

SCIENTIFIC ZOROASTRIAN

*" Ba Dini Avanaasta Avizeh Mazdayasnan Paeda Aidun Ba Kardam,
Ke Hich Chih Nist Ke Ba Avesta Ander Nist".*

"I have created the indestructible Holy Mazdayasni Din in such a way, that nothing exists which is not there in the Avesta!"

Watch Out, Watch Out, The North !

By KSHNOOMIST

Prof. Firoze Davar of Ahmedabad has written a book called, "Zarathusht Darshan", in Gujarati, convenient extracts from which have been published occasionally in the "Parsi Prakash" columns of "The Bombay Samachar". "Convenient", because, regrettably, that newspaper has, of late, displayed a distinct shift in its previous policy of giving objective coverage to the views expressed on and about Zoroastrianism. It wouldn't be incorrect to say that for the last one year or so, "The Bombay Samachar" has become the organ and mouthpiece of those who view Zoroastrianism through the wrong end of the telescope. The result is, they confine and crib Zoroastrianism in the narrow precincts of "Manashni, Gavashni and Kunashni" only!

That the columnist of "Parsi Prakash" of "The Bombay Samachar" of the 17th March 1976, was wielding the wrong end of the telescope, was amply demonstrated by a sub-heading given to Prof. Davar's remarks about the treatment of the North side in Zoroastrian literature. The sub-heading read: "'Drug' comes from the North – a Superstition".

This article is not meant to be a comment on or a review of Prof. Davar's book. We shall confine ourselves to the facile and primitive views expressed by the professor and endorsed by the columnist regarding the **Uttar Deesha** or the North.

GEOGRAPHICAL NORTH

According to the learned professor, the ancient Iranians were in constant danger of attacks from the north, particularly from the Turanians, who lived towards the north of Iran. That's why in the Zoroastrian religious books, avers the professor, the North is considered to be the residence of Satan. The professor then goes on to ask, "But how on earth can all the evil forces emanate from the North? When viewed from a certain direction, every side can be called the North! So also, if viewed from some other position, the same place can be South, East or West. Thus, to say that all evil sprung from the North, is difficult to swallow".

Come, come professor! We expected you to come out with something better and wiser than merely echoing the archaic assumptions of the old Western philologists, who simply failed to understand and appreciate the true spirit and essence of Zoroastrianism.

But why blame the professor alone? Many other Parsi historians, who couldn't make head or tail of what the Avesta and