



Letter from the Chairman's Desk By Sunil Bhatia PhD

Never thought of such an unimaginable experience in the presence of concerned authority at the inaugural ceremony for the renovation of an old department building in the university, as labourers entered the basement for starting the civil works, they returned running in shock and shouting "snakes! Snakes!!..". I thought that portion was dark and for years it was not open and turned muddy and a snake may be living and as I proceeded for entrance, a labourer shouted, "there are hundreds of living snakes".

I called the forest department and the officer informed us that 'you should put some high voltage electric lights in the basement in possible places in the basement and in three or four days they will vanish. They live in dark'. I informed him it is not a few but in hundreds. He further said "Do not worry. Even thousands will vanish." His words came true.

Immediately an idea struck me 'Does life need darkness? Is light a kind of pollution? Has excessive or artificial light has affected and changed our life that does not match with our designed body for living in darkness or limited exposure with light ' My mind was disturbed and found every living being's life begins in darkness. It is human or animal mating cells that multiply in the ovary that is the

dark chamber. A child gestates for months in the mother's womb and birth that is very disturbing takes to light. Seeds are buried in the earth and a plant surface. What happens in the dark is still a mystery for us. What changes take that is the reason for the beginning of life in the dark is unknown to us but need further proper study for unfolding mystery. It is true that every living being comes to existence under the envelope of darkness but simply keeping seeds or human sperm in darkness does not give new life but dies out with the passage of time. It is ancient wisdom in farmers that out of harvested products they keep a portion of seeds for next harvesting in the dark. Every thought takes place in a dark chamber of mind and how it is striking is a mystery but works. It is said that the spirit of God lives in the heights of darkness. The Christian Bible says "in the beginning, the world was void and filled with darkness and God said let there be light and there was light."

Is light pollution? Why does light exist on earth and space in dark ? It works as a catalyst for expediting the mechanism of giving life in darkness. After coming out of the darkness, every being sustained and regulated their life with sunlight. Should the light be in limited access? Excessive light is not good for every living thing and is treated as pollution.

One day a researcher in Africa was interviewing for a television program about almost extinct and a few surviving hunters and gatherers about their life 'what does sky, star and sun mean to you'. There was no answer from anyone because they never bother what the sky means but a young hunter said ' it is difficult to hunt in full moon and we sleep without food'. Sun or moonlight rise and set have no role in their life but understand getting the food of animals is difficult in a full moon.

In primitive times the role of sunlight or moonlight was limited in regulating lives but the discovery and learning of the art of fire management have changed the face of the human lifestyle. Fire has two major components, one is light, and the other is heating. The man understood its role in early life and used fire as the light that was the first step from moving away from natural life to artificial life. Artificial life was assuring for safety, security and fire was gradually coming under control for heating as well for lighting. Initially, they might have used dry grass or tinder for burning and gradually shifted to heavy logs for longer and high intensity for meeting high needs of heat or light. They did this exercise when they understood the fire intensity can be enhanced by the selection of fire medium. Lighting was possible with a bonfire but it was static and the fire torch was designed for carrying wherever they moved where one end of the log was with fire and the other end for holding. Later design of oil lamps with the burning of animal fat or extraction of oil was a well-thought design for avoiding any accidental fire damage. This was the well thought planned journey for coming out from darkness to live in the light. The biggest revolution came with the invention of the electric bulb by Edison and even he has not thought it will change the human thought process and face of civilization.

