

Astrology Opposes Science and Rationalism

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Nowadays belief in astrology is almost all-pervasive. We see highly educated, as well as less educated people wearing, not one but several rings with colorful gems. Practicing astrologers from footpath foretellers to high profile astrologers have hardly any scarcity of customers. Since astrology has had deep rooted impact on people over the ages, we need to analyse this matter critically.

The subject, of late, has become very significant, since some fundamentalist groups getting overt and covert patronage from even persons in power, have started concerted attacks on history and practices of science. It is very important to achieve real scientific and secular outlook in order to combat trends like the introduction of subjects like Vedic astrology in academic syllabus. It was initiated by previous NDA government and then onwards teaching of these subjects goes on uninterrupted.

The prime belief of astrology

Astrology starts with the premise that some stars and planets have direct influence on human destiny. In our country, the idea of nine planets (Nava Graha) prevails. These nine planets namely, Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Rahu and Ketu influence every activity of human world. The question why they are called planets will be discussed later.

Astrology believes that the future of a new

born baby is determined by the position of stars in the sky, at the time of birth. The position of the moon decides the zodiac sign. There are huge differences among the astrologers of different countries on what determines the proper birth time of a newborn baby. Some of them believe that it is the time of delivery; some others opine that it is the time of cutting the umbilical cord. In ancient Greece and Babylon, horoscope was drawn up during the period of pregnancy.

Astrology tries to explain the influence of the stars on different persons. People rush to astrologers believing that they have some outstanding power to foretell one's destiny and can reduce, enhance or control the influence of stars.

A few pertinent questions

Before discussing the influence of celestial bodies on human life, we would like to discuss on some pertinent questions as to why there is no mention of Uranus, Neptune and Pluto in Indian astrology. Why there is no mention of the Earth where we live, breathe, and acquire food for our lives? The fact that sun and the moon are not planets is known to even children nowadays. Actually, in ancient time, they had been treated as planets as per the geocentric concept. People believed what they could see with naked eyes. They believed that the sun and the moon and other celestial bodies are planets revolving round the earth. This concept was proved wrong by Copernicus a few centuries later.

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Then why do astrologers still nourish that old concept even today?

Again, astrology mentions two mythical planets i.e. Rahu and Ketu which are actually only two points of the space actually. Besides, astrology does not mention the influences of Uranus and Neptune and other moons of Venus, Jupiter, and Saturn, except moon of the earth though they are larger than our moon. Astrology mentions only 108 stars out of 5000-6000 visible to naked eyes.

How much is man influenced by stars and planets?

Astrology considers those nine planets as gods or demons. They think that one can either be affluent bestowed with the divine grace or be in adverse situation by the influence of demons. It depends on the location of planets. So, astrologers prescribe for gems or precious stones for mitigating the evil effects.

Modern science has proved that gods or demons are merely the product of man's imagination. So, astrologers need some 'scientific' explanations' to describe how stars or planets, millions of kilometres away from earth, exert powerful force influencing the life of a new born baby. Gravitational force exerted on earth by celestial bodies is a weak force and cannot act unequally on different persons. If one claims of any other force, one will have to explain the force scientifically as well as the method to quantify that force. If stars and planets can determine the future of a baby during its birth, the future of all the babies born at the same time should be same. But, in reality, they are different. Thousands of people died in super cyclone of Orissa in 1999, horrible flood in West Bengal in 2000, earthquakes in Gujarat in and Uttarkhand in 2000 and 2013 respectively, and heinous attack on Gaza by Israel in 2014 and so on.

Do all these events prove that during the birth time of those victims, the location of the stars and planets were same? Could astrologers foretell all these catastrophes?

Astrologers argue that if spring and neap tides occur due to the attraction of the sun and the moon, why not the events of human life? Primitive people believed that mental problems had close connection with the moon. This was because they did not believe in the existence of supernatural elements, which were not related to objects they see in their daily life. They sought explanation from the material world around. They did not understand the scientific reason behind every natural phenomenon. So the explanations were wrong to a large extent. Man would think so because they observed that the movement of moon and its incessant change of its shape. Today we are acquainted with its scientific reason. The word 'lunatic' comes from 'Luna' i.e. the moon. Modern science especially psychology can explain many factors that are responsible for human psychological problems and does not admit any lunatic factors. In 1969, American astronauts, Neil Armstrong and Edwin Aldrin, descended on the surface of the moon and stayed there for an hour. But, they are mentally very sound; never did they face any lunatic problems.

