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SCIENCE ARTICLES

SHORT STORIES & ARTICLES

POETRY

HOBBY & ART

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SCIENTIFIC ARTICLES

SERIES 6 - NEW FRONTIERS.. SAMUDRAYAAN UPDATES

GITA BHARATH

It is a coincidence that just as India is planning for a manned space mission- the Gaganyaan, it is also exploring into the ocean depths.

According to the Ministry of Earth Sciences:

The technological developments done for the Deep Ocean Mission will be funded by the Government scheme "Ocean Services, Technology, Observations, Resources Modelling and Science (O-SMART)". The Government is also keen on the make-in-India Atmanirbhar scheme, and hopes to expand the accelerated Vigyaan scheme ABHYAAS to recruit and train the necessary manpower in these cutting - edge technologies. The technology necessary to sustain humans either in vacuum or in the crushing depths almost 6.437 kilometres below the surface of the ocean needs to be very sophisticated indeed.

Helmed by India's National Institute of Ocean Technology, this initiative has roped in partners such as IITs, ISRO among others to fulfill various aspects of the design, testing, and development within the country, while some aspects would be from the International market. The primary goal of the Samudrayaan Mission is to develop Matsya 6000, a manned deep-sea exploration vehicle that will be propelled by battery power and can remain at a depth of 6km for a duration of four hours.

On the rationale behind having a manned mission to such depths, instead of using unmanned vehicles, the Director explained that electromagnetic waves would not penetrate water to great depths and that there were limitations in sending a tethered vehicle to the depths of the ocean. "In a manned mission, we will be having a standalone probe that will have its own propulsion, oxygen generation, carbon dioxide removal, lights and cameras and other sensors. We can also have basic acoustic communication with the manned probe", he explained. Union Minister of State Dr Jitendra Singh launched India's first manned ocean mission, Samudrayaan, at the National Institute of Ocean Technology (NIOT) in Chennai on October 29, 2021. With the commencement of the Unique Ocean Mission, India joined the elite group of countries that have specialist technology and vehicles to conduct subsea missions, including the United States, Russia, France, Japan, and China.

The Ministry also had this to say:

The 200-crore Samudrayaan Mission will send three people to a depth of 6000 metres in the sea in a manned submersible vehicle called MATSYA 6000 for deep underwater studies. Submarines have a maximum depth of roughly 200 metres.

Under the Deep Ocean Mission launched by the Government of India, a manned scientific submersible has been proposed to be developed for deep ocean exploration. The project is named as Samudrayaan. National Institute of Ocean Technology (NIOT), an autonomous Institute under the Ministry of Earth Sciences, had developed and tested a 'personnel sphere' for a manned submersible system for 500 metre water depth rating. Personnel Sphere of 2.1m diameter to be used as a crew module up to 500 m water depth has been developed using mild steel and tested up to 600 m water depth in the Bay of Bengal using the research Vessel Sagar Nidhi during October, 2021.

One Titanium alloy personnel sphere for manned submersible system for 6000 metre water depth rating, is under development in association with Vikram Sarabhai Space Centre, ISRO, Thiruvananthapuram.

NIOT developed a 'personnel sphere' made of mild steel with local industry for an operational capability of 500 metres and tested for its usage as per the International Classification and Certification Agency for man-rated operation during this month sea trial using Ocean Research Vessel Sagar Nidhi in the Bay of Bengal.

As far back as 1987, India gained the status of a 'Pioneer Investor' and was the first country to be acknowledged with this status. It was then given an area of 1.5 lakh sq. kilometers for undersea mining.

To conclude, we hope to see India scale the heights of space and plumb the depths of the ocean soon. Maybe we will be lucky enough to experience the thrill of watching both these achievements in 2023! Here's keeping our fingers crossed for both the Gaganyaan and Samudrayaan missions to succeed as soon as possible.

Sources: Zeenews, Republic News

APPLICATIONS AND DEVELOPMENT OF TRANSPOSONS

KEREN CELESTINA MENDONCE, SUJATHA RAGHU

You must have heard about different sports that involve jumping- long jump, high jump and javelin, etc. But have you heard about jumping genes? Yes! Jumping genes are found in our genome and they translocate from one position to another. They are often called as selfish genes because they want to make many copies of themselves.

Transposons are small sequences of DNA (500-10000 nucleotide pairs) found in the genome. Transposons have the ability to move from one location on the genome to another, catalyzed by the enzyme, transposase. It results in genetic instability. Transposons were first identified by Barbara McClintock in Zea mays maize. She won the Nobel Prize in 1983 for her research in genetic instability and her discovery of mobile genetic elements. She found that the genetic instability (Change in the order or size of the actual genome) was due to the breakage of chromosome and movement within the genome to other sites. She analyzed the breakage events by detecting the loss of genetic markers in Zea mays. It was the pigmentation of the aleurone layer (the outermost layer of the endosperm) of the corn kernel.

Genetic instability is ubiquitously found across all kingdoms of life. They can be classified based on their transposition: DNA transposons, carries out cut-and-paste mechanism, where the transposon is cut and pasted in another region of the genome; and Retrotransposon, carries out copy-and-paste mechanism, where the transposon is converted into a cDNA and is replicated and then transferred to another region of the genome.

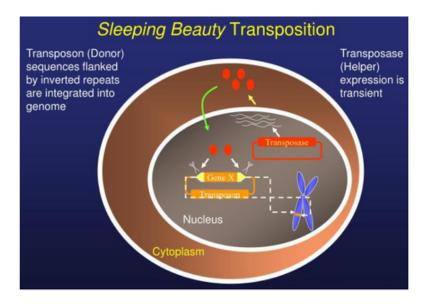
Nevertheless, not all transposons are harmful; they can also be beneficial in the evolution of genomes through translocation and the shuffling of exons producing a variety of phenotypic characteristics in an organism. They are also involved in the repair of double - stranded DNA breaks. They also help us to identify mutated alleles and the functions of genes.

