



ISTE-VESIT



COGNIZANCE'18



SYNERGY '18

AN ISTE-VESIT PUBLICATION

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Vivekanand Education Society's Institute of Technology

Indian Society for Technical Education ISTE-VESIT Chapter (MH-144)

ISTE aims at developing not only technical temperament of budding engineers but also overall personality, reasoning and presentation skills. ISTE has a good reputation in the field of technical education and it strives hard in order to cultivate a fraternal spirit among teachers, administrators, technicians, investigators, practitioners and industrialists.

In today's world of excessive competition it becomes mandatory that along with technical excellence a person be able to put forth his/her ideas well.

This is what ISTE aims at to develop technical as well as soft skills of a person. Events like TPP, Techtrix etc. expose the students to the technical field and Debates, Group discussions develop the much needed confidence in each individual. Thus ISTE aims at shaping a good individual and a technician at the same time.



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ISTE-VESIT COUNCIL

(2017-18)

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TECHNICAL EVENTS

1. Group Discussion

Group Discussion was conducted by ISTE-VESIT on the 18th September, 2017. It provided the members an opportunity to hone their communication skills.

2. Notice The Unnoticed

NTU was a weeklong technical event which was held from 9th to 14th October, 2017. Everyday technical brain teasing questions were put up on the notice board and also on website and application of ISTE-VESIT. The aim of this event was to develop logical thinking capabilities of members.

3. Image Processing Workshop

The workshop was conducted for S.E and T.E. members on 13th and 14th October, 2017 in collaboration with IEEE, CSI and ISA. It was aimed at explaining the fundamentals and providing with hands-on experience on the applications of Image Processing. It was conducted by Dr.Chandan Rawat Sir (Ph.D in Image Processing) from EXTC Department of VESIT.

4. Techtrix

Techtrix was an event conducted for the S.E and T.E members of ISTE-VESIT on 7th and 8th February, 2018. It was an event which provided a platform for our members to prove their technical prowess.

5. Technical paper presentation

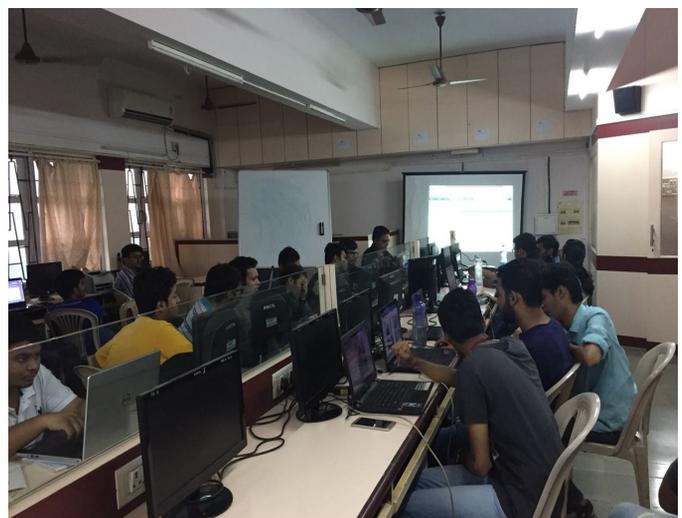
The members were provided an opportunity to showcase their technical knowledge, confidence and presentation skills.

6. Placement Week

It was conducted on 20th and 21st February, 2018 for S.E and T.E members. This event let the members of ISTE-VESIT to get an insight into the placement process. After the aptitude test and group discussion rounds, the members who qualified for next round had personal interview with the experts from the industry.

7. Article writing

This event helped our members to improve their flair for writing and also enhanced their creativity. The theme for article writing this year was Technical: Hyper loop- Future of transport
Non-Technical: Yin and Yang



NON TECHNICAL EVENTS

1. Around The World

'Around The World' was one of the mega events hosted by ISTE-VESIT. It was conducted for S.E, T.E. as well as B.E. members on 2nd and 3rd February, 2018 which let them experience a fun-filled and adventurous journey in various countries like Brazil, Ireland, Japan and Egypt.

