in a brutal competition called life.I need not list the many other issues that our world is sinking in since we receive plenty of coverage from the media. But what many people are lacking, and I believe are in great need of, is a knowledge of the bigger picture. However, the confinement and isolation that we were forced into these past months have prompted many to actually question the reason behind all this trouble: whether there is more to this sequence of catastrophic events. People are looking for answers. Some may argue that we've always had troubles in the world, and they have a point. But what you cannot deny is the fact that the frequency and intensity have been climbing steadily over time and one may wonder what the culmination will be like. There are countless theories out there and it's easy to be misled and confused. Some sound so outlandish and bizarre that people are instantly put off their quest for the truth. But the words spoken by a man named Jesus Christ two

thousand years ago to His few keen followers really caught my attention. In a time when the world wasn't even remotely close to what it is today, He said.

"Nation will rise against nation, and kingdom against kingdom. There will be famines and earthquakes in various places. All these are the beginning of birth pains. Then you [Christians] will be handed over to be persecuted and put to death, and you will be hated by all nations because of me [Jesus]. At that time many will turn away from the faith and will betray and hate each other, and many false prophets will appear and deceive many people. Because of the increase of wickedness, the love of most will grow cold, but the one who stands firm to the end will be saved." - Matthew 24: 6-13

The situation described here bears uncanny resemblance to the world today. Avarice and pride have become rampant and the concept of charity is becoming increasingly foreign. Morals and values have completely been uprooted in many societies and are rapidly declining in others, which brings me to the words of another great man who began his services a few years after Jesus Christ, who was his sole inspiration. In one of his letters to Timothy, this Jewish man named Paul said.

"There will be terrible times in the last days. People will be lovers of themselves, lovers of money, boastful, proud, abusive, disobedient to their parents, ungrateful, unholy, without love, unforgiving, slanderous, without self-control, brutal, not lovers of the good,

treacherous, rash, conceited, lovers of pleasure rather than lovers of God— having a form of godliness but denying its power" 2 Timothy 3:1-5

The accuracy of this statement appalls me. You could wonder if he actually travelled forward in time and wrote about his firsthand experience in the time that was to come. It's interesting to note that both these accounts were written with reference to the end of time. The idea of the end, and even the phrase "the end of the world" is nothing new at this point. There are so many conspiracy theories and speculations that revolve around it and it has even become somewhat of a popular concept in the film industry. But if you looked at the Biblical take on this subject, you wouldn't fail to see an element of truth, regardless of what your personal beliefs may be. First, what must be told is that date-setters are never to be trusted. The Bible has lost its credibility among a lot of people because of such false predictions, but it is made very clear that

no one can know the exact date, but only the signs. So why is this topic so stressed upon in the Bible? As you turn over the pages there is a growing sense of urgency to focus on exactly where we stand in life and time. People today are so occupied with their daily obligations that they don't take time to contemplate the actual purpose of our being here. Where did we come from? Why are we here? Where are we going? These very solemn questions are better asked sooner than later. The answers to them will mold a person's entire outlook on life. Every religion addresses these questions and the Christian faith isn't exempt. The entire Bible is devoted to showing man His relationship with His Creator, which is where his purpose comes from. But it also sheds light on the road that the world is heading down. Over the course of time, future events were divinely and elaborately revealed to humble men of different walks of life. and history confirms the authenticity of these prophecies,



many of which are found in the chapters "Daniel" and "Revelation". The rise and fall of kingdoms and great men, the wars and battles that raged upon the land and the dark ages of religious persecution, although seized the world with shock. were documented a long time prior to their occurrence. It's interesting to me that despite the fact that the concept of an end has been reduced to a fictitious tale and is derided by many, the signs continue to manifest. Would it surprise you that such a condescending attitude was long expected?

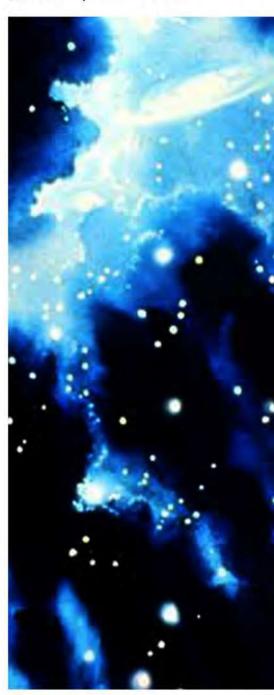
"...knowing this first of all, that scoffers will come in the last days with scoffing, following their own sinful desires. They will say, "Where is the promise of his coming? For ever since the fathers fell asleep, all things are continuing as they were from the beginning of creation." 2 Peter 3:3.4

So, does life just continue to roll on or are we progressing towards a climax? A reason why the Bible intimidates people, and sometimes even humors them is because of the dark and seemingly unrealistic topics it covers. There's a God and a devil, a great controversy between good and evil and a grave decision to be made that decides our eternity. But the reality is that we are undoubtedly living in dark times and people are becoming more and more curious about the truth. But finding truth nowadays is also verv challenging and requires more laborious pursuit. Thousands of years ago, an angel told an

elderly prophet named Daniel that this would happen; "But you, Daniel, shut up the words, and seal the book until the time of the end; many shall run to and fro, and knowledge shall increase." Daniel 12:4 the Bible If one read considering it to be legitimate record, one would no doubt feel at least a tinge of apprehension. But, the Bible is not meant to be a source of fear. It is meant to provide us with something much stronger than fear and desperately sought after by all; hope. It reveals to us that this world is in a tunnel of abyssal darkness but also reassures us that there is a glorious light at the end. The Bible no doubt covers a wide spectrum of topics.But it all ultimately points to a grand mission that was completed on a cross two thousand years ago. The plan of salvation, which involved the death of the Creator in place of man, His most beloved creation, in order to restore our relationship with Him is the central theme right throughout the text. It teaches that the inhabitants of this world, who were destined for destruction because disobedience, were rescued by utmost mercy and love, and anyone who places their trust in the One who died to save them can anticipate wonderful future. This story of redemption has brought peace and joy to the hearts of millions throughout the ages, and it continues to do so as we press on through these daily conflicts. press on through conflicts. these daily

Millions have died in attempts to share this good news with others and their efforts weren't in vain; despite some of the heaviest opposition, the message of the cross continues to spread, making strong impact.