Applications of transposons

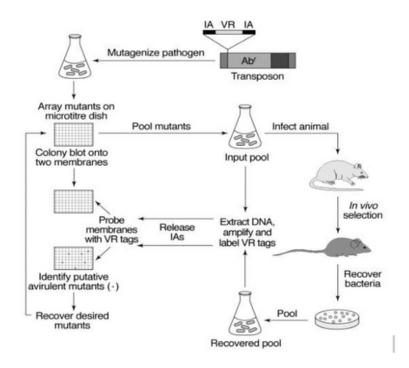
Transposable elements are used by biotechnologists as natural vectors for gene-delivery and other medically valuable tools for genome manipulation. There are various applications of transposons such as to study embryonic development, to identify genes in disease pathways, in gene therapy. These applications are carried out by different transposon systems developed by scientists, a few of them are listed below

Sleeping beauty transposon is one such application, that shows efficient and safe transposition in vertebrates. It has two components (Transposon vector and Expression vector) that are to be introduced into the host for introducing new traits and to discover new genes

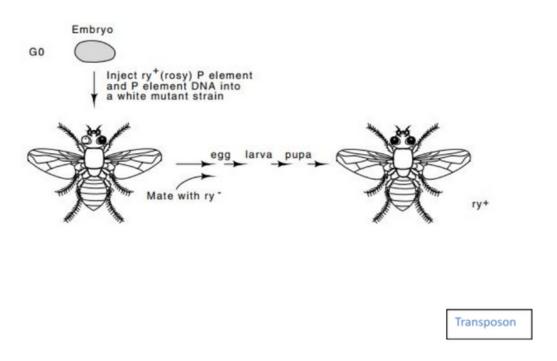
and their functions. It has been used in gene therapy and for the development of transgenic organisms. It has been tested in rats, mice and fish. In T cells of humans, sleeping beauty transposon could be used in the treatment of leukemia and lymphoma.



Signature tagging mutagenesis is a method where a transposable element is inserted into the genome of an organism. It is used for finding the phenotype of a particular locus in the chromosome. The organism would have undergone mutation due to the presence of transposable element. The mutant strains are pooled together (E.coli) and are cloned in transgenic organisms or cell culture lines. These mutations help us to understand the adaptive evolution that organisms adapt to survive in changing environmental conditions.



P element transformation - The P element is a transposable element found in Drosophila (fruit fly). They are highly useful in mutagenesis studies. It allows germ line transformation and results in mutagens which are useful in understanding Drosophila's molecular genetics.



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- 1. J. A. Ågren and Andrew G. Clark, "Selfish genetic elements," PLOS Genetics, pp. 7,15, 2018. 2. N. Sandoval-Villegas, W. N. M. A. and Z., "Contemporary Transposon Tools: A Review and Guide through Mechanisms and Applications of Sleeping Beauty, piggyBac and Tol2 for Genome Engineering," International Journal of Molecular Sciences, pp. 1-5, 2021.
- 3. E. J. Gardner, M. J. S. and D. P. S., Principles of Genetics, Singapore: John Wiley & Sons, 2005.

HOW DO BIRDS FLY FAR AWAY WITHOUT A GOOGLE MAP?

G. KISHORE KUMAR

Do you wonder how birds migrate to their correct destination without getting lost during their migratory reason? Birds migrate to different places which are far in search of food, perfect breeding grounds and temperature and best place to grow their young ones. Yes! There is a compass in bird's eye, especially in migratory birds and it is also seen in some animals like tortoise, fresh water fishes. The migratory birds like European Robin, Zero finches etc., travel miles during migration from UK to Europe throughout Northern Sea without getting lost by means of Magnetoreception. These birds contain a group of proteins in the eye (Retina) of the bird called Cryptochromes also known as CRY proteins. They are the types of FAV proteins. Migratory bird's eye contains CRY – 4 proteins which help them for Magnetoreception. Magnetoreception is a sense which allows the organism to detect a magnetic field to perceive direction, altitude or location. Cryptochromes help in this phenomenon. When the blue light hits the retina of the bird, CRY – 4 protein receptors work on a Quantum mechanism principle known as Radial pair mechanism. This is the principle behind the migratory birds which fly far and far during migration without getting lost.



References

- $1.\ https://www.allaboutbirds.org/news/the-basics-how-why-and-where-of-bird-migration/$
- 2. https://youtu.be/BRfkbwO8Als

QUIZ

G. GAUTAM, C.N. ANANTHAKRISHNAN, SNEHA PRABHU

Quick Mind Bogglers. Just try them!

1. Convert 3728 from octal to decimal.
a. 24910 b. 25010 c. 25110 d. 25310
2. What is 13 equals to in the hexadecimal number system?
a. D b. A c. F d. C
3. Which encoding scheme can represent Indian Languages' characters on computers?
a. ISCII b. Unicode c. Binary d. ICSII
4. Electronic configuration of B* is:
a. 1s22s12p2 b. 1s12s12p3 c. 1s12s22p2 d. 1s22s22p1
5. Number of s and d electrons in Cu+ respectively is:
a. 7 & 10 b. 8 & 9 c. 6 & 9 d. 6 & 10