2. War Of Dragons

ISTE-VESIT held its SE Co-ord event, exclusive for the SE's on 26th February 2018. The event was themed 'War of Dragons' which revolved over the concept of dragons fighting each other to procure the golden egg. The qualifier event had 4 mini-events namely the Castle Hunt, Trail the Tail, Survival Clench and a multiplier. The finalists had to go through a final challenge 'The Dragon Ambush' which had a mix of poker and business ludo. The top 3 teams got their hands on the dragon eggs, thereby making their way into the ISTE Symposium.



ARTIFICIAL INTELLIGENCE

A YEAR SPENT IN artificial intelligence is enough to make one believe in God.

HISTORY OF AI

Artificial Intelligence is a subfield of Computer Science aimed at developing computer programs which are able to perform tasks that normally require human intelligence. Certain problems such as speech recognition, face recognition, autonomous driving, etc are hard to solve by programming explicitly. Machine learning is a

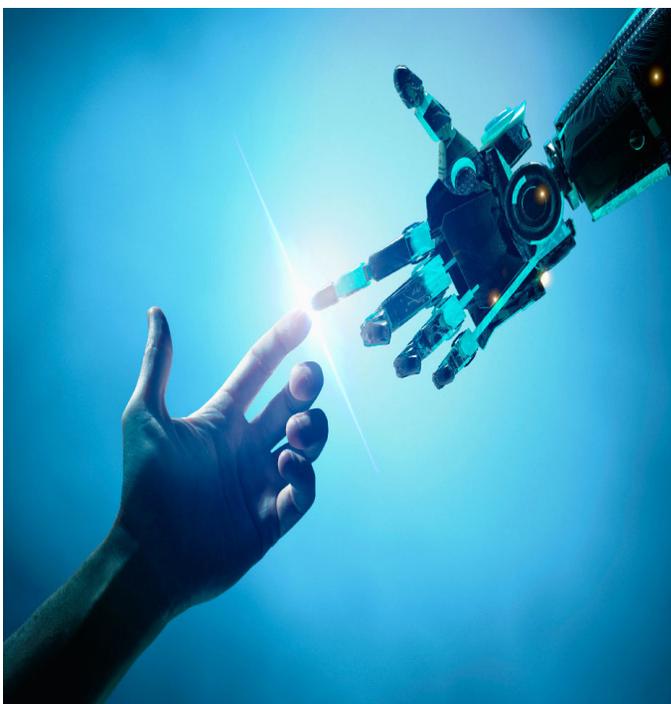


type of AI that provides computers with the ability to learn to solve a problem without being explicitly programmed. ML programs learn from data, so they can teach themselves to grow and change when exposed to new data. The field of AI research was born at a workshop at Dartmouth College in 1956. It was founded as an academic discipline in 1956, and in the years since has experienced several waves of

optimism, followed by disappointment and the loss of funding (known as an “AI winter”), followed by new approaches, success and renewed funding.

GOALS OF AI

The traditional problems or goals of AI research include reasoning, knowledge, planning, learning, natural language processing, perception and the



ability to move and manipulate objects. General intelligence is among the field's longterm goals. Approaches include statistical methods, computational intelligence, and traditional symbolic AI. Many tools are used in AI, including versions of search and mathematical optimization, neural networks and methods based on statistics, probability and economics. The AI field draws upon computer science, mathematics, psychology, linguistics, philosophy and many others.

PHILOSOPHY OF AI

The field was founded on the claim that human intelligence “can be so precisely described that a machine can be made to simulate it”. This raises philosophical arguments about the nature of the mind and the ethics of creating artificial beings endowed with human-like intelligence, issues which have been explored by myth, fiction and philosophy since antiquity. Some people also consider AI to be a danger to humanity if it progresses unabatedly. Others believe that AI, unlike previous technological revolutions, will create a risk of

mass unemployment.

TRENDS OF AI

Normally, when we wish to get something done from a computer, we have to know how to type a command or where to click or what to enter. People, not very conversant with computers, will take help from experts to get things done. What if they could just speak and the computer would do things for them. Just like the recent smartphone advertisement, where a phone takes voice commands from a person and sends mails on his behalf, automatically dials the phone number of his family and more. Isn't the phone acting like Aladdin's genie! This is possible through Artificial Intelligence.