It's only natural that people feel a lot of uncertainty about the future at this point in time. We've learnt that it doesn't take long for the world to plunge into dilemma. I could not tell anyone what will



happen tomorrow or the day after. But if I had to tell someone what I am the most certain about, it is that there is a grand finale to these events, and a study of prophecy tells us it is very near. In the words of Jesus, it is "at the door" (Matthew 24:33). The story of the Bible, which I believe strongly to be the truth, may seem questionable to some or even ridiculous to others. But there's no denying the adversity that the world is mired in, and

the Bible stands out as the source that so authoritatively explains the why behind all of it. Throughout the ages, the unfolding of events caught many renowned and educated men off guard. But the humble, diligent Bible student, although from an obscure or insignificant background, has always known what to expect. It is bound to illuminate even knowledgeable the most minds with a very different perspective. I think many

would agree that the Bible is indeed an ancient text. Not as many would accept that it is divinely inspired. Nonetheless, it has a lot to say that is relevant to our time more than any other, and should you be interested to read it, I guarantee you will discover a whole lot that is definitely food for thought.

- E.D. Vandort -



LITERATI PHOTOGRAPH BY MATHEESHA CHANDRASIRI 35

One cloudy night, awaken upon the sleepy night, Thought about the life, that goes just as a life, We don't care how it should be cared, So it's just another day of the life that passes on.

Day by day, life goes on, As work gets loaded up, Simple life switches on To a life, stressed up.

Though humans own a life, It is not their life, It's what the world holds, That makes them cold.

Life that passes on

Being inside the walls,
Full of solitude,
But,
Flashing all my memories,
Feel so gay as a free bird.

Nobody in the world, Now can change the world, Knowing the world, Learn to live in the real world.

-L.P. Dinithi Thakshila -

LOST

We have lost ourselves in this maze, So many paths to chase, much more to face.

It's just so hard to find, a path to make us shine, to make it worth the time.

We've lost our dreams behind a cloud, though we are not allowed, making us reach through the crowd.

Oh! We are like a lost star, forgotten melody in a guitar, waiting and watching from afar.

-K.M. Waruni L. Kekulandara-



MEMORIES HIDDEN BEHIND WISTFUL HILLS



Kandy, where the winds pause to catch their breath, Astounded by the magnificence!

Kandy, where the shy sun hides behind the mountains before slowly coming to view,

Kandy, where the gentle sounds of lake water lull you to peace,

Kandy, etched into my memory for it was home!

Kandy, where I skipped around the scenic lake, with a pretty pink gown and a hair clipped with a clip full of pink blossoms, trying desperately to have a peak at the hungry fish hiding just beneath the murky waters,

Throwing them some food,

And begging my brother to carry me so that I could have a closer look, And glancing up once or twice to avoid the spaces crowded by crows That was Kandy to me, my childhood in a picture

Kandy, I passed on my way to school every morning,
Not just a town, but a feeling!
I pen this while yearning to walk around the hill capital,
With the glowing cup kissing my sheeks.

With the glowing sun kissing my cheeks,

With the wind flirting with my gown,

As my bubbling laughter gets drowned by the chatter around me,

Kandy, which was stolen from me

As it was from you,

Kandy, a Hiraeth of its own!

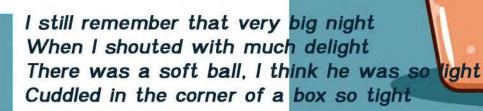
-Musna Sarooj-



MEOW MEOW

ENZO....

-Yehara Dissanayake-



Stayed unnamed without a fear
And ENZO is his name now to bear
Playful boy who wonder here and there
I know hero types cats are rare !!!

Hard to find Enz early in the morning
Only sleeps at home if he feels boring
Stares at me in the corner of the bed without a meow
Just to have my blue soft pillow

Enz is a cat with his own flaws
Wandering in the nature with cute white paws
Sometimes I hear big loud meoooows
That's when he fights with other fellows

Never ever likes to sleep on my lap Fear to disturb when he takes naps Tries to control us with his own rules And I pat him with my cat songs

Came to our life like a little cute strange
He is a big cat now much stronger
Always love my cat snowy Enzo
Yeah, my French guy, Mr. Meow Meow!!





Morning

Setting of moon at west,
Dawn of sun over mountains,
Means the expiry of dark night...
Cool sunlight comes through bowers,
Thrills the mind and body...
As a refreshment for a new start..

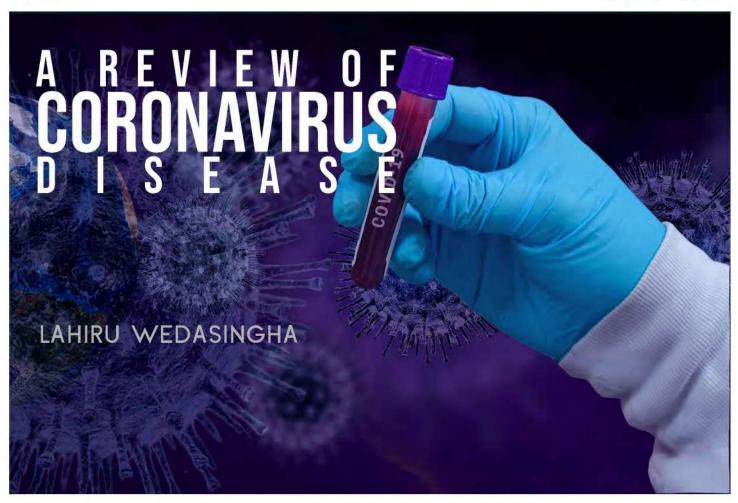
Sweet melodies of birds,
Gratifies the ears...
Burying dew drops at the presence of light,
And fragrance of blooming blossoms,
Attests puberty of yellow primroses ...

A lovely couple of golden orioles with nestlings, Freely fly above tree crowns,
Through yellowish sun rays and cool breeze...
And sing love-songs...
To announce the beginning of a fresh moment...

Twitching smile at corners of mouth...
Beauteous damsels in line, with white gowns...
Orange smeared gleaming eastern sky...
Bring a miraculous sight to dreaming eye...
&
Adduce a pretty, novel and
Upbeat Commencement...

- Amasha Udayangi -





Abstract

The coronavirus disease pandemic (COVID-19) has upended billions of lives all around the globe as health systems buckle, borders close, and schools and businesses shutter. The virus originated from Wuhan, Hubei province, China in December 2019. Since that there have been around 1,380,345 reported cases of disease coronavirus 2019 (COVID-2019) and 78.244 deaths to date reported (07/04/2020). World The Health Organization (WHO) has declared the outbreak a global public health emergency after the virus has conquered the western hemisphere. Based on the

current evidence, I summarize epidemiology, clinical features, treatment, prevention and testing aspects the of COVID-19 outbreak. The disease is transmitted through contact with infected droplets. There aren't any conclusive shreds of evidence that the virus is airborne. The main symptoms are fever, cough, sore throat and breathlessness. It may progress to pneumonia, respiratory acute distress syndrome (ARDS) and multi-organ dysfunction which leads to death. In most countries across the world, PCR (Polymerase chain reaction) testing is used to identify viruses. Antivirals are yet to be established. To avoid community transmission, 1-meter distance between 2 persons and wearing a mask are advised.