6. Give another name for Force per unit charge.	
a. Electric current	
b. Electric flux	
c. Electric field	
d. Electric potential	
7. Joule per Coulomb is unit for	
a. Watt	
b. Volt	
c. Energy	
d. Electric charge	
8. Where are the adrenal glands located in the human body?	
a. Behind the kneecaps	
b. In each lung	
c. Inside the bladder	
d. Above the kidneys	
9. Of the following name/symbol combinations of elements, which one is WRONG?	
a. uranium/U	
a. uranium/U b. iron/I	
b. iron/l	
b. iron/I c. nitrogen/N	
b. iron/I c. nitrogen/N d. potassium/K	
b. iron/l c. nitrogen/N d. potassium/K 10is the recycled modified plastic powder?	
b. iron/l c. nitrogen/N d. potassium/K 10is the recycled modified plastic powder? a.Polyblend	
b. iron/l c. nitrogen/N d. potassium/K 10is the recycled modified plastic powder? a.Polyblend b.Polyester	
b. iron/l c. nitrogen/N d. potassium/K 10is the recycled modified plastic powder? a.Polyblend b.Polyester c. Polythene	
b. iron/l c. nitrogen/N d. potassium/K 10is the recycled modified plastic powder? a.Polyblend b.Polyester c. Polythene d. Both a and b.	
b. iron/l c. nitrogen/N d. potassium/K 10is the recycled modified plastic powder? a.Polyblend b.Polyester c. Polythene d. Both a and b. 11. gif.jpg , bmp , png are used as extensions for files which store	
b. iron/l c. nitrogen/N d. potassium/K 10is the recycled modified plastic powder? a.Polyblend b.Polyester c. Polythene d. Both a and b. 11. gif.jpg , bmp , png are used as extensions for files which store a.Audio Data	

12. Which file format is not a video file format?
a .AVI b. MOV c. MP4 d. JPEG
13. Which of the following is major issues arising out of the Growing Reliance on Information Technology?
i) Profitability ii) Security Threats iii) Privacy Concerns
a. iⅈ only b. i&iii only c. ii&iii only d. i, ii&iii
14. Which is not a Web Browser?
a. Firefox b. Facebook c. Chrome d. Safari
15. Which is a type of malware intentionally inserted into software system that will set off a malicious function when specified conditions are met? a. Worm b. Trojan c. Spyware d. Logic Bomb
Created and compiled by:
Q: 1-5 G. Gautam Q: 6-10 C.N. Ananthakrishnan Q: 11-15 Sneha prabhu

Answers: (see page no:)--27

CROSSWORD PUZZLE

D. RUPPESHWARI & Dr. THIRUPURASUNDARI C J (CLUE- POSITIVES OF LIFE)

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ACROSS

- 1. Being lively/full of life
- 3. Something close to heart
- 5. To resist danger or face criticism.
- 7. A type of endorsement
- 8. Completely aware.
- 9. Having a view about something

DOWN

- 1. To imagine something.
- 2. To be committed.
- 4. Logical thinking.
- 6. Feeling love and thankful.

Answers: (see page no:)--17

SCIENCE PUNS

Dr.THIRUPURASUNDARI C J

1. Why is the movie named CORTISOL?

As the number one heroine is 'ACT' ing 'H' ere.

- 2. DNA's and RNA's Pols are their best pals as they strengthen the bonds.
- 3. Be happy, with your friend Lysosome, she may turn crazy and crappy sometimes, but always a friend in need.
- 4. Genetic material of prokaryotes always enjoys and is care free, as it keeps roaming hither and thither.
- 5. My microscope is brightfully in shy.
- 6. It's fun time for nucleus always, as it enjoys it's DNA's dance pose.
- 7. My happy cells never go out of sale.
- 8. The chloroplast always complains of its burden.

SHORT STORIES & ARTICLES

SPOTTED OWLS IN THE CITY

HEMA RAVI

Chennai is a bustling city, a melting pot of customs and cultures, situated along the Coromandel coast of the Bay of Bengal. The southern coastal region is home to the endangered Olive ridley sea turtles, among other diverse species. Besides the migratory birds that fly down from the Northern hemisphere during the harsh winters, there are several native species, such as cattle egrets, pond herons, cormorants, moor hens, ducks and more. The Vedanthangal Bird Sanctuary, Siruthavur Sanctuary, Pallikaranai marsh, Perumbakkam lake and a few other water bodies have plenty of winged visitors during the monsoon and winter.

According to the Madras Naturalists' Society, there are over 300 species of birds. Urbanization has resulted in the disappearance of flora and fauna in recent years. Nevertheless, a few salubrious neighbourhoods still thrive, and it is exhilarating to observe several species that have adapted themselves to changing times.

Every visitor to the Theosophical Society is sure to halt and gape in awe at the 'colonies' of fruit bats. Interestingly, though no 'Parliament' of owls have been spotted, except perhaps in the Vedanthangal bird sanctuary, there are a few spotted owlets that have resided in the hollow of a large tree on the banks of the Adyar river. Unmindful of enthusiastic lensmen, morning walkers, squealing children, hoots and honks of vehicles and other ruckus caused by humans, these uncrested birds with round head, short tail and spotted underparts are a sight to behold. They have not been jostled, and continue to live in the habitat as food is available in plenty in the neighbourhood.

Chennai city was once home to six species of owls — Collared Scops owl, Eurasian eagle owl, mottled wood owl, spotted owlet, brown hawk owl and barn owl. The spotted owlet is still common and seen in wooded areas in the city. Environmentalists and bird enthusiasts have constantly been educating the masses about the need to conserve birds and animals. Saving the spotted owl will save an entire ecosystem on which plants, animals and man depend.

Let us ensure that the species continue to thrive and not become endangered. Let Man co-exist and enjoy the luxuries that Nature proffers.

Inputs from Wikipedia, Madras Naturalists Society.

Pictures Courtesy: N. Ravi





MY SILENCE. MY SPACE. MY SHELL.

MADHUMATHI, H

Amid a lot of chaos, juggling challenges and responsibilities, our heart, soul longs for space, silence, solitude..."Just me moments", irrespective of gender, age.