Google deepmind has been working on machine learning with the main goal to solve intelligence and then use intelligence to solve everything else. By creating general purpose learning machines, adopted by the way our brain works by mimicking the algorithms our brain follows to follow a problem.



AI robot, Sophia developed by Hanson robotics, been declared a citizen of Saudi Arabia had stirred much of the focus into AI with overwhelming responses.

COGNIZANCE'18

HYPERLOOP

THE FUTURE OF TRANSPORT?



A HUMAN BEING IS characterised by mental development. In ancient age the human development was subjected to mobility constraint. With the invention of "WHEEL" a new tool of mobility introduced. The technology made the Wheel to rotate at a greater speed day by day. In 1903 another big revolution came when aeroplane was invented, where Wheel was not a basic requirement. Recently, speed of transport introduced new concept of Supersonic Speed.

These words were implemented by Elon Musk, CEO of SpaceX and Tesla to build a new tool of mobility "Hyperloop".

THE CONCEPT

Hyperloop was first proposed by Elon Musk in 2012 as the fifth mode of transportation which would see pods or small containers travel at supersonic speeds over 700mph i.e. twice the speed of an aero plane in a near vacuum environment, which would in turn be collision free, immune to weather and at a very low cost for long distances. Hyperloop was announced by Elon Musk however it is not built by SpaceX, rather many companies are in a race to build the first fully functional commercialized hyperloop for the people of which major companies in race are Hyperloop One and Hyperloop Transport Technologies and

BOTTOM LEFT

Linear life directions for those who are not sure.

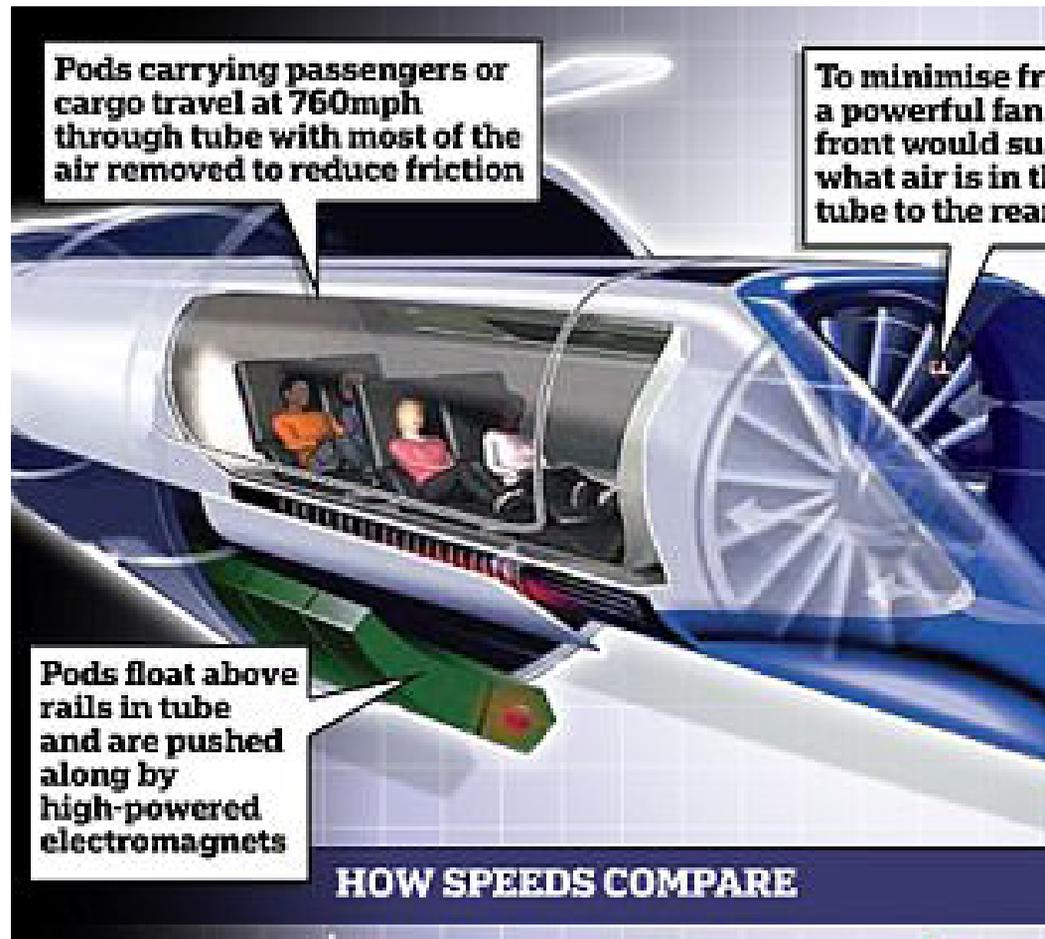
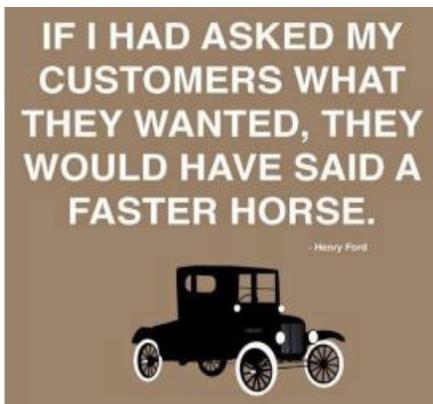
THE OTHER LEFT