The invention of electricity has proved the ultimate victory over darkness and changed our lifestyle. Venturing into the darkness withholding light has made man more daring and fearless. An earlier man was accessing limited skylight or the fire of a volcano in a few places so his routine life was set accordingly. Light bulb and presence of artificial light from carrying the torch, to city lights for illuminating dark spots never allowed a modern person to look toward the sky, and day-night concepts are diminished. He can work

anytime in day or night with the same comfort and faces no challenges. I have heard and no data that can justify in support that once California or Singapore faces electric long hours breakdown and people realized some kind of blue sky exists above them. The idea of punishment has changed with light and prisoners are put in a dark cell in the confined solitary cell because they are habitual of living round the day and night in light and darkness can be removed with the press of the electric switch. Torture has got a new dimension where excessive light with high voltage bulbs are placed close to the person for not allowing him to sleep and under physiological pressure, he surrenders. Social embarrassment by blackening the face of the culprit helps to attract the attention of the crowd. Other colors were present but why selected dark black color for social punishment?

Modern designers are working on energy-efficient systems and never given thought to the role of darkness. One day my friend bought a plastic transparent sprouting device for grains and pulses- having a two-chamber stack on one another, one bottom for storage of water, and at the top for keeping washed pulses. I realized it is not properly designed because the role of darkness in beginning life is unknown to them. In place of transparency, it would have opaque or advisory should be written that keep it in a dark place. I am happy that pharmaceutical industries understood the role of light in changing the chemical properties of medicine and issued advisory to keep vials in a dark place. Domestic refrigerator is designed for energy-efficient and keeps a small bulb that gives light when the door is open otherwise it is dark. If the bulb is on after closing the door it will demand more work from the compressor for keeping the fridge at desired regulated cooling but forget that the dark chamber

is a conducive environment for growing bacteria or fungus etc. Curd maker has a regulated heating chamber and sometimes it has a transparent lid or unknowingly has an opaque lid made of metal. If it is opaque, curd bacteria grow in a different manner and it is healthy but transparent lid bacteria grows because of the correct temperature and missing the role of darkness in growth. It is also observed in farms, hens are kept under continuous light for more production of eggs because of confusion of day and night. Labour laws has come to the existence for controlling the exploitation of working hours from sun rise to set for proper working conditions Presently it has lost relevance with design of artificial light. In India at the roadside mosquito sellers display their net and customers are mostly attracted with dark colour. Customers do not know dark colour allows the mosquitoes for easy hiding where white or cream does not. Mosquitoes will be attracted to dark colour and will not come close to light shade. It is not a problem of the customer or seller but it is a problem of designers. Army personnel wear dark colour for easy hiding where security for attacking is focused but medical personnel wear white because it should not attract bacteria or virus for hiding.

In some cultures, yeast is much used in cooking and I found an illiterate woman who was preparing at home with ingredients available in the kitchen but kept that prepared material in a pot with a lid in a dark place. I just asked her 'Why are you keeping that pot in the dark?'. Her answer was astonishing 'It will grow bacteria and release heat in the process. That heat should not be wasted. I covered it with a lid and what heat bacteria are producing is enough for faster growth and natural light disturbs their growth'. I recall my mother keeping the glass jar under direct sunlight for few days for

killing possible bacteria in raw mangoes for making of pickles after cutting into pieces(this increases surface area of unit mango) , coated with spices, salt and edible oil for preservation so all the possible bacteria should not get conducive environment for growth and get killed. Commercial companies rely more on preservatives for avoiding sunlight exposure event under the time constraint of making pickles. It is our ancient wisdom where our ancestors understood the winemaking where bacteria should multiply faster for better result and created an environment by burying the pot for natural fermentation underground for days and with the smell they were able to tell if it is properly ripened or not. When we apply medicine over the cut area that works as a lid and the bandage provides darkness for growing faster human cells for faster growth and side by side it protects from external infections. We provide support by applying medicines for killing external bacteria or disturbed their growth and all energy of bacteria diverted for destroying foreign elements that are applied medicine over cut and in meantime, our cells multiply and repair the wound. It is natural healing.