When we all go through a difficult phase of life(pandemic time past two years, has left us all with overwhelming challenges), We at times feel tired not just physically, but mentally, emotionally too. Exhausted not just by the work load, and added responsibilities, but by the lack of/absence of respite.

Let us admit it, instead of wearing a "Am happy! Let's be ALWAYS positive" mask. Let us tear our masks, and be raw and brutally honest. Shed tears when we need to. Each one of us, in different ways, endure challenges. Only the ratio differs, and let us not trivialise the pain/emotions one goes through... Material comfort alone, doesn't decide one's well-being. People go through emotionally brittle moments. Long for a shoulder, a listening heart, or some healing silence and space... Their own cocoon...Let us gift whatever could heal another soul, without assuming, and quickly arriving at conclusions.

An important question that often surfaces on my mind..."Is there any rule, an extrovert/ambivert must not choose silence?!"If I need silence and space, I would choose and enter that zone, "as long as I want". Every soul on Earth has the right to choose one's cocoon moments, to hibernate, to heal or to 'just be'.

To be honest, it is infuriating to see those impatient people, when silences are 'assumed' as something strange or fishy, than 'understood' in empathy.

We are indeed responsible to explain our silences, 'at times'(not always), but those who genuinely care, would first allow us to take the time to thaw and flow... drop by drop...

Mindlessly arriving at assumptions/conclusions by adding random scripts to someone's silence, ruin bonds. Especially, this *impatient attitude has become* widespread, with "Social media" playing a major role!

Many social media users overwhelm their 'friends'(?!) in their contact list with their post links, videos, random forwards, without realising how they barge in on someone's chosen silence/space...Why he/she is so quiet, what they are going through, how precious that silence or space may be for him/her...

And the most important,

One need not feel low, to crave for silence. When our soul seeks some serene cocoon moments, we must respect the same.

Sometimes I wonder what people really want?! Instant superficial validation/acknowledgement, or genuine feedback out of love for art - even if one takes a lot of time to see/read a work of art?!

Patience and waiting sweetens life...Haste/Impatience definitely ruins friendship/any relationship.

I value my cocoon moments, as much as I value connecting with people. We cannot love art, if we don't nourish, and nurture ourselves in the first place, and our silence and space are very important for the same.

Let our hearts gift bouquets of empathy to those silent souls. Let's make the world, shine brighter in kindness...



THE SURGERY

T.S.MANOHAR

Surprises are in store every other day, these days. Some are pleasant and others startling. So much so, we are getting used to expect the unexpected, once too often. That is exactly what happened the other day, when we received information that my uncle had suffered a heart attack and has been hospitalized. Since they had no one to fall back upon, my wife and I took the first available transport to Trichy.

When we reached the hospital, the doctors and paramedics were busy treating the patient on priority. The chief doctor summoned me and said, "Your uncle has fortunately survived a massive heart attack and needs a bye pass surgery to remove the blocks in the blood vessels closer to the heart. We can plan the surgery in a fortnight after stabilizing the vital parameters. You will have to arrange the cost of the surgery and post-operative care. Also, you have to source fresh blood donors are on the day of the operation. While we do our best, there is a small percentage of risk involved given his age and co morbidities". I listened intently and nodded in compliance. Tough task ahead, I thought. Besides the finance, getting blood donors 'AB positive group' seemed a daunting task which started haunting me!

The maxim, "seek and you shall find" kept motivating me. My nephew transferred funds to take care of the immediate need and promised to get blood donors in due course, given his clout with the Rotary club. This was a welcome relief to me. Well begun is half done, isn't it?

Meanwhile, the chief surgeon fell sick and his assistant was assigned the task. Trusting God, I gave my acceptance.

The day was nearing and the blood donors seemed elusive. Some promised but dropped out. Others cited Covid pandemic to excuse themselves. "Only two days to go Sir. You should get the donors for us to go ahead" cautioned the customer coordinator from the hospital. I went into frenzy and was trying every conceivable contact, proximate and remote. Two persons responded positively with firm assurance. I needed two more. Pressure was building up within me. My aunt and my wife were praying and encouraging me. Trichy was a new place and my relatives and friends were few and far between. Answering our prayers two more confirmed to come over much to my relief.

Come they did, on the appointed day. I received them at the foyer and after breakfast ushered them for the procedure. I was patting my back too son or so it seemed. One of the volunteers became ineligible being under weight. It was testing time indeed. 'Cometh the hour, cometh the man' goes a biblical saying. It was divine intervention from unexpected quarters. A few employees of a software company had come to see their ailing colleague. Seeing my plight and sensing the urgency, one amongst them with AB positive blood group volunteered and bailed me out.

The surgery went off safely and the recovery was steady and smooth. While priding myself, I ruminated my blood donation hungama at office a decade back. It was a gala fanfare. I could

excuse myself from office for the donation exercise. There was a chauffeur driven car to take us to the hospital. We were treated with a sumptuous lunch post the blood donation. It was on duty off from then on. I chose to wear a half sleeved shirt the next day inviting anxious enquiries from my colleagues on seeing the plaster on my forearm. A sort of celebrity through a simple blood donation!

Now we fast forward to the present. The donors were no friends or relatives of the patient. They had travelled to and fro on their own from a distance getting up early in the morning. They braved the pandemic to donate blood to save a life whomsoever it may be. It was indeed phenomenal compare to my donation and the attendant boast. I deemed it fit to send a token gift in appreciation of their humanitarian gesture. While two of them agreed to share their address reluctantly, the rest refused politely. I could see magnanimity in their donation and grace in their refusal. I felt sheepish and foolish comparing myself.

Hearing my narrative my wife goaded me and said, "It's time we registered for organ donation post our demise, lest they be consigned to flames. Some needy person may benefit from whatever that can be harvested from the mortal remains. Go ahead and act immediately and now".