Introduction

In Wuhan (Hubei Province, China) several cases of pneumonia patients were admitted to hospitals from December 2019 due to a newly identified β-coronavirus(1). This coronavirus was initially named as the 2019- novel coronavirus (2019-nCoV) on 12th January 2020 by World Health Organization (WHO)(2). Till 07th April 2020, around 1,380,345 cases of coronavirus disease 2019 (COVID-19) and 78,244 deaths have been reported(2).

Early and correct diagnosis is crucial to prevent the spread of the infection and polymerase chain reaction (PCR) is used to confirm the microbiological diagnosis(3). This mini-review gives a bird's-eye view of the newly identified virus.

Origin and Epidemiology

In December 2019, a group of pneumonia cases, which was caused by a newly identified β-coronavirus, occurred in Wuhan, China (4). The virus was identified as SARS-CoV-2 (Severe acute respiratory syndrome coronavirus 2) and found that its size is ranging from 60 nm to 140 nm in diameter with spike-like projections on its surface (resembling a crown), which is enveloped in positive-sense RNA virus(5). Based on the genetic sequence identity and also the phylogenetic reports, COVID-19 is sufdifferent ficiently from SARS-CoV and it can thus be considered as a brand new B-coronavirus that infects humans(6).

Coronavirus belongs to the Coronavirinae subfamily within the family of coronaviridae of the order Nidovirales: the subfamily includes four types(7). Which are Alpha coronavirus. Beta coronavirus, Gamma coronavirus and Delta coronavirus(7). Coronavirus consists of large single-stranded RNA genomes(8). From further studies, it was found that the genome sequence

SARS-CoV-2 is 96.2% a dead ringer for a bat CoV RaTG13, whereas it shares 79.5% identity to SARS-CoV(5). From a Sequencing method, it was found that the genome was divided into a 5' two-thirds and a 3' third(8). The primary two-thirds of the genome code for 2 large polyproteins (pp1a and pp1ab from ORF1a and ORF1b) which are essential for the production of new viral genetic material and the remainder of the genome codes for the structural proteins carry the accessory genes that produce virions and alter the host response, respectively(8).

Soon it was visible that the infection might be transmitted from asymptomatic people and also before the onset of symptoms(9). Protein sequence alignment analysis implied that similar residues of receptors were observed in many species, which provided more possibility of alternative intermediate hosts, such as turtles, pangolin and snakes(5). Direct contact with intermediate host animals or consumption of wild animals was suspected to be the main route of SARS-CoV-2 transmission; however, the source(s) and transmission routine(s) of SARS-CoV-2 remain elusive(5).

Spread

Evidence suggests that the virus can be spread through respiratory droplets after an infected person coughs or sneezes, between people who are within about 3 feet (~1m) of other, and through touching surfaces that have the virus on them, such as handrails, telephones, doorknobs, etc.(10). At the time of preparing this manuscript, the World Health Organization (WHO) reported 1,051,635 confirmed cases including 56,985 death cases globally, the number of confirmed cases as of this writing (April 4, 2020) has exceeded in 208 countries(11).



Clinical Features

COVID-19 causes different types of symptoms in people who are infected, and not all infected people COVID-19 will have the same symptoms; most common symptoms are fever. dry cough, shortness of breath, fatigue and body aches(10). Based on current research, it identified that was incubation period is 1-14 days (mostly 3-7 days)(5). It was observed that severe cases of COVID-19 were reported at higher frequency in patients with diabetes, hypertension, cardiovascular diseases, or a history of smoking(12). According to current data, the majority of adults or children with COVID-19 infection experienced mild flu-like symptoms and a few (as a percentage concerning the total number of cases) patients are in critical condition and rapidly develop acute respiratory distress syndrome, respiratory failure, multiple failure and organ even deaths(5). Polymerase chain reaction (PCR) is used to confirm the microbiological diagnosis(3).are advised.

Treatment

At present, the treatments of patients with SARS-CoV-2 infection are mainly symptomatic(13). Also there are currently over 250,000 recovered COVID-19 patients,

who could present a valuable resource of plasma for health care providers(14). Antimalarial drugs such as Chloroquine and hydroxychloroquine have been considered as a potential useful drug in patients affected by SARS- CoV-2(15). Also, antivirals such as IFN-a. Lopinavir/ritonavir, Ribavirin, Arbidol are proven to be good candidates for the treatment of the virus. After SARS and MERS epidemics, great efforts have been devoted to development of new antivirals targeting CoVs proteases, polymerases and entry proteins, however, none of them has been shown to be efficacious in clinical trials(7).

Prevention

Initial studies reported that the mortality rate related to SARS-CoV-2 pneumonia ranged from 11% to 15%, but later studies revealed that the mortality rate was between 1.4% and 4.3%(4). Since the early stages of the COVID-19 outbreak, the case fatality ratio (CFR) has been around 2% to 4%. This is a much lower CFR than those seen for SARS and MERS, which are around 10% and 35% respectively(8). Since there is no effective antiviral medicine or sufficient therapy, the best course of actions now are to control the source of infection, early diagnosis, isolation, supportive treatments, and to avoid unnecessary panic and as for individuals, good personal hygiene, wearing fitted mask, ventilation. avoiding and

Table 01 -2019 novel coronavirus compa

Virus	Year Identified	Cases
Ebola	1976	33,577
SARS	2002	8,096
MERS	2012	2,494
COVID-19	2020	1,051,635

Sources: Johns Hopkins, CDC, World Health Organia Journal of Pathology, CGTN*As of April 2020*at 8:2

crowded places will help to prevent CoVs infection(7). Healthcare workers should be provided with fit-tested N95 respirators, protective suits and goggles(9).

Testing

Centers for Disease Control (CDC) implemented a nucleic acid amplification test that targeted three independent regions of the SARS- CoV-2 nucleocapsid gene (N1, N2, N3), in addition to the human ribonuclease gene, which serves both as an internal amplification control and indicator of specimen sufficiency and detection of each target required a PCR (separate polymerase chain reaction) test, where four reactions, which were required for each specimen, were tested (16).