Another notion is that the moon affects human body also. During the new and full moons, one may feel that arthritic pain increases. Therefore, human body is affected by both the sun and the moon. If we accept this logic, it will only contradict the fundamental belief of astrology, for it is not related to birth-time and horoscope. And if arthritic pain increases in the new and full moon, why aren't other patients or normal people affected on those days?

Astrologer's predictions and truth

The astrologers often claim that if astrology is fictitious, how do astrologers narrate the past incidents or predict the future so correctly? We cannot refute it outright. The general predictions based on common sense may become true in a very small number of cases. These sorts of incidents spread out among the friends and relatives quickly. People remember those incidents that come true and forget the rest.

Now, how do the forecasts of astrologers come true? In fact, we must keep in mind that there are two types of predictions i.e., speculation and scientific prediction. Speculation is based on assumptions and tries to find out similarities from some coincidences in a random manner. For example, the moment a crow flew above a palm tree, a fruit fell down. Should we deduce that the fruit has a cause effect relationship with the flying of the crow? No, because there is no causality in this incident. If it is seen that two incidents occur in same time in 5% cases, it may be said that they are co-incident and there is no cause-effect relation between them. On the other hand, if the similarities are found in 95% cases, it is strongly suspected that they have cause-effect relationship. Scientific predictions rely on facts and their inter-relationships. For example, during monsoon we easily can easily predict that there will be rainfall, observing the formation of dense black clouds in the sky. So prediction comes out to be true in this case. We know the scientific reason behind this truth.

Astrology belongs to the first category. It has been estimated that in 25% -30% cases, the assumptions of astrologers come out true but in majority cases, they turn out wrong. The believers in astrology only remember the assumptions that come true.

Most of the astrologers, using their experience in dealing with persons in distress,

are capable of reading the psychology of the clients. Experienced and intelligent astrologers even extract information from their clients like a professional detective. Those weak and distressed people who have surrendered in the life struggle, answer to all the questions of astrologers and do not keep in mind that they have unknowingly provided much information to them. They are astonished when astrologers tell all the information back to them. In many cases popular astrologers engage paid informers for accumulating data of their customers. Even booking system and appointment are compulsory for the visitors in many cases. Sometimes the name and address and question of a customer have to be submitted before the visit.

Astrologers usually make prediction deliberately vague so that they never can be proved wrong in any incident. Suppose a student asks an astrologer whether he would pass in an upcoming examination. The astrologer may answer, "Your coming days are very auspicious as Jupiter is the ascendant now. But it is worrying that the relation between Jupiter and Mercury does not happen to be well. Therefore Mercury may work against the influence of Jupiter. So you are advised to wear rings with Pokhray to subdue the influence of Mercury". If the student fails in the examination, the astrologer easily answers that Jupiter has been affected by Mercury. If the student passes the examination not wearing any ring, it will be explained that the Jupiter was in the ascendant. Thus, astrologers protect themselves so that people are not aware of their falsehood. A "heads I win, tails you lose" scenario.

But, things will be different if they try to predict something precisely. A story may be mentioned here. Bankim Chandra Chattapadhaya, the famous Bengali writer, believed in astrology. He married off his

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two daughters according to the advice of astrologers, who gave suggestions after examining their horoscopes meticulously. These two daughters were widowed just a few days after their marriage. Bankim Chandra in a letter to his son wrote "Do not rely on any astrological calculation any more. I have given this up after close examination". Recall the incident of astrologers examining the horoscope of the great scientist Satyandranath Bose and predicting his bleak academic future. And we know the truth

In the 1977 Parliament elections, Indira Gandhi was defeated and the Janata Party came into power. But, due to conflicts in the party, the stability of the government was in question. In July 1979, the then renowned astrologer and the secretary of Astrological magazine, B V Raman predicted that there was hardly any possibility of the fall of Janata government as Jupiter which was in the ascendant and would protect the government. After a few months, the government fell. Again, in November 1979, the same astrologer declared "In 1980, the position of stars and planets will be congenial to Janata Party. So, Janata Party must win. Indira Gandhi might be able to make her position a bit stronger, but will not be able to form the government". We know that Indira Gandhi formed the government with an overwhelming majority.