I dare not disobey her direction this time as well!

Answers to Crossword on Page 10

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HOT SUMMER AND A COOL DIET

MAJOR NALINI JANARDHANAN

Summer is back with its hot and dry winds and scorching heat. A cool diet is needed to beat the heat of summer. We should eat the right foods at the right time to keep our body naturally cool and avoid the adverse effects of the hot climate. Let us see how to plan our healthy eating habits in summer.

1) Drink water, juices and summer drinks

We should take plenty of water and fluids (about 1.5 to 2 litres)in summer to compensate for the loss of water from our body in the form of sweat. Remember to drink 8 glasses of water daily. Good summer drinks are watermelon juice, Pomegranate juice, Lemonade, Tender coconut water, Buttermilk and Vegetable juices like carrot juice, cucumber juice etc. You can take different types of milkshakes also.

2) Eating a light diet

We should eat light, easily digestible and freshly cooked food, especially in summer. Don't take heavy and high-calorie foods. Avoid stale food, leftover food and tinned food items as there are more chances of food poisoning. Mild spices like mint, fenugreek, cumin, cardamom, ginger, coriander and fennel can be added to the diet.

3) Fruits and vegetables

The summer diet should consist of fresh vegetables and seasonal juicy fruits also. For example, vegetables like cucumber, carrots, spinach, gourds, sweet potatoes, sprouts, mint etc. Fruits like mangoes, grapes, watermelons, blackberries, bananas, guavas, oranges, apples, sweet limes, strawberries, pineapple, pears, plums, prunes etc. Raisins, dates and jackfruits can be taken.

Diabetic patients should not take too many mangoes and other sweet fruits as their blood sugar can increase. They can take citrus fruits like oranges, sweet limes etc.

Food items to be included in the summer diet

1) Salads

Chilled and fresh cucumber slices are refreshing. You can add some sprouts, cheese chunks or boiled beans to fresh vegetable and fruit salads. Avoid heavy dressings. Low-fat items and herbs like thyme, parsley, mint, basil, lemon juice or vinegar can be used for dressing. Salads are healthy snacks or starters before the main food in summer.

2) Vegetables and other food items

Wholegrains, oats, walnuts, beans, green leafy vegetables (like Spinach, Lettuce etc.) and legumes can be added to your diet. They are healthy food items.

3) Curds

Curd is a healthy food choice in summer. It contains proteins (in predigested form), B Complex vitamins, Magnesium and Phosphorus. It is a rich source of Calcium. The friendly bacteria (probiotics) in curd is good for our digestive system, especially in the treatment of Summer Diarrhea.

4) Seasonal fruits

Mangoes, grapes, watermelons, blackberries, bananas, guavas, oranges, apples, sweet limes, strawberries, pineapple, pears, plums, prunes etc. should be a part of the summer diet.

5) Fruit-based desserts

Take fruit-based desserts instead of heavy or creamy desserts. Low-fat fresh fruit custards and yoghurts with fruits are good choices. They can add calcium and proteins to your diet. Berries or bananas can be blended with yoghurts and smoothies.

Food items to be avoided in summer

- -Cola drinks, excess tea or coffee, Alcohol and frozen or iced drinks.
- -Don't take too much hot, spicy, sour and salty food items.
- -Avoid processed food and food items with added preservatives like pickles and tinned food.
- -Reduce meat as it is difficult to digest.
- -Avoid oily and spicy dishes as well as fried items.
- -Reduce green chillies, garlic, onion, red chillies and strong spices like pepper, garam masala, cloves etc. in your diet. Food can be seasoned with mild spices or herbs like Mint, Coriander leaves and Cumin seeds.
- -Avoid junk foods.

Avoid taking food from roadside vendors especially fresh fruits or vegetable salads, buttermilk, fruit juices etc. as they may not be hygienically prepared. It can lead to Summer Diarrhoea, Dysentry, Typhoid and other food borne diseases caused by bacteria, viruses and parasites.

Include refreshing drinks like fruit juices, milkshakes, buttermilk, smoothies and milkshakes in your summer diet. Keep yourself well hydrated, taking adequate water to avoid dehydration.

So let us have a cool diet this summer!

SUBCONSCIOUS OBSERVATION BELIEF SYSTEM (SOBS) -

REDESIGNING YOUR THOUGHT (PART 2)

ORBINDU GANGA

The fog never makes us aware of her inception, they are formed and flow to realise the existence. Fog drive in her way existing to exist and disappear with no traces. Thoughts are never born to our realisation, they are beyond our realisation only to see when they flow. We realise the existence of thoughts when we are made to think. Thoughts are temporary and make us believe to be conditioned to certain sets and subsets. Each thought is new in its existence but with our belief, we think the flow to be hackneyed. To bring a change in the existing one ought to realise that the acceptance of existing to design the existing.

The flow of the thoughts is in a zone defined by themselves. They are fragments never complete their life cycles since they cease before they complete their function(s). One may ask if they have a function to be defined, they certainly have but they never tend to complete it. The reason for not completing the function(s) is still conspicuous since their flow is still not well defined. Not having a complete DNA of the fragments becomes cumbersome for understanding the thoughts. Here, with such complexity, the understanding of thought becomes an interesting area for research scholars.

Thoughts make us believe the existing is conditioned and never can there be a deviation from the existing. Thoughts are never conditioned but make us believe without an iota of suspicion. The flow deceives the thoughts to be conditioned and makes us believe the existing design is irreversible. The design was never created, it was the flow that made us believe that the design is signed forever. One needs to understand the universe is never permanent, it is always moving. The existing is more an illusion that makes us believe to think that it is positioned in a specific shape or direction or existence but nothing is permanent.