Polymerase chain reaction testing can detect even very small amounts of viral genetic material in a sample by duplicating it many times over through a complex laboratory process called amplification and currently this seems to be the best way to test the virus in a host(17).

red to other major viruses

Deaths	Fatality Rate	Number of Countries
13,562	40.4%	9
774	9.6%	29
858	34.4%	28
56,985	4.5%	208

ation, New England Journal of Medicine, Malaysian Da.m. EST

Conclusion

The Spanish flu was an unusually deadly influenza pandemic that occurred in 1918 which lasted for 2 long years while infecting about a quarter of the world's population at the time and killing around 50 million people. Almost after 100 years, in 2020 scientists have discovered an unidentified beta coronavirus which originated in China just like The Spanish flu, and currently it has reached 208 countries at the time of preparing this manuscript. The outbreak has challenged the economic. medical and public health infrastructure and day to day lives of billions of people and governments all around the world. The antiviral drugs are yet to be discovered. Research suggests the number of confirmed COVID-19 cases growing exponentially worldwide with the number doubling about every six days.

To flatten the curve, social distancing and rapid PCR testing are recommended. Apart from restraining this outbreak, efforts should be made to devise measures to prevent future outbreaks like this.

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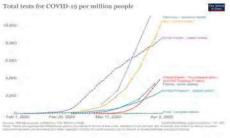


Figure 1.Total tests for COVID-19 per million of people (adapted from ourworldindata.org)

Dreams are Social Distancing

We wish we had a dream something our hearts can scream to pick us up and raise us higher holding us from giving up desire

A glorious one like Martin Luther King's or a song to sing like that boy band did

Because tomorrow seems impossible to redeem dreams and hopes keep us reaching for the deep

It will help to be optimistic and to be materialistic but our nature is so mystic that it's hard not to be pessimistic

S.M.Rajasinghe



I have heard people saying that mother's day and father's day are for the western world, and not for us. The reason is that people in those countries move out of their parents' house at a young age, but in our case we live with our parents.

Our lives today are very hectic. School/college-tuition classes-assignments-social media-sleep, this is our daily routine. How often do we have a meal together with all our family members? Slowly and sadly our generation is drifting away from family values.

Our parents work hard to give us the best. All the comfort we enjoy is at our parents' expense. Most of our parents wash our shoes and iron our uniforms until we finish schooling. Do we take time to appreciate them? Should we not set aside a day to appreciate those to whom we are their priority?

So, how do we celebrate mother's day and father's day? Presenting expensive gifts or flowers would not do. Our debt to our parents cannot be measured materialistically. Presenting something made by yourself – your mom's favourite dish or a poem, is a good idea. Or you can take over one of their daily chores and give them a break.

Although our parents do not expect anything in return from us, we should acknowledge and make them feel special at least once a year. We should all strive in this fast paced world of ours to keep them contented.

Celebrate Mother's Day and Father's Day?

-Tharanishankari Kailaivasan-

The Ring of Shadows

2019. "Look! I found the archeologist, John. "What is it?" Joe asked with excitement. "It's a ring, Joe and it's incredibly beautiful!" He took the ring in his hands and showed it to Joe. "Oh my god John! We made it. Finally, we found something valuable. Let us show it to the workers and make them dig more." Joe gleefully smiled at John. They two started to walk towards their camp. "Take me and wear me." John heard mysterious voice. He had no clue where this voice was coming from. He heard this repeatedly while walking. Finally, he noticed it was coming from his pocket. He took the ring from his pocket and observed it closely. He found a dark shadow moving in the shiny surface of the ring. " Wear me and I'll give you everything you ever wanted. Fame, money, and everything."

Joe saw the unusual behaviour in John. "What's up

John? Why are you staring at "Nothing, just admiring the beauty of it. We can show it to the workers in the morning. I am very tired." He started to walk towards his tent. Joe watched him with suspicion. Then, she started to walk towards her tent. In the tent. John sat on his bed and he took the ring from the pocket again. He heard that voice repeatedly and finally he put it on his finger. Suddenly the shadows started to emerge from the land and John's eyes turned into black. The surrounding area of the camp also started to fill with dark shadows and all of it moved towards the John's tent. Joe heard something outside. She came out of her tent and started to run towards John's tent.

She entered his tent. "What the hell is going on? "She noticed a dark figure was standing there. It did not look like a human. It had sharp claws and shining eyes. Other parts of this figure looked like a shadow. She also observed some figures emerging around this mysterious figure. They

looked like burned human flesh. Their teeth were sharp as a tiger's and their hands possessed only three fingers. "John.....John" Joe gulped with fear. " John is long gone honey!" The dark figure laughed like a maniac. Joe started to scream and ran out of the tent. "Help! Help!" She saw the shadow like creatures were killing the workers in the camp yard. She froze for a second. The camp was filled with the screams and the blood of the workers.

" What the heck is going on here?" said a young girl with a torchlight. Joe turned at her and she saw a shadow emerging from the ground behind her. " Look behind Beth!" Beth suddenly turned back with fear. That shadow creature moved towards her roar. But it vanish thin air when the from the torch fell on it quickly notowards her ticed this and " Do you have "I.....I have a charger in my tent" Joe grabbed her hand. " Let's get them." Both entered the tent and found a charger there. Joe noticed Beth was

terrified. She held the shoulder of Beth. "Don't worry, everything's gonna be fine. Hey, let's move away from this camp and hide somewhere safe in the forest."

They heard a noise in the tent. They noticed some shadow creatures started to emerge from land near them. Both started to run towards the forest by holding the chargers in their hands and those creatures followed them as well. They reached the woods." Beth, use the light towards those shadows." They pointed the light towards those creatures randomly and ran into the woods. After few moments Beth said "They are gone!" They stopped and sat down on the ground to take a rest. She took the mobile phone from her pocket." Damn, there's no signal" Both were covered with sweat. They noticed movements and heard sounds in the bushes. They pointed the light towards the bushes and looked around with fright. Suddenly, some of the bats flew towards them. They kneeled to the ground and bats flew over them. Charger of Joe slipped from her hand and fell. Joe took it and noticed it was broken. They heard some noises from the bushes again.

Joe said annoyingly "some bloody bats." Beth observed the bushes carefully. 'I don't think so." Joe turned towards the bushes and saw some of the shadow creatures were moving towards them. Both started to run deep into the woods. After a few moments, Joe tripped over a root of a tree and fell. She was injured and she felt that she cannot get up." Help me Beth, help me!" Beth stopped and turned back. She tried to run towards Joe. But it was too late. Shadow creatures already got her. Beth realized she couldn't save her.