Turning on the light might help you finding your way on that difficult path.

RIGHT

Someone looking at





is currently under testing conditions. Hyperloop One conducted its first successful hyperloop test run in 2017 in Nevada desert. According to Elon Musk, the first commercial hyperloop would run in around 2020-21.

THE TECHNOLOGY

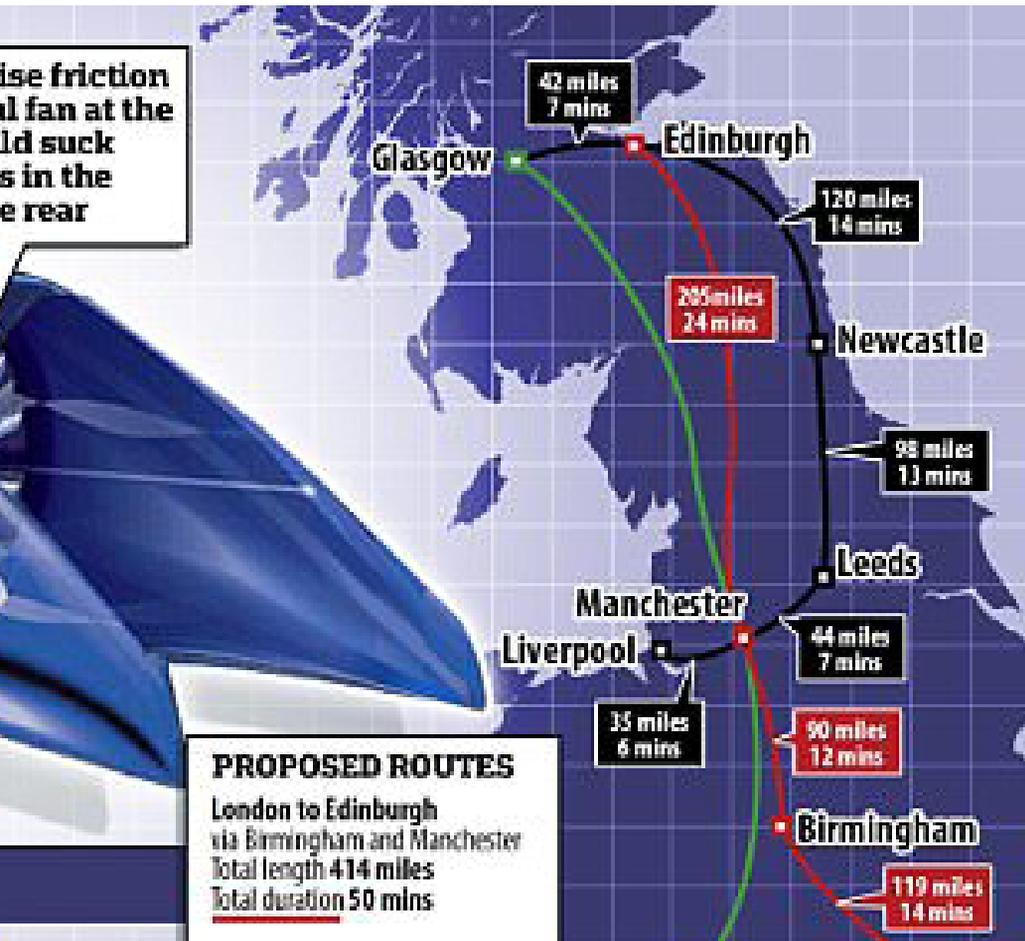
A specially created low pressure environment will help reducing friction and powering the pod to a greater speed with a much less power. The pod will be electrically powered, with an electric induction motor producing motion in a straight line. Electricity can be provided by using solar panels which would more than enough electricity to power the hyperloop. The technology will closely resemble an air hockey table resulting to pods not requiring wheels to move forward.