Subconscious Observation Belief System (SOBS) is based on the principles of changing the existing for one's own needs. The belief of the existing to be a design is chicanery because the design never existed, it was perceived as felt by the flow of the thoughts. The flow made our belief system believe that the existing was created as a design best suited to the evolutionary changes. SOBS can alter the flow to one's preference to provide clarity in thinking. There was never a necessity to redesign the thoughts since there was never a design of a thought. The design has been created as an illusion that needs to be clearly understood. Thoughts are never created and disappeared with their inhibitions, the state of mind give thoughts the greater authority to control but they can never self-control.

Subconscious Observation Belief System (SOBS) with the observation technique can alter the flow of thoughts so to redesign the existing flow to a customised one suited for any individual. Such a technique can bring about changes in thinking to provide clarity and better result for any initiatives. Such a customised mind can be relieved of stress, anxiety, fear, or any kind of

depression. Even if you are away from any depression but need clarity of thoughts to have a sound mind, such a state can be achieved by SOBS. A state of mind with bliss, cleaving all the traces of sadness and worries can be achieved with SOBS. The state of bliss soothing the mind with the smile, a smile of absoluteness within can be achieved with SOBS. Without redesigning the thoughts, SOBS alters the flow of the thoughts to create a state of balance to think with clarity and have a soothing mind.

SCIENCE SHORE PAGE 2

BE SOLICITOUS, NOT CONDESCENDING UMA HARIHARAN

A very common topic, which every person is familiar with. Why did I even choose the heading?

In the recent times, we have all experienced difficult phases, kids confined to home, people losing their jobs, a few having lost their near and dear ones, some struggling to make both ends meet, a few striving hard to get into newer jobs, many facing challenges with regard to dwindling savings, failing to pay interest on loans taken and so on.

The sudden outburst of the Pandemic taking different forms in the last two years, has destabilized and we are uncertain about the present & the future too. People either talk about shots, or about relocation, kids education, admission, job opportunities, how many members can attend functions, weddings, funerals, places of worship whether it's shut or open for public, if transport is available or not, everything mounting up to stress and anxiety.

The least we can try doing is connect to each other, try speaking at least to one or two people a week so as to comfort one another. While interacting with each other let's be kind, empathetic, understanding, be supportive so that we can bring forth smile in somebody's life or else if we avoid /speak rudely and be insensitive, days are not far where our people and the society at large will be undergoing severe strain regardless of age, gender, wealth, beauty and the like both at mental and physical level.

Let each one of us stand up for each other, speak nicely, caring and sharing of what we possess be it in words or deeds thus beginning to motivate instead of pouring out our frustrated emotions in any form that would put others and ourselves into deep depression, unhappiness and insecurity.

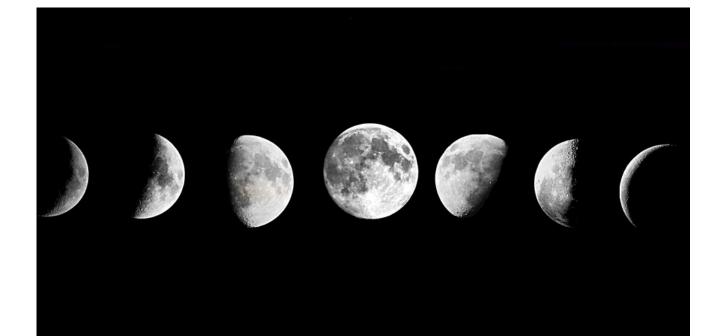
Let's get closer to serve humanity in our own small ways.

POETRY



ALL THE MEN'S A MOON CATHERINE CHRISTINAL E

All the men's a moon
Undergoing challenging transitions
First, like a new moon
Nursling in the mother's arms;
And then he is full of merry
Like a crescent moon with vigour and spirit
Then a full moon, seeking maturity
And control over oneself
And then comes the end where he loses all his power
In Earth; Like a waning moon
Goes to where he came from.



SCIENCE SHORE | PAGE

SAGAR - OCEAN SPIRIT GITA BHARATH

I am fluid, adapting, changing, Between the shores of life and death, Restless, birthing waves, eroding Cliffs, slowly grinding stone to sand.

I have deep depths where you may find Fantastic fish of every kind. I play in the shallows, I ride the white foam Gently I carry many fishermen home.

I throw up great ships, tumble them down

My titanic slopes.

I clasp to my bosom the sailors that drown.

I wear sun-sparkles over robes of blue-green,

The full moon covers me with a silver sheen.

But exuberant at high tide, or despondent at low,

I am confident that I truly know
My unchanging role

As an immortal, eternal soul.



SUN JAYALAKSHMI

Gracious Sun! epitome of burgeoning life
Thy glaring triumph beguile cosmos.
Riding golden chariot gallantly you traverse
Flawless grace pour upon the universe.
Grandiose rise and set stir up my thoughts
Mirth of life unveil in dawn and twilight.
Waking mole and mountain you, an enlightener
Induce life to stone to see you, the Saviour.
Speckless euphoria, earth embrace you in dawn
Vibrating vivacity, her soul mate to adorn.
A speck of sand, I wake in thy effulgence
Attuned, lulling soft beams attain perfectness.



SCIENCE SHORE | PAGE :

SUNDAY AT THE SEASIDE JELLIE N.WYCKELSMA

Strolling along the beach
Our feet leave their mark
In the cool, wet sand
The sea is calm and tired waves
Refuse to tease our toes.

At the Pier we join the Sunday Pier Walkers
Families, elderly couples, man in suits
Moving on and off like ants
Seemingly without a real sense of purpose
A disguised pilgrimage to the end
Where boys angle and foolish fish get hooked

The shores beyond the waters are blurred by a haze We turn around and observe the Two-story-houses-with-a-view on clear days Behind us Powerboats and jet-skis play While under our feet the water talks to the pylons The breeze ruffles our hair We could stay here for hours

When we return to the beach The incoming tide has washed away All our footprints ...