" I am sorry Joe. I hope you'll understand." Beth started to run away with tears. She She saw the shadows dragged Joe's body into the bushes." Aaaaaah!" That is the last thing she heard. Some shadows chased Beth continuously. She ran without stopping. She noticed the slight ray of light in the eastern horizon. After a few minutes she was able to feel the warmth of sunlight in her body. Then she turned back and noticed shadows were disappearing from her sight. She felt that her heart was beating extremely fast. She sat on the ground and took her mobile. It's working now. She phoned her brother " Please help me." No words were coming out from her throat. She felt her head was spinning and she felt her head thudding the ground. " Beth! Beth! What's going on?" Her eyes gradually started to close and everything blacked out. " Open your eyes, Beth! Open

your damn eyes!" Beth gradu-

ally opened her eyes in a

comfy bed. She saw her broth-

er was shaking her.

A story by:

N.Vithushan



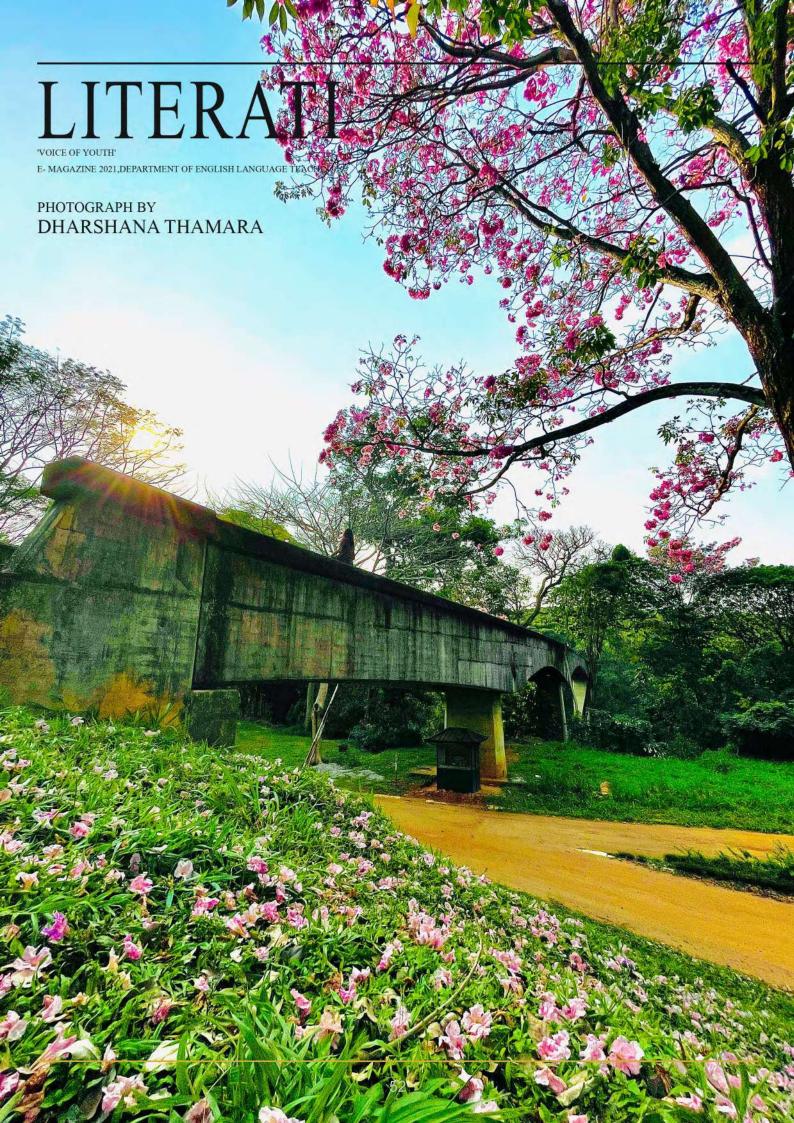
Reflection Bellection

A few months back, I came across a Tamil novel named 'Vekkai' (Heat) by author Poomani. Chidambaram in which the protagonist is a fifteen-year-old boy who is in hiding with his father because he killed a powerful man as revenge for his elder brother's murder.

Poomani, throughout this book has beautifully described many innocent ways a teen though guilty of a murder, finds to divert himself to endure the hardships he encountered on his hiding. Poomani has documented various aspects of a village structure all the way through this book, be it the village boyhood experiences like grazing goats and cattle, hunting and playing across hills, fields and temples or the variety of locations like cane field, forests and rocky outcrop. When reading this book, we can literally feel even the small shifts of wind that is mentioned.

Apart from the intriguing plot, this book caught me off guard for another reason. It has raised so many questions within me in a few seconds. Poomani has well documented his and the other ordinary villagers livelihood in his period of time through this book. But, how are we going to document our livelihood as it is now, at our period of time? Is anyone doing that job already? If not, how long do we have to wait to absorb every aspect of it? How deep do we have to go to observe our environment to produce a rich book like 'Vekkai?' Because it is a matter of our survival even after our death. An inheritance we will be leaving to our generations. From now on, we cannot be ignorant and unobservant towards anything, no matter how trivial it is.





SAY YES TO CHALLENGES!

Everyone has some special story or life changing experience in their lifetime which brightens up them inside just by the mere thought of it. They say that the most unexpected decisions give you the best in life. I cannot agree more. When it comes to me, my volunteering exchange to Vietnam is the most memorable adventure of my life so far.

Being a naive first year student, back in 2017, I was aware that I needed a challenge of some sort to progress myself and find some inspiration for my routine life. Thus, I commenced my adventure to Ho Chi Minh City, Vietnam as a volunteer for the project named "Global Express" in December 2017. I got this amazing opportunity through an organization operating in our university named AIESEC, University of Peradeniya, where I was also serving as a Team member at the time. AIESEC is the world largest youth-run organization which provides cross cultural exchanges in the form of volunteering experiences and professional internships.

My project, which was hosted by AIESEC in Foreign Trade University of Ho Chi Minh City, was aligned with the United Nations Sustainable Development Goal Number 4 – Quality Education (SDG #4). The main focus was on teaching English to Vietnamese university students through cross-cultural sharing, group discussions and exchange experiences and it was of course challenging to me, which in turn made my experience undoubtedly worthwhile. There, I used interactive methods such as role plays, debates and games that would make the students speak up in order to build an interactive environment to enhance their English speaking and communication skills. Needless to say, the entire internship was a rewarding experience as I could actively see the students' improvement in English throughout my stay.