In 1984, another renowned professional astrologer named Sukracharya, the then president of Calcutta Astrological Society had predicted "Saturn and Mars have changed their positions. Saturn will not be in ominous side. As it is Mrs. Gandhi's ruling planet, there is no scope of her losing power. This position will sustain till November". We know she was killed by her own body guards on October 31 that year.

Now, recall two recent incidents. On

May 5, 2000, astrologers claimed that the earth would face tremendous disaster as the planets are being constellated almost near to the earth. But, scientists declared on the basis of their scientific study that our earth would be safe. In fact, the latter proved right. In the same way, since 2011, astrologers had been warning that in 2012 the earth would be destroyed. The scientists explained clearly that there was no possibility of destruction of the earth. Ultimately, astrologers proved wrong and we are still living on this planet.

Can metals and gemstones alter human destiny?

Astrologers not only predict, but also claim to be able to change the future by providing various solutions. This is because of their profiteering motives. People burdened by the sufferings and setbacks of life, also look forward to wishfully change their fate. The claim actually contradicts itself. Astrology considers the fact that all incidents of our lives are pre-determined, that they have been destined at the moment of birth. So how is it possible that the predestined incidents can be changed by wearing amulets or gemstones or other good luck charms which can neutralize the negative influences of stars from our lives?

Let us now discuss the properties of these gemstones. We all know that there are 118 elements of which 91 are metals and the remaining 27 non-metals. So, it is surprising that astrology speaks of only 8 metals and is silent about the non-metals.

There are some 'scientific' explanations which the researchers of astrology try to provide. They say that since metals, like iron, are present in human body, they will work upon the human body in some form or the other. Many people tend to believe this logic. Even if it is possible for the metals to have an effect over the human

body but how can they have an effect like transforming the future?

Let us now consider the fact as to how much scientific it is to use the metals. If it is accepted that metals affect human body, then it is quite obvious that the metal which is abundant in nature should be considered first. But the astrologers do not even mention of calcium, the element which is found in abundance.

Now the question arises why only gemstones are used to eradicate negative effects or enhance future prospects. Gemstones are of varied colours and are beautiful too. Why not other stones? If we look back, we would find that from ancient days, man thought of colours to symbolize different features. Red symbolized death or danger, white symbolized peace, surrender and purity whereas black stood for sorrow or ominous things. This did not have any scientific basis but were folklore. The reason behind this leads us to the psychological development of man in the primitive age. They believed that if any object created a danger for him; the object had to be pacified using a colour identical to it. For example if planet Mars indicated danger, the use of red was prescribed. Similarly blue colour was used to pacify Saturn and white to pacify the moon.

Anthropologists term this custom 'sympathetic magic'. This was widely practiced when men lived in groups. Though these may have been erroneous, this approach was commendable as the primitive men sought to explain the cause-effect relationship from a materialistic viewpoint. Astrology negates the developments of the later stages of science and clings to those age old beliefs of the primitive stage of human civilization.

Let us now examine what these gemstones are. Do they have any special properties that may affect human life? Ge-

ologists opine that what we know as gemstones are actually ordinary ones. These are the oxidized form of the minerals like aluminum, sodium, calcium, silicon potassium etc. Minerals in their pure form are colourless. But the presence of other elements or matter within them contributes to the formation of these colours. These are generally oxygen amalgamated with iron or chromium compound. The adulterated minerals create some luminous coloured effects. These are used by astrologers to mystify and overwhelm the ordinary people.

Astrology: wrong judgment in recognition of time

Past, present, and future; these words reflect the ideas of time. Astrology defines one's future which too involves time. What is it that astrology mainly propagates? The incidents in human life and affairs which occur every day are pre-determined as if everything has been programmed beforehand and inscribed on our foreheads or hands. Had all these been known a scientific invention would have been achieved very easily just predicting the future. Actually, astrology is based on the theory of pre-determination which is unscientific. Today, science has shown that all natural incidents are based on causality. Every incident has cause-effect relationship. Nothing is pre-determined. Rainfall needs an accumulation of clouds in a proper density. It can be understood by the theory of probability which is applied in micro-molecular world. The exact location of an electron cannot be defined. But, the probability of its location can be judged. This is applicable for all objects. But, we can say with conviction that nothing is pre-determined.