INFRASTRUCTURE, COST OF THE PROJECT AND PROPOSED TRACKS

In 2013, Elon Musk estimated that the cost of hyperloop from Los Angeles to the San Francisco would cost around \$6 billion i.e. \$11.5 million per mile in next 7 to 10 years, it will be available to general public. The cost to build the project is directly proportional to the in time required for completion of the project.

The tracks proposed for Hyperloop are –

- San Francisco - Los Angeles
- Spain-Morocco, etc.
- Dubai - Abu Dhabi
- Liverpool - Glasgow



“India is at cusp of technology revolution and technology will lay foundation for Digital India”

HYPERLOOP IN INDIA.

“India is at cusp of technology revolution and technology will lay foundation for Digital India”

-Paul Jacobs, Chairman, Qualcomm Telecommunications.

And this has brought Hyperloop to India...

Virgin Hyperloop One introduce hyperloop to India. Hyperloop will run on two routes from Mumbai to Pune and Chennai to Bengaluru. The travel time from

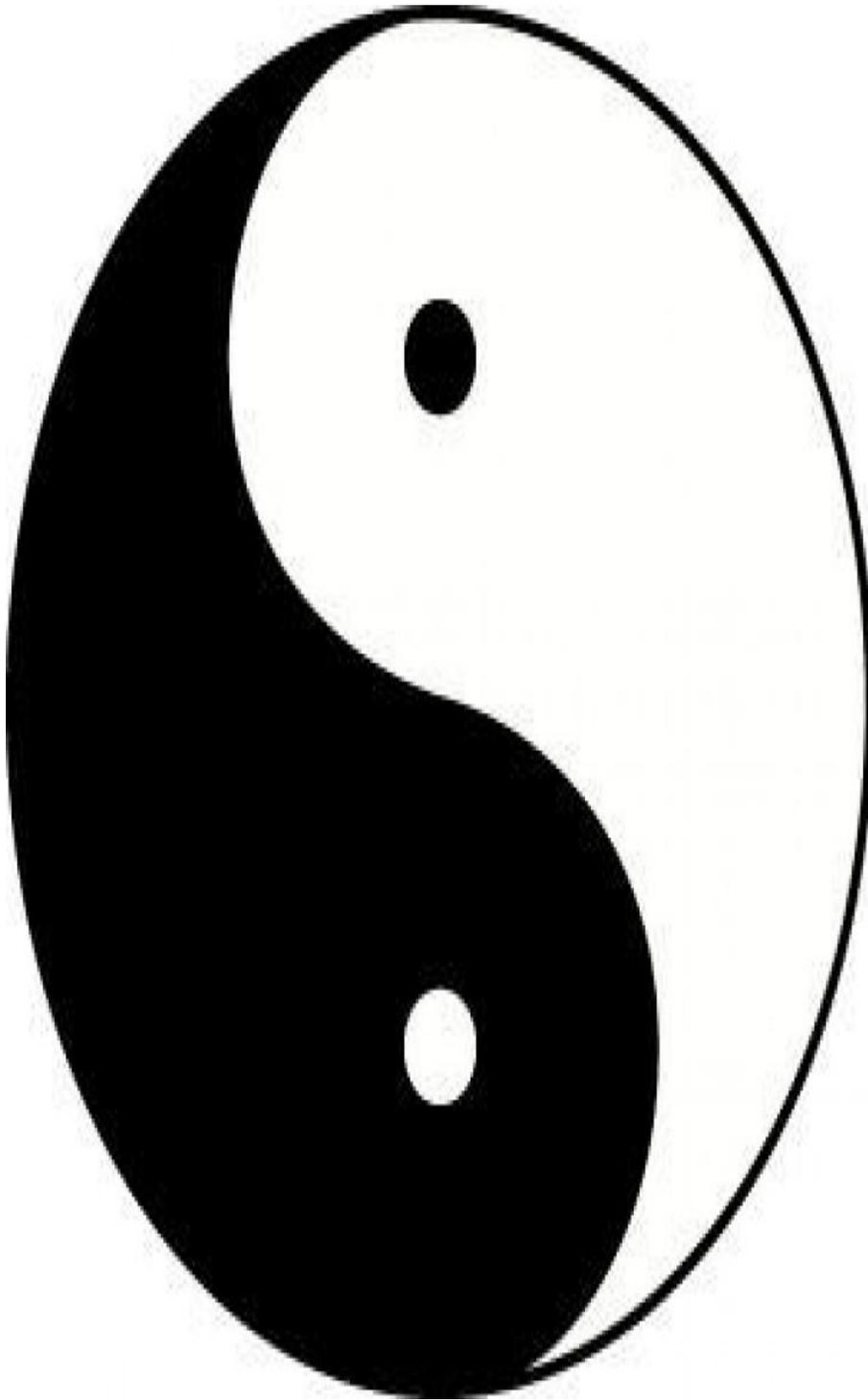
Mumbai to Pune is expected to decrease to 25 minutes from 180 minutes. Hyperloop India is expected to launch by 2021-2024.

HYPERLOOP IN INDIA.

Hyperloop provides very fast transportation with least maintenance and a safe mode of travelling. It consumes very less power to drive hyperloop as it is in a low pressure or almost vacuum environment. Taking into consideration space constraint in India hyperloop would be very effective as it requires very less space.

On paper “Hyperloop” looks quite promising, however it is currently in its initial and mostly conceptual stage. It is yet far away from mass production to be open for public to travel. Although the cost of travel is cheaper than conventional means of transport, the initial infrastructure required is quite high, as creating vacuum for many kilometres requires a lot of innovation, science and hard work on ground level. Hyperloop in India is also yet to begin.