Apart from volunteering, I utilized my time in Vietnam to explore various parts of the country and got in touch with their unique culture. Being a girl with a passion to travel and explore new places, I gained the maximum advantage out of this experience by visiting many places around Vietnam including places of historical significance like Cu Chi Tunnels and Halong Bay. I was also a guest intern of the English Camp organized by the University of Economics and Law to up skill the knowledge of their undergraduates. What's more? I met some truly amazing people along the way from all over the world including China, Australia, Indonesia, Poland, Colombia, Egypt and I gained a collection of life lessons I would have learnt typically in 3 months-all condensed into 6 weeks. Prior to this experience, I knew almost nothing about Vietnam but now I feel so attached to the city and the people there. In fact, I have a whole new family in Vietnam who will always welcome me home.

I believe an exchange is full of surprising moments; moments which stay with you, moments you cherish and moments you'd long for after finishing your exchange. From roaming on unknown streets, indulging the unique cuisine, feeling the warmth of the random hellos from the locals, I discovered a new home, far away from my very own. Thereby, for everyone out there needing a little inspiration in life, an exchange experience is definitely the way to spark it.

This undoubtedly worthwhile experience made me realize that there are many different ways to live life and one is not necessarily better than the other; it's what you make out of it. Even now, reflecting the experience after over 02 years, I can still feel the impact the exchange had on me. During the 6 weeks time in a completely new environment; a different culture with a totally different language, I truly learned to view the world in a more open-minded perspective. I personally learnt many things from this project which helped me in developing both my personal and professional values. As for personal values, I cultivated the attribute of firm self-confidence with the realization of my true potentials and I became solution oriented as a result of the challenging situations I had to face all by myself. Speaking of professional skills, I definitely developed my public speaking, communication and presentation skills. Most of all, this exchange led me to identify the purpose of my life and it laid the foundation for many of my key achievements during the past 2 years as an individual.

On a final note, I would like to state that as youth we should be brave enough to take every opportunity by challenging ourselves to take a step ahead of our comfort zone, as there is so much in this diverse world for us to explore and to be in awe of, leaving unforgettable memories for a lifetime.



POLYTETRAFLUOROETHYLENE

Property	Value	
Density	2200 kg/m3	
Melting point	327°c	
Coefficient of friction	0.05-0.10	
Solubility	in water, mg/l at 25 °C: 159 (very slightly soluble)	
Stability/Shelf Life	The finished polymerized compound is inert under ordinary conditions.	
Decomposition	When heated to above 750 °F, decomposes to yield highly toxic fumes of fluorides.	

Introduction

Polymers exist in every aspect of our day to day lives even though we are unable to identify them as a polymer. From non-stick pans to packaging of food we come across a lot of polymers, especially fluoropolymers. Polytetrafluoroethylene being the most common fluoropolymer has some unique features to be the slipperiest substance in existence. This is a brief review of it.

Structure and Properties

Polytetrafluoroethylene (PTFE) is a fluoropolymer that is synthesized by polymerizing tetrafluoroethylene. An alkene monomer can be polymerized by a chain reaction where additional alkene molecules are added to the end of the polymer chain. Many polymers are produced this way.PTFE is considered the "gold standard" of fluoropoly-

mers due to its exceptional properties.

The melting point of PTFE is around 327°C and has a boiling point of -105.3°F at 760 mm Hg. This is a chemically inert substance that is highly insoluble in most chemicals and that property makes it a thermally stable polymer. Due to that. PTFE can be used between -200°c and +260°c without getting degraded (To break C-F bonds 116 kcal/mol energy is required). Other useful properties for PTFE to be a highly useful material in the chemical industrial sector are its high flexural strength, high electrical resistance, slickness, resistance to water (London dispersion forces due to Fluorines high electronegativity) and it is low coefficient of friction. PTFE has a very high degree of crystallinity due to its linear structure. The major disadvantage of polytetrafluoroethylene (PTFE) is its negative resistance to high radiation energy, which could lead to a breakdown of the PTFE molecule. PTFE is a white.

translucent to opaque thermoplastic polymer at room temperature. PTFE gains its superior properties by carbon-fluorine bonds (polar covalent bond between carbon and fluorine; one of the strongest single bonds in chemistry). Also wrapper of fluorine atoms surrounding the C-C bonds is highly hydrophobic and unreactive. Highly reactive metals such as alkali metals, elements such as aluminum and magnesium at a higher temperature, and fluorinating agents like xenon difluoride could affect these carbon-fluorine bonds.



First ever advertisement of Teflon (upload.wikimedia.org)

LITERATI VOICE OF QUILL

History

In 1938, a DuPont (an Ameri-Chemical company) can chemist, Mr. Roy J.Plunkett discovered PTFE by accident while working on the development of a new refrigerant. When he was experimenting with the above-mentioned refrigerants he witnessed that the gas stored in the cylinders was gone and it had polymerized. By testing the residue, he discovered that it did not react with any chemicals and could withstand high temperature. People DuPont appreciated the finding and trademarked Teflon, the first brand of PTFE in 1945.

Using Teflon as a material in industrial work evolved gradually. In 1942, it took a huge step forward by contributing to the Manhattan Project in World War II, which led to the development of the first-ever atomic bomb.PTFE contributed as materials for gaskets, packing, and linings in the bomb.

In 1954, a Frenchman, Marc Gregorie used her wife's brilliant idea to use Teflon to coat cooking pans; which led to the establishment of the brand name Tefal. By developing the original idea from Marc, Marion A. Trozzolo marketed the first-ever US-made cooking pan coated with PTFE, "The Happy Pan", in 1961.

Even though PTFE aka Teflon is best known for its role as the non-stick material inside cookware it has been used in other fields such as the cosmetic industry, automotive industry, fabric and carpet industry, etc.

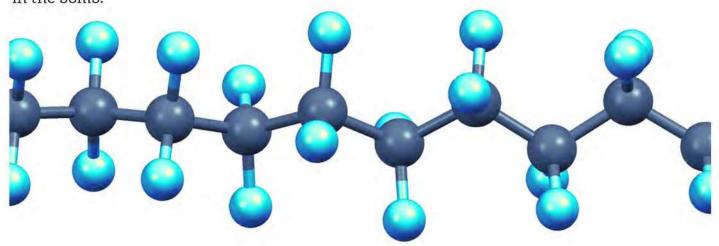
Synthesis

PTFE is a homopolymer (Poof identical lymerization monomer units) which is produced from TFE monomers. Polymerization begins with the creation of TFE monomers using hydrofluoric acid (HF), calcium fluoride (CaF2) and chloroform (ChCl3). Together these reactants are heated to 600°c (1112°F) to produce TFE gas. Then the gaseous substance is cooled and purified as a liquid to carry out in the next step. By using a radical initiator (such as peroxide) TFE monomers are polymerized.PTFE output can be customized as pellets or powder by using different processing protocols.