Modern science has proved that the conflict of an object with the outer world and its inner conflict determine its future. All phe-

nomena involve these conflicts. So, future can be presumed. One can explain possible future based on facts and governing laws.

Is there any objective ground for palmistry?

Telling past, present and future has been proclaimed as an extraordinary unworldly power. Despite countless scientific inventions by innumerable scientists and their inexhaustible efforts for thousand years, what modern science has not achieved, astrologers claim to do easily with the help of palmistry. But if it were really possible, it would have lessened human labour. But is it really possible?

First, let us examine what is palmistry. We see two types of lines in an open palm. According to the astrologers, some of the thick lines are called heart line, some lifeline, some headlines etc. Other thinner lines indicate health, marriage and other events of life. And the bulging parts which are separated by those other tiny lines are called the areas of different planets. Is there any scientific ground for these beliefs? Astrologers have not given any adequate and satisfactory answers.

Modern science has shown how palm lines form during the embryonic stage in a fetus in women's womb. They are formed in various bone joints of palms and fingers in the hand's gripping posture. Science has also explained that in course of growth of a baby since infancy, many other small lines on palm either appear or remain permanently along with thick lines, or disappear due to daily contraction and expansion of muscles of the palm. Then, why do people believe in palmistry that claims to define past, present and future?

If palm lines can determine everything dealing with human life, how does a man live with arms cut-off or palms distorted? Nowadays, palm lines can be recreated or

destroyed by plastic surgery. Does it affect our fate? Sometimes the life line of a baby is seen indicating long life line but it died soon as after its birth. Will the astrologers be able to answer such questions?

Emergence of astrology

We need to answer why and how astrology, which stands on a wrong footing, can still deceive people and entrap them by blind faith through the ages. To know this, we must go back to the origin and history of astrology.

From the very inception of human civilization, man tried to know and understand his surroundings. Man observed numerous cosmic bodies in the night sky and gathered knowledge gradually. This study of cosmic body was known as astrology then. During pre-historic times, the luminous stars were supposed to influence the life struggles of human beings. During the day, the only source of light was the sun and at night it was the moon. Again, man could calculate time, day-night, summer-winter, rain-drought, low-high tide of sea and river with the movement of the sun and the moon. Thus, they succeeded in making of almanac in olden days, calculating the month, seasons, years etc. In the same way, travelers while going through the dense forest, the deep valleys and river and lake, would take the help of larger planets like Jupiter and Saturn or a bright star like Venus for guiding them.

Man's thought and experience did not stand static. They observed the revolution of the sun and saw that the planets too had their own orbits. They saw the stars did not move but the sun and planets did. The path of the journey of the sun and the planets in the backdrop of the still stars came to be known as Zodiac. Keeping the Zodiac in the centre, the 18 degree wide path through which the planets

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journey is called the Zodiacal strip. This circle was then divided into 12 parts and the stars in any one part were clubbed together, a shape imagined and was named in keeping with that shape. Thus the zodiacal signs are Leo, Capricorn, Pisces etc. Since the sun and moon changed their positions in the sky, they were considered planets. Obviously this was wrong but that astronomy was then at its natal stage, cannot be overlooked.

The planets and moving objects in the sky were compared to animals and their names were given accordingly in those days. They believed that like men, these stars and planets belonged to a family and had family relationships with one another. They believed that the Sun and Moon were benevolent to man since they saw their role in human life was always positive. They also thought of Jupiter and Venus as helpful planets. Mercury was not often seen so they considered it malevolent. Since Mars appeared red in colour, they considered it as a symbol of warfare and bloodshed and hence malevolent. They felt that the influence of these planets, good or bad, affected whole society, in this case the groups in which they lived in.

When agriculture developed, man began to produce more and some questions related to agriculture became important for them. For instance, questions like, which season was appropriate for cultivation of a particular crop or in which time of the year there would be heavy rainfall etc. needed answers. It was still then that they believed that the influence of the planets was same for all human beings. It was not considered to affect an individual only. Rather their influence on the whole group was considered. Some traces of this belief are still seen in our society. Those who believe in astrology believe that the noon time of Thursday bears negative effect on

all human beings or during solar and lunar eclipse food gets contaminated for all.