SCIENCE SHORE PAGE

THE OCEAN JELLIE N.WYCKELSMA

The sun is setting softly over the ocean Casting its last radiant rays, painting the Willing, rolling, deep indigo waves a brilliant white

The wind is not ready to retire
Urging the waves to accelerate into a crescendo
Pushing towards the shore for a high tide at midnight

The first waves crash onto a rocky outcrop
Seagulls on their last flight seek cover in the dunes
Tiny crabs hide deeper into the damp sand

From the safety of the beach I inhale fresh air Today's problems and pain dissolve in the wind Tears no longer trickle over my cheeks

The approaching surf kisses the sand near my feet
My mind is at ease and I walk on
Not wanting to go home yet ...



Answers to Quiz on Page 7

1.b, 2. a, 3.a, 4.a, 5.d 6. c, 7. b, 8.d, 9.b, 10.a 11. b, 12. d, 13. c, 14. b, 15. d

SCIENCE SHORE | PAGE 2

THE CASTLE

KAMAR SULTANA SHEIK

We were building a castle

On the beach, my cousin and I:

He said his will be the tallest sandcastle ever built;

I, afraid of heights, shuddered a bit..

Mine, I said would be the widest..

He laughed, "Castle, means, tall, silly.."

Nevertheless, we got busy...

He built his, sturdy, with sticks, pebbles and wet mud,

Creating storey after high storey,

Using tall stones, wide stones, cardboard,

It looked impressive with all the glittering glass pieces

Used to decorate it..like a castle part-stone, part-glass..

The morning sun danced and glinted off it..

Mine was more like a fairy-mound,

Flat and round with a single door,

Dark, and no sun glazing it...

I decorated mine with shells of all color,

It looked like a castle from the sea-bed..

I asked for some flowers from a flower seller

And she laughingly gave some..

So I strew those around it

(Along with her laughter!)

Some pebbles I used to make a boundary,

A quaint little cottage it looked, at most...

We both looked at our handiwork

As pleased as we could be..

And wondered how it would feel

To live inside for a day or two ..

Just then two folks came out of the sea,

And the girl asked of me..

If she could live in the sand-cottage for a day or two? If I don't mind?

Her brother (with her) didn't like it at all, though!

But lo, he'd spotted my cousin's castle

And his eyes shone: "yes you can", said my cousin

To his unasked question..

The two wee folks looked at each other

And off went each into their dwelling,

My dad called for us to go home

And we were on our way..

In my dream, she explained everything

The wee little girl with the hidden wings;

They were fairy folks who'd lost their way,

And had hidden by the seashore,

At night their ship came

And took them to their Land

Safe and sound. She thanked us

And said there was a present waiting

And that she will not let the sea knock down the cottage

Until we took our presents...

We rushed to see what was there

And behold! My cousin's Castle had a conch

That looked like a horn

(And yes it could be blown!)

My cottage had a tiny tinkling bell,

So tiny it could fit on my thumb,

And as we looked back that morn

We saw a huge wave take our Castles away..

I have my bell till today,

And I know my cousin keeps his present too,

Though he denies it and keeps it very secret..

And this folks, is the tale

Of sandcastles and a sunny day,

When I was young and fresh and free,

And knew sandcastles were made

To be swept away by the sea!



AN EXCRUCIATING PAIN (DEMISE OF GRANDPARENTS) K.MONIKA

Many things you share

And now we've been unsheltered by your love and care.

And the things happening right now without you is truly unfair.

We are searching, where your soul lies

And you've left us with tearful eyes

You've left us with more loving memories

And your bond with us cannot be written in summaries.

I think you've done your level best

So that God has took you to take deep rest.

Why have you left us so far?

We are calming down ourselves by seeing you in the star.

I think the heaven loves you more

But it doesn't realise that we love you to the core.

We are all torn apart

And the days we were with you was the best shot.

Missing all your moral story

And home is now out of glory.

We miss the elderly support and hand

And now we are searching for your footprints over the sand.

Longing for your genuine advise

Where will we search a person like you both, being too wise?

Struggling to face the day and night

Since you've left us in plight.

If possible try to come back

Since we still love you to the moon and back.

Although you've gone

Your legacy still lives on.

I know it's heart to mend

But my love for you both would never end.



SCIENCE SHORE | PAGE

WHAT TIME COULDN'T TEACH ME NEHA S CHAKRAVARTHI

I know, You might not love me like before, Nor gift me lavenders every day.

I know, Days have changed, So have we.

Like a gush of cold wind Putting me at unease, You out of my life forced yourself, Before even, I could ask why.

What was the obscure trail Of emptiness, I felt, In your mere absence?

I know, It's good to be apart For I needn't call you My friend or foe.

When, on one day, You stand tall and proud, I would put my hands to applaud With a grin that exists for you And hoot your name loud; Loud like a fanatic, Until my throat runs dry.

And engaging in a silent minute of prayer Wishing, He listens to all of yours, I would gladly push away, Each drop of my happy tears That fills my eyes without complaints. Because time couldn't teach me Why you wilt before spring.



SCIENCE SHORE | PAGE

QUOTES BROKEN FACTS INSPIRE NEHA S CHAKRAVARTHI

*Exist, only if you desire to live.

*Turn heads with your wit, not arrogance.

*Who you are doesn't matter; how you are, does.

*For best results, enjoy the process.

*Worship your goals like your life fails sans them.