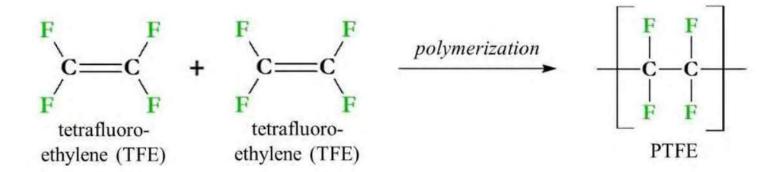
1. Production of chloroform CH4 (g) + 3Cl2(g) --> CHCl3 (g) + 3HCl (g)

2. Production of chlorodifluoromethane CHCl3 (g) + 2HF (g) --> CHCIF2 (g) + 2HCl (g)

Production of tetrafluoroethylene (TFE)
 2CHClF2 (g) --> C2F4 (g) + 2HCl (g)



Structure of PTFE (https://en.wikipedia.org)



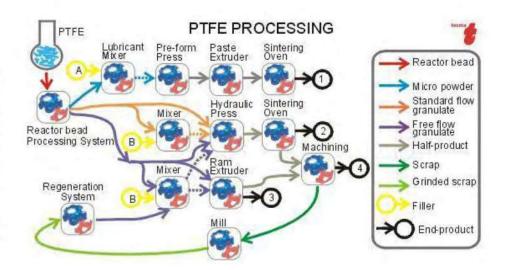
Polymerization process of PTFE (www.azom.com)

Processing

Due to high melt velocity (a measure of the rate at which chains of a polymer can move relative to each other) of PTFE, it can't be processed by melting. Therefore, we use techniques such as paste extrusion whereby the PTFE (powder) is blended with a lubricant. This method is used to produce items such as tubing, sheets, and tapes by creating a preform material. Materials like rods and pipes can be manufactured through sintering and molding into a billet and ram-extruding it. Furthermore, products such as sheets and membranes can be calendared using primary PTFE materials.

Applications

Due to PTFE's unreactive and temperature insensitive nature PTFE based products use in all commercial industries.



A diagram of PTFE processing (www.tecma-gmbh.net)

Application or Industry	Key Benefits from the material	
Cookware	Low frictional properties, High heat resistance	
Machine Parts	Self-lubricating property, low friction	
Fabric and carpet industry	Stain resistant quality	
Insulator	Dielectric effect(especially at high radio frequency)	
Medicine	Chemical inertness	
Armor-piercing bullets	Wear resistance	
Electrets	High bulk resistivity	
Cosmetics	Smooth nature	
Windshield wipers	Smooth surface	
Aerospace	Chemical resistance, Dielectrics, Temperature resistance	
Fiber optics	Lubricity, Abrasion resistance	

Applications of PTFE (globalspec.com)

LITERATI VOIC OF OUTIL

Adverse Effects

Teflon pans are mainly made from PTFE (Polytetrafluoroethylene). But in the process of manufacturing Teflon Perfluorooctanoic acid (PFOA), also known as C8 has been used. Even though it is burned off during the procedure notable amounts can be found in the final product. Due to a strong carbon-fluorine bond it does not degrade in the environinside human ment nor bodies. Therefore consuming Teflon can be carcinogenic. PFOA is a member of a family of chemicals called PFAS, also known as the Forever Chemicals due to its everlasting features. DuPont has been dumping PFOA into landfills and rivers where it can continue to poison people. Robert Bilott a lawyer filed a class action lawsuit against DuPont, which was settled in September 2004. Studies were done to determine certain facts filed in the case, and it was found that very low amounts of PFOA are found inside human bodies due to the use of Teflon cookware.

In 2019, PFOA was banned globally under the Stockholm convention. Through further research it was found that PFOA has been linked to six major health issues. Those are; testicular cancer, kidney cancer, thyroid disease, ulcerative colitis, high cholesterol, and pregnancy-induced hypertension.PFOA is believed

to be in the blood of 99% of humans all around the world due to daily exposure of products contain PFAS (e.g. - non-stick cookware,

cosmetics). With normal use PTFE is fine, but if it degrades it releases fine particles that can damage the lungs.

Future

The future of PTFE is uncertain at this point since the world is moving towards an eco-friendly state. Even though PTFE comes with some unique and unmatchable features it has a downside of being a chemically toxic species

DuPont is still looking for a substitute for PFOA while taking steps to make sure that PFOA would not be released into the environment when manufacturing.

-Lahiru Wedasingha-

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Please tell me what do you want

Still remember our old days
Holding hands together close
Walking along the country roads
We were so perfect no doubt at all
Though I don't know the reason why
You are trying to leave me and fly
You were and you are the apple of my eye
I never wanted to make you cry

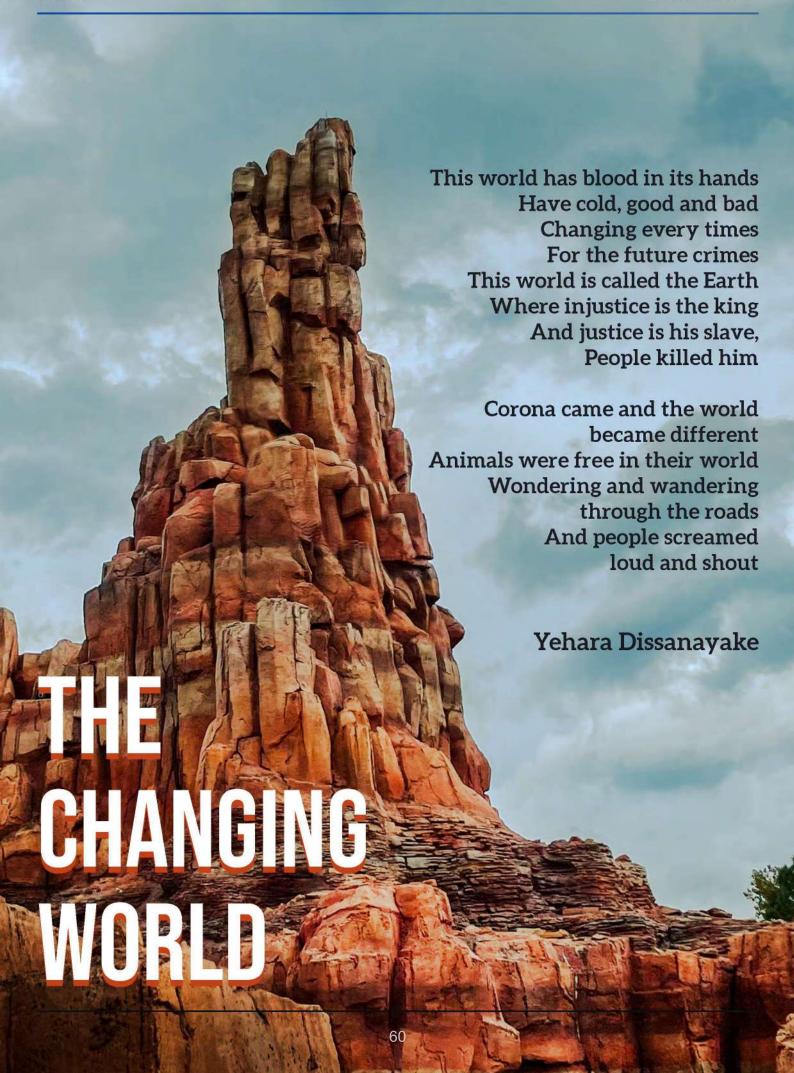
Just tell me what do you want
Please tell me what do you want
Is it worth to stay apart
I swear I still need you the most