Class division: its effect on society

The invention of agriculture brought about some important changes in the society. First of all, man got a permanent source of food. So a large number of people were involved in several newly introduced tasks in agriculture. Secondly, this also led to the inception of permanent property, which was the source of production.

Division in human society began to take place from that time. Among the fighting groups, the victorious one would kill the opponents who lost the battle or the defeated became the members of victorious groups. After the introduction of cultivation and domestication, a maiden thought struck the mind of the people of victorious groups that the use the defeated ones in production process would be profitable instead of killing them. So, they were forced to work for production. Subsequently, a handful of the strongest people started to force others of the same group to yield to them. Thus, they came to possess all the wealth of society by dominating others and became the masters while treating others as slaves.

Hereon, society gave birth to two ideas. How does society run systematically? Because, of a superior master. Then, as the world is also running systematically must there not be a master? Thus, the idea of god was derived. Secondly, the idea of personal interest also came. Before this, man would think in the interest of all in the society. But, the idea of different interests of different people also came because from experience man understood that the interest of masters did not match with that of slaves. They are antagonistic. So, the idea of fate came. This is found in the literature of ancient Indian philosophy. At

its very inception, plural form such as 'we' was used, later it changed to 'I'. From then, conception of division system was introduced in the interest of a handful of people who ignored others. The idea of fate and destiny later on evolved from this.

Henceforth, fate of different classes became different. Some became rich and while others poor and oppressed. As man did not know the proper reason of emerging class division in society, they explained in their own way. The idea of fate in personal life began here. Along with a fusion with spiritual thought, this idea started to influence the human mind. The luminous stars were thought to be the soldiers of god. It was also believed that these determined the destiny of people at the time of birth. As a result, man changed his views about the stars. Before class division, man bestowed many human qualities on the stars. They did not look upon these as any supernatural objects. But, now idea began to change in tune with social change. They began to think that the stars were superior supernatural forces which could determine the future and direction of human life.

Earlier, it was the kings and the masters who were eager to know their future. The slaves did not have the opportunity to inquire about the future. Their work was determined as serving the master class. The dynasties would fight against their enemies in order to protect and expand their wealth and territories. They would appoint royal astrologers in their courts to know whether they would win or lose; who would be the successor or heir; whether male heir would be born etc. They were eager to know their future as they had to fight against the enemies to protect or expand their wealth and dynasties. The astrologers would apply zodiac concept which was already embedded in society.

From this time, astrology left its origi-

nal practice to discovering new stars and planets and it culminated in the birth of unworldly concepts like how human life is influenced etc.. So, we see that in ancient times, the renowned scientist Aryabhata practiced astronomical science himself, but Varahamihira played the role of a royal astrologer in the court of King Vikramaditya. So, his 'Pancha Sidhantika' is counted as the first authentic book of Indian astrology. Thus, astrology started to determine the past present and future of human beings on the basis of the location of handful number of different stars and planets. Though astrology deviated from its original path, the term remained the same.

The people who continued the original practice of accumulating knowledge of discovering newer celestial bodies, they had to think of a name different from the original term. The branch of science which relates to the matter of cosmic world was newly named astronomy. This was the stage when astrology became stagnant. It did not include any new knowledge after this stage. The misconception which had been there in astrology persisted. But, astronomy rectified the existing flaws in astrology and expanded its perimeter of knowledge. Astrology still believes that the sun and the moon are planets. It does not have any mention of stars other than the 108 stars. Today, even a primary student knows that the earth is moving round the sun, but astrology still believes in the geocentric view.

Is astrology a science?

The believers of astrology proclaim it to be a science in order make it acceptable to people. It demands that psychology or climatology is not science in the sense physics is. This is because, there are unexamined and conjectural ideas found in these branches. Astrology, though not

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developed like psychology is equivalent to science in this sense. In the same way, some believers in astrology question that if it is not science then how do many predictions come out true in real life? Why do people go to the astrologers, if there is no practical basis of this knowledge?

Now the question is why do we call physics and psychology science? First of all, science does not give recognition to any sorts of myths, beliefs and ideas unexamined. Science accepts that which is well-experimented and examined with concrete proof and causalities. Science accepts that knowledge from nature which has not been developed on mere imaginations. Rather it has developed itself as common and impersonal knowledge through repeated experimentations and formulations of all operative laws and relations of nature. Thus, as per the characteristics of science, these laws and formulas are applied through repeated examinations, rectifications, inclusion and even exclusion of relatively old standing or trusted ideas or resolutions.