SCIENCE SHORE | PAGE (

GRATITUDEROOPA SUBRAMANI

What is life without a native sense of gratitude?,
For things that hath been from a thankful perspective,
To all things forthcoming in graceful plentitude
As a gentle reminder for us to become graciously introspective
Of that which always has our backs with it's inherent sense of a forgiving attitude,
Ever lending us another opportunity to realize it's grand collective
effort to help us see every unfolding life circumstance from a grateful heart's perfect latitude,
Like a well polished mirror that has become truly reflective
And aware of life's illusive yet inevitable vicissitudes!!



TRANSMOGRIFICATION SANGITA KALARICKAL

short
autumn
storm that blows
open golden hues
into barren halloween trees

The poem above is a Fibonacci poem (or Fib). This is a verse based on the Fibonacci sequence.

The Fibonacci sequence is basically a set of numbers. It begins with a zero followed by a one. Each following number in the sequence is the sum of the preceding two numbers. Hence, the first few Fibonacci numbers are: 0, 1, 1, 2, 3, 5, 8, 13.

Nature loves the Fibonacci sequence. The geometric pattern followed by a curling fern, a pine cone, a shell, are all beautiful examples.

In poetry, a Fib is a verse created so that the number of syllables in each line equals the total number of syllables in the preceding two lines. It could create beautifully unfurling images. It is a fun poetry form, why don't you try your hand at it?

SCIENCE SHORE | PAGE

LET THE BIRDS LIVE SETALURI PADMAVATHI

Once, this land seemed to be a huge jungle Where thick trees unreservedly grew very high A responsibility I continually seem to bungle These stout-bodied birds lose hut from the sky!

The city dwellers reside in apartments, big Balconies are deliberately shut like a fence Birds that symbolize love began to twig They quietly fly away from houses, hence!

While with no concern, they are betrayed Male and female birds find a resting place Every outside hole becomes their shade Alas! People genuinely forgot to embrace!

Peace-loving doves find no windowpane To dance, move, sing, fly, and gladly chirp Difficult to see the helpless ones in pain The rights of the peaceful birds, men usurp!

O dear, with warm heart, do a good turn Let the flying birds move around and stand Let's love them and have great concern Forests ruined; flats built on their land.



SCIENCE SHORE | PAGE (

YOUR PRESENCE COUNTS DEAR WISE LADY SHINY VIKAS

You are beautiful no matter how one treats

You are talented, no matter the world sees only the celebration and light

You are courageous, no matter how fearful moments disrupt you

You are kind, no matter how helpless you may feel within sometimes

I am alive and breathing in the universe with the colorful and magical dawn and dusk!

The sun that captures the moments

The moonlight that says, "keep shining in the dim light".

Your existence counts

Not in the wrinkles

The weak bones

The loss of memory

The deteriorating health

It is forced upon us once we give up on life

Are you, sure wise lady?

You see nothing when you grow within

Nurturing childhood memories, divine

I am the existence

The ever-growing willpower

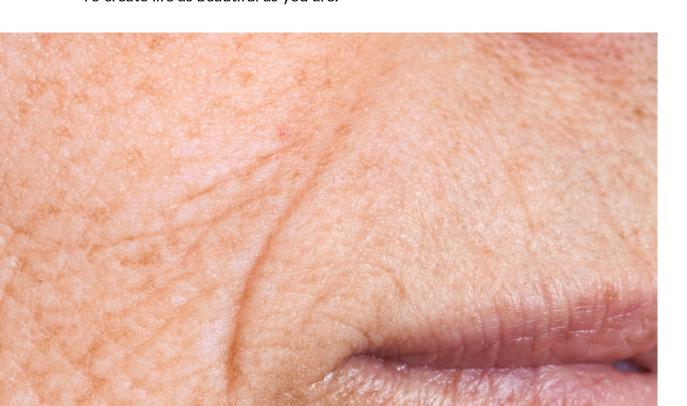
To live, your age with a perfect hobby and creative desire

Growing every day to see the success in our spiritual growth

To be happy and thank every moment

As one more beautiful chance, not to be missed

To create life as beautiful as you are.



SILENCE N. THIRUMAGAL

Soul slumbers
Basking in dreams of
Byzantium branches
To perch.
Silence stops by,
Plucks a handful of
Parallel worlds and
Floats them across
The corneal shores
For the glimpses of
The galaxy.

SILENCE N. THIRUMAGAL

The song of silence
Ceaseless like ocean waves
Plays over the passages of night
Ruffling the mane of the
Sleeping world
Blows extra pinch of blues
Into the dawn
Will tarry at the portal
Of the morn
before long
With smiling bouquets
Carrying the notes of its song.



SCIENCE SHORE | PAGE (

TWO FIB POEMS

VIDYA SHANKAR

A multi-line verse with the syllables in each line of a poem equalling the numbers in the Fibonacci sequence, the Fib poem or Fibonacci poem gained popularity in 2006 when Gregory Pincus experimented with it and shared his poems on his blog. This poetry type, however, has been around for centuries in India, in Sanskrit poetic meter, even before Fibonacci came up with the mathematical sequence.

A Fib poem is a fun poetic form though one can use it to express a serious subject too. In its modern avatar, a Fib poem generally has six lines, each line progressing with the syllabic pattern 1, 1, 2, 3, 5, 8. Alternately, the syllabic progression can also form a sequence following the pattern 1, 1, 2, 3, 5, 8, 5, 3, 2, 1, 1.

Except for its syllabic style, a Fib poem is not defined by any other restriction such as rhyme or meter. Also, the number of lines in a Fib poem can go beyond an eight-syllabled sixth line with the progression continuing to 13, 21, 34, 55, and so on.

in the public library weary leather-bounds sit, ancient wisdom forgotten

the
moon
blushes
behind a
silky silver cloud —
a scintillating cosmic love
story unfolding
in the depths
of a
poet's
heart

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