Outside of my room in dark and cold
I'm still thinking it's so hard
Should I let go of your hand
Is that what you really need
I don't know my fault, but darling please!
Forgive me and stay by my side at least
Will I be able to see again those
Blooming smile and staring eyes of yours

Just tell me what do you want
Please tell me what do you want
I still love you with all my heart
I swear I still need you the most



S/17/427





Oh, beloved soul!

Do you not ever wonder, whether the laws of us are in favour of all?

Do you not realize, that the world is playing an unfair game on us all?

Why is it that we distinguish black from white, But not wrong from right?
Why is it that character is just a name, But status and power is always fame?
Why is it that the poor are ignored and hurt, But the rich are praised and sought?
Why is it that we do not ponder about these, But rather strive to make ourselves at ease?

Why do we not understand, That this is something we should debate on, Why do we not argue,

That these issues should be resisted and gone?

Oh dear people, Do you not realise?

That this life on mother earth is limited in time?

Oh dear human,

Why is it that you make these distinctions? When you yourself know it is an unpleasant crime!

Why don't I ever wonder, How beautiful it would be?

If only I started to look past my own selfish desires, And care for every single soul,
As if they were me!

If only we could understand, How terrible a mess we've made. If only we could go back in time, And destroy racism from it's root.

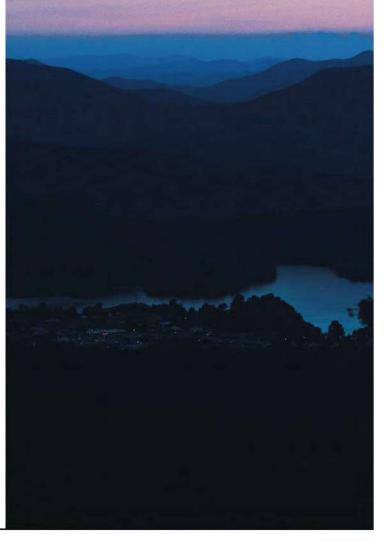
Oh!

Why the world doesn't understand this,

I do not know.

Oh, dear reader!
I hope you'd ponder,
How the world would look like
When all the greed and hatred is gone.
I hope you'd start to change,
Your perspective of right and wrong.
As everyone's a human,
Whether black, white, weak or strong!

~Fathima.





The global outbreak of coronavirus disease 2019 is affecting every part of human life. The actions taken to control the spread of the virus have significant effects on our day to day life. In my opinion, there are more negative effects than positive effects of coronavirus disease on human life. This essay will outline how the covid-19 pandemic has affected human life.

The covid-19 situation has positively impacted the way the people maintain relationships. We all have been so busy with the day-to-day schedule. Many of us have lost genuine moments with ourloved ones. During covid-19 pandemic situation people get to spend more time with family members. This helps people to build sincere and stronger relationships. Moreover, education becomes digitized and affordable

However, there are more negative effects than positive effects of covid-19 pandemic. The major negative effect is that this pandemic has affected thousands of people; they are either sick or are killed due to the spread of the disease. For example, by the 28th of August 2021 Covid-19 had infected over 400,000 people and killed more than eight thousand people in Sri Lanka. Also, Covid-19 is responsible for at least 3 million excess deaths in 2020. Furthermore, Covid-19 itself can lead to neurological and mental complications, such as stroke, fear and isolation. Many people may suffer from anxiety and be addicted to alcohol and drugs. In addition, the coronavirus pandemic has disrupted the lives of many people by abruptly changing in their professional lives. For example, many Sri Lankan workers lost their jobs in the intermediate aftermath of the lockdown. This may lead to poverty.

In conclusion, Coronavirus disease 2019 has more negative effects than positive effects. In my opinion, both government and people should give their best support to fight with this pandemic.

J.V.S.Samanmali

THE LOVE STORY

C.K. KRISHNI-

Days were fading with trepidation Hopes were forgotten to be made, Life was foreboding, Only hope was to spare a heart-beat with a relaxing breath!!!





Hero of nature turned out to be the villain of Homo-sapiens,
The inamorato, quiet hysterical was!
"It was a Love story that teased human lives.

At sixes-and-sevens,
Unable to portray it....
"Was it Romance or Tragedy?"
Nature's romance made all relationships
Eminently forgettable,
Us....Begged for a life
....Locked-up in shelters
....Panicking to death
While Doctors and Defenses fought against!!
And finally consoled, 'Safe at home'
With a betraying truth!!!

Admiringly and Abominably, An unalike LOVE STORY, A confusing ROMANCE, That never promised of, SWEET PREGNANCIES But of......



Ritual

In thy rose beds thou shall save a rose give it a name befriend its thoughts

all the rhyming done in ages
it may teach you
all the lovers died in vain
will speak through
ask what love is
ask a meaning
ask all the questions remaining
think I lie?
doubt not
for 'tis a mere allegory of suffering
a lesson for the self
while poems always die unheard.

-Sahan Prathibha

LITERATI LITERATI

WIND, LIGHT AND RAIN

The wind soothes our bruised bodies light keeps the earth alive rain comes pouring and nourishes our burning souls everybody loves wind everybody loves light everybody loves rain because they make humanity feel alive makes humanity wants to thrive Then, the irony arrives When the end of our lives is someday caused by non-soothing forever burning life-snatching wind light and rain a catastrophic firestorm Or a devastating rainstorm.

- S.M.Rajasinghe -



• Editorial •

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