In any stream of science, while facing an unknown circumstance, a scientist assumes some proposals or plans of action. But, they are not accepted in science till they are not finally proved. Taking decisions basing only on the saying of a renowned scientist goes against the ethics of science. Science rather judges the accuracy of a theory in various ways and tries to determine its authenticity. Until a piece of knowledge is proved false, it is considered as a fact in science. That means when the given explanation about any phenomena stand on observed facts and can explain other events, it is called the theory of science. Science of climatology and psychology can be different in nature, but they need to follow the common characteristic of physical sciences. So, all are regarded as different streams of science.

So, can astrology be termed science in this aspect?

The development of science is through continuous experiments and gathering of knowledge. Astrology is still advocating the old obsolete notions on celestial bodies of 1500 years ago when new and modern concepts have been accepted through several discoveries replacing the old ones.

There is a co-ordination among all branches of science. They do not oppose but are conducive to each other. But in the case of astrology, when the examined and accepted astronomical notions about the sun and moon do not match with those espoused by astrology, the astrologers do not pay attention or rethink. Therefore it is considered as stagnant knowledge in the history of development of knowledge. Astrology therefore cannot be called science since its basis is mere imagination.

Does astrology have any Vedic version?

Now let us examine whether applied astrology have any Vedic version. Previously we have mentioned the first authentic book on astrology, the 'Pancha Siddhantika' written around 700-800 AD. It is no doubt that the period mentioned is centuries after the Vedic Age. No books on applied astrology are found dating from the Vedic Age.

So, what existed during the Vedic Period? In that period, astrology meant what astronomy means today. Like other ancient civilizations, man in the Vedic period also tried to determine the location of several cosmic bodies. Although, in other civilizations, astronomy was practiced in respect of expanding mainly the agricultural-based economy, in the Vedic civilization, it was related to the development of economy based on domestication of animals. So, in our country, people tried to determine the location of stars and planets for different

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programmes and it was conducive to the development of astronomy. For carrying out these sorts of programmes, the use of year-book or almanac was mandatory. In the age of Brahambanas, 'yotish' was known as a particular subject. In the literature of Brahambanas, 'yotish' was called the study of stars and the astrologers (read astronomers) were called Ganaka. At first, the almanac was made considering one month as comprising thirty days, one year as three hundred and sixty days, even as thirteen months. This thirteenth month is called 'malmasa'. It was a way of keeping balance between lunar year and solar year.

In the Vedic Age, the lunar month which started from the full moon was used for calculating a year. The last day of a year was the full moon when the location of the moon with that of a particular constellation of stars called 'purva falguni' and the location of the sun was on the Tropic of Capricorn. The next day was the first day of the new year of the month of Falguna. Some years consisted of 13 months.

A year was divided into two parts. The first part was summer solstice that marks the journey of the sun from the Tropic of Capricorn to the Tropic of Cancer and the second was the winter solstice marking the solar journey from the winter solstice to again the summer solstice after circumambulation of another six zodiacs. In 'the Satapath' and 'Koushitaki Brahammana', celestial points, summer and winter solstices were mentioned and discussed also. They were also often observed by the sages of this age. So, it is clear that people of the Vedic Age were well acquainted with zodiacal signs. In a hymn in the Rig Veda, the course of the sun in the sky has been compared to the wheel of twelve spokes. As per the analyst, Sayan, the twelve spokes are nothing but the twelve symbols of zodiacal signs.

Zodiacal signs and their divisions were designed following the apparent course of the sun. This was so for the moon also. In 'khagol', the celestial spheres of the sun and the moon are more or less same. So, it is very easy to calculate the course of the moon with the location of the stars under the celestial spheres. The Chinese divided the celestial bodies into 28 parts of stars. The Vedic saints divided it into 27 parts with 27 luminous stars. They were named in the Vedic Age. The name of 'magha' and 'falguni' has been mentioned in the Rig Veda. In 'Taittiriya Sanhita' the name of 27 stars has been mentioned. These names prevail even today in the books of astronomy.