- Vishal Israni
D15



EVER FELT THE need of eyes as much as you feel the need of that first rain during the sizzling hot month of May ? Ever felt the need of Legs as much as you feel the need of that break after a under pressure submission month ? Ever felt the need of money as much as you feel the need of food when you haven't eaten in last 12-13 hours ? Probably No. Because we are lucky to have a pair of eyes with a proper vision , proper legs to walk and probably enough amount of money to live on a simple life . Whereas we have experienced the frustration

Y i n a n d Y a n g

during summer and thus understand the need of a monsoon season . Yes, we also understand the need of having a peaceful vacation when we going through a phase where not a single day goes without having a ever teasing backlog thought in the mind . We know the feel when we haven't consumed a bite of food since few hours. Despite of knowing the importance of eyes , we don't thank as much as we crave for a monsoon season in the month of May. This is because we haven't faced any issues in the context of eyes . At the similar situation , a blind person would want to live in a 40° temperature throughout the year if someone is ready to trade for eyes. We do not understand the need and importance of happiness unless we have become sad . We do not understand the need of time without wasting it . We don't understand the need of saving our pocket money unless it's the last week of the month . This is life . We do not understand the importance of having something unless we have lost something. And these ups and downs of life my friend , gives life a meaning.

The importance of life is beautifully explained by a Chinese symbol , Yin Yang . This circular symbol having a small white part in the blackish half and a small black part in the whitish half explains life is never the same . And opposite things combine to give significance to the life .