Mosquito trapper is designed with LED of blue colour for attraction and a fan sucks into a chamber filled with insecticide kills. A tribal community hunts the red ants by carrying a pot with salt and asks 'what will you do with this pot'. He answered that when we put ants in it immediately kills and does not bite me. Why do we not use normal salt as insecticides? Next curiosity was 'Why mosquitoes are attracted to blue color light'. I think the change in light patterns understanding in insects is better and the lowest frequencies are ultra-light and the highest is infrared. Any light that reaches ultraviolet indicates the next stage will be darkness and insects get

attracted in search of darkness for hiding. The oil flame is yellow and the biologist says the same color of light is released by the female from her back as an invitation for a mating that attracts a male partner and dies with the burn. Firefly releases light as an invitation or attraction for prey and that blinking has given new thought to the human mind. They learned the art of fire management that was used as a weapon for killing and safety. A new thought surfaced with blinking and some part of the world used it for entertainment . The idea of fireworks took place where different possible patterns were thought with chemical properties for the delay in the ignition that produces dark and light. I give all credit to our ancestors for giving us an idea of the arrangement of light and dark in a specific pattern that is responsible for giving an idea of pixel and binary number and it later gave us a computer. The arrangement of dark and light is the brain behind the existence of the digital world. Ultrasound is designed where the varied intensity of striking sound effects with the objects are translated into light and dark spots for photography. Photography of black and white is the real foundation for color photography and it is another popular product where objects' images are translated by light and dark spots with the varied intensity of light and real revolution has come with the design of inbuilt camera in mobile phone technology for turning even a layman into a photographer .

My mother was spreading different washed clothes for dry in sun light and carefully she was spreading dark dresses under shade not in direct sun light for avoiding color fade where white clothes were properly exposed to sun shine. As she finished and before leaving for shopping, passed the order that before my return the house should be properly clean- dusting, brooming and wet mopping. I

could not dare to say no but did the cleaning with a heavy heart and before her return from the market, I put all the curtains so that it should be dark and it will help in covering my not proper cleaning. As my mother entered she ordered me to remove the curtain I wanted to inspect in light. A guilt feeling surfaced but I thought generally crimes take place in darkness and investigation in daylight for the search of pieces of evidence to catch the real culprit. Technology is changing the face of crime and criminals are even attempting crimes in daylight.

One day my friend visited my place and his mobile was constantly ringing and was busy attending call after one another. I reminded him ' you have come to see me and never come carrying phone or keep silent or switch off before entering my place'. He laughed as there was nothing wrong with my advice. Suddenly my house light went off and he quickly before I got up for the candle and match stick for the light, switched on his phone. I was waiting 'let my eyes be accustomed to darkness'. I am familiar with every inch of my house and found it difficult and what confidence I enjoy in light that was shaky and every step was with caution in the dark .That time I realized the power of the screen light that completely made the room illuminated where we can see everything clearly in the room and avoid any eventualities because of walking in darkness. That power of light has some effect on us and has the capability of altering our behavior. Those who are sleeping and frequently see the mobile phone gets disturbs sleep .

Our modern designers know the use of light and even provide options to users to select the intensity of it for the energy-efficient concept is known and use of LED is rampant because it works with very low consumption and works for longer hours limited

back up power of battery in mobile or laptop. They never think how the screen light is affecting and altering their behavior because of artificial light continuously falling on the senses as and when it is on. Why did the designer not think of an alternative? Have designers thought of not using light where it is thrown out of the screen rather a concept where light is inverted for going into the screen and serving the same purpose that today's screen is doing? Using anti glare glasses for the protection of eyes is not a proper solution but it is better.

Imagination element in humans in individual is the greatest and most beautiful gift of nature that helps in drawing some kind of figures, a character out of nothingness or darkness and it is nothing but one kind of light of innovations . It is the foundation of the origin of the religious and spiritual world where devils and gods are in a constant war that disturbs peace and growth. Encouragement for venturing into this world helps in keeping aside differences among humans living on earth and it works as a unifying force for collective efforts. Humans live in peace in light and ultimately rest in peace in dark.

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With Regards

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