From the next day of the full moon, the months were treated as lunar months. The name of a month was given in the name of the star which marked the end of the full moon. Such as, baisakha, kartika start after the end of the full moon of Bishakha and Kritika stars. Later, new months were introduced as solar months replacing lunar months, but the names given on the basis of lunar month remained unaltered.

Since the time of the Rig Veda, Indians were acquainted with 7 planets. Some of them carried Indian names such as Mangal, Brihaspati and Sukra. The moon has no light of its own. The source of light of the moon is the sun. This idea might have existed in the Vedic Age. At least, the conception of the relation between the sun and the halo of the moon prevailed in those times. In 'Satapath Brahammana', the earth has been described as 'Parimandala' (constellation). Therefore, many think that in that age, the idea of revolution and rotation of the earth were assumed.

We have discussed so far about space, planets and stars as was thought about by the people of the Vedic Age. First of all, there is a direct attachment of astronomy

with the idea that people fostered, it is not that of applied astrology. The idea of determining the future of an individual on the basis of the location of stars and planets were absent then. Secondly, there was no fundamental book on astrology (read astronomy) during that time. The various astronomical concepts were amalgamated with different hymns and verses of the Veda. In this subject, 'the Vedanga Jyotish', the most ancient book written between 600 BC and 200 AD was no doubt a precious collection of the study of space science. But, it does not have any relation with applied astrology. This book is treated as an almanac in the Vedic Age. Even during that time, at the summer and winter solstice points, the location of the stars named 'Aslesha' and 'Dhanistha' was mentioned. The study of planets was highly developed. The idea that those planets and stars were not the same cosmic body was known at that time.

So, it is clear that the existence of Vedic astrology is not found. Firstly, no book is exclusively written on astrology then. Secondly, the practice of applied astrology started in 6th century BC, not in the Vedic Age. Thirdly, it is based on unscientific notions. So, the practice of applied astrology makes us superstitious and victims of blind faith in spite of development of rational thinking.

Why do people believe in astrology?

It is very significant to raise the question that if it is not fruitful to human life, why do people believe in it? It is a fact that a significant number of people from all strata have faith in it. Wearing several rings, some of them perform scientific experiments in laboratories and discuss about modern developments in scientific inventions. Even a section of astronomers believe in this irra-

tional unscientific practice. The question like, why it is so engraved in our society, cannot be left unanswered. So we need to pay attention to the psychology of society nourishing all these false ideas and come out with a critical explanation of socio-economic factors behind it.

It has been shown that society was divided into two parts i.e. exploiting class and the exploited one, in the course of social development giving birth to the sense of personal property and other individualistic ideas. In this course the fate of human lives became different for different individuals. It is precisely here that astrology had begun to build its foundation in our society. Unfortunately, even in modern times, filled with unprecedented scientific and technological developments, most of the people in our society are still ignorant of the reality that society is class divided and its impact. As a result, man seeks to explain the reason behind inequalities with the concept of various supernatural forces conjured up by their imaginations. Thus, existence of class division is the main social factor for the presence of astrology in the society.

It is true that due to the progress of modern science and rapid advancement of production system, the hoard of knowledge of human being as well as quality of his life style has increased manifold. But, the fruit of this advancement has not reached down to the poorer sections of people. They are compelled to lead subhuman lives. Why?

The workers and peasants of the society who involve in our production system to produce commodities are considered the most insignificant section of the society. They are kept at a distance from enjoying the fruit of advanced modern production system. Unfortunately people do not know the reason behind this condition. So they depend on their own individual thoughts

which are derived from blind faiths through ages. Another point to be remembered is that the progress of history and social sciences is not in proportion to the growth rate of advancement of natural sciences. But, history and social science are much more important as yardsticks for measuring the human view point of the progress of society than natural science.

What is the present socio-economical aspect of human life? Day by day crisis is increasing. A father is not certain whether his children would get proper education. A member of a lower middle class family does not go for any treatment when he is ill, thinking it as his fate. An educated youth who has passed engineering having spent lakhs of rupees remains unemployed. A worker is under constant threat of being fired or locked out. Everywhere, uncertainty permeates.