This symbol , known as the Tai Chi Chu symbol , or Yin-Yang symbol has its roots in ancient Chinese cosmology . The original meaning of 'yin and yang' is representative of the mountains-both the dark side and the bright side , or the contrasting shaded and sunlight slopes of the mountain . These two words can possibly be traced back to the Shang and Chou Dynasty , (1550 - 1050 BC) . But most scholars credit the 'Yin and Yang' to the Han Dynasty (206

D.C - A.D 220) . At this time , The Yin Yang School was founded by Thou Yen. It combines the ancient philosophy of the 5 elements: wood, fire, earth, metal, water; and combined them into a cosmology of cyclical movements . The arrangement between the two poles forms a cycle of movement or the meaning of Change . In relationship to the elements, wood and fire belong to the yang , and water and metal to the yin .

Earth belongs to both yin and yang because it assists both . The yin and yang only represent opposite poles and NOT good or evil. You might ask what role the Yin and Yang play in everyday life. Well, as you can see , the Chinese picked up on this many Years ago . The ideas behind Yin and Yang developed by observing the physical world . It was observed that nature appears to group into pairs mutually dependent opposites For example , the concept of night has no meaning without the concept of day . Americans picked up on the connection, but never truly tried to name it . Yin and Yang are just opposites . I believe that's where the saying, Opposites attract, originated from. Nothing evil and good is represented by the symbol . The Indian culture states wo wear White clothes at the funeral whereas the Americans wear black .

Chinese believed that in any situation , that without the positive and the negative there could never be a whole. Because you get a perfect fit. There are so many examples that can be explained, examples that have never truly been thought through or examined. For instance , a magnet has a South Pole and a North Pole. Putting two south sides or

two north sides together is impossible, but if you put the north and south together, you form a whole. A joining together of the opposite poles. No achievement feels greater Without having that struggle to get through it. When it comes to our day to day life, the Small portion of the opposite colors might represent the good in the bad and vice versa. I truly believe the phrase 'Jo hota hai ache k liye hota hai'. All you need to do is, dig out the the happy part of your sad phrase. You cannot experience great things without trying them. And while trying them, there are going to be issues and the one who masters the technique of learning from those situations, is the true winner. The sad Phase is to make you strong and it teaches how to tackle the situations in an efficient Way. And eventually, it counts on in your experience. If you get an easy win, which is rare unless you have a strong luck factor. you might not appreciate it to a level you would have appreciated after achieving it going through hard times. So these hard times along with your success adds up to become a whole.

Another example would be a person riding a bicycle. If a person riding a bicycle wants to go somewhere he / she cannot pump on both pedals at the same time or not pump on them at all. In order to go somewhere he / she has to pump on one pedal and release the other. So the movement of going forward requires this oneness of pumping and releasing. This oneness of things is a characteristic of the Chinese mind. In the Chinese language, words are even looked on as a whole because their meanings are derived from each other. Life is like a sine wave, you have to get through ups and downs to exist

. For example, the Chinese character for good and the Chinese character for not good, When combined together will reflect the quality of something (whether good or not good). Likewise, the Chinese character for long and the Chinese character for short, when brought together mean length. All these examples show us that everything has a Complementary part to form a whole. Without one it is impossible to have the other.

Despite the differences in the interpretation, application, and appropriation of Yin Yang, three basic themes underlie nearly all deployments of the concept in Chinese philosophy:

- Yin Yang as the coherent fabric of nature and mind, exhibited in all existence.
- Yin Yang as jiao (interaction) between the waxing and waning of the cosmic and human realms.
- Yin Yang as a process of harmonization ensuring a constant, dynamic balance of all things. As the Zhuangzi (Chuang-tzu) claims, "Yin in its highest form is freezing while yang in its highest form is boiling. The chilliness comes from heaven while the warmth comes from the earth. The interaction of these two establishes the (harmony), so it gives birth to things. Perhaps this is the law of everything yet there is no form being seen" (Zhuangzi, Chapter 21).

ISTE-VESIT STUDENT COUNCIL (2017-18)