But, why does this condition persist? Why does this hapless condition get intensified in the lives of common people with the simultaneous growth of science and technology? The common people are unacquainted about reasons responsible for their condition. So, they resort to some false ideas. They think, fate, cruel destiny are responsible. They think that all these troubles of life are one's personal matter and can be solved only by changing one's fate and destiny. As he is enslaved by his daily drudgery, he cannot think of a new society which not only will ensure abundant supply of essential requirements, but also set a suitable atmosphere for personal development, ensuring education, health, proper employment, security for aged people and so on. In that society, all the people will be able to build their own futures instead of putting faith on nonexistent mystical spiritual forces.

It is obvious that predominance of an uncertain life and people's ignorance about

its cause has given birth to astrology and, so far, has kept it still thriving as a disseminating social base. Besides, prolonged and extreme effect of superstitions, crisis of secular, scientific education, and absence of genuine scientific outlook, even in educated people, has helped it to dig deep roots in the society. Therefore, people continue to associate Jupiter with good and Saturn with bad. In this connection, people are seen keeping trust in a tiny creature such as a parrot and wearing special ornaments to protect themselves from the malignant influences of the planets far away. They wear amulets around their necks, waists and rings on fingers throughout their lives.

How will people stop believing in astrology?

The answer is simple. The factors which help people believe in astrology intensely must be obliterated. With the growing uncertainty in society, people lose faith in themselves and start believing in astrology. The same phenomenon, perceived throughout the ages is still continuing today. Only an objective condition conducive to build up a scientific and a rational bent of mind can change the prevalent 'faith based' thinking. This change in the thought process from irrational, unscientific to a much more logical and rational one is imperative and crucial.

Unfortunately, the very opposite is being applied in our society. An attempt to induce the faith based thought system is deliberately being implemented in the education system and even through the media. Whereas higher education is being curtailed day by day, the implementation of this irrational faith-based system will no doubt serve as the barrier in proliferation of scientific and rational thought amongst educated people because through our education system, syllabi, teaching and ex-

General Article

- Astrology is an aesthetic affront. It cheapens astronomy, like using Beethoven for commercial jingles.
- Faith is a great opt-out, the great excuse to evade the need to think and evaluate evidence. Faith is belief in spite of, even perhaps because of, the lack of evidence.

Richard Dawkins

amination processes, a student will be able to learn only formulas and information but will not be taught to analyse cause-effect relation behind all things. So, people who have wide range of knowledge of the facts and figures of science are seen believing in age old blind faiths and superstitions. Besides astrology, Vedic mathematics is being introduced in syllabus on the pretext of learning Indian culture and heritage. Advertisements of astrologers are rampant in TV and newspapers, to the extent that many television channels are solely dedicated to airing shows on practice of astrology. These joint endeavors of these vicious agencies are entrenching these reactionary thoughts in the minds of people.

In order to purge this process of indulgence in false beliefs completely from our minds, we need to build up a strong anti-current of movements to ensure an amount of certainty in our lives. Simultaneously we should take initiative to build up science movements to cultivate scientific approach and scientific temper among people across the country in order to transform the present rigid thought process into a living thought process. The strength of these movements can only determine how soon we will be able to uproot all these harmful faiths like astrology from our society. □

(Continued from page 21)

On the other hand, Sudarshan has never missed an opportunity to make public his frustration. Robert Marshak, Sudarshan's supervisor and co-author has vividly described the circumstances and has owned up the three blunders he had committed that led to Sudarshan's major scientific discovery of V-A theory being not given its due [1]. About the 2005 Nobel Prize, Sudarshan himself wrote to the Nobel Committee, "I am therefore genuinely surprised and disappointed by this year's choice. It would distress many others and me if extra-scientific considerations were responsible for this decision" [2].

There is a strong opinion among the physicists that Sudarshan should have shared the prize with Glauber. We may speculate about the reasons why Sudarshan was denied the Nobel prize, but that will serve little purpose. In an article published in 'The Guardian' in 2010, British scientist Sir Harry Kroto, winner of the 1996 Nobel prize for chemistry is quoted as saying that he believes 'A Nobel is not just an award for a piece of work but is a recognition of a scientist's overall reputation'. It is possible that Sudarshan's 'not-so-scientific' attitude in some issues has stood in his way of getting a Nobel prize. Still, Sudarshan's contribution to science will always be treasured by scientists. As Sudarshan himself said, "I don't do research for a Nobel, I do it because I enjoy the process." □

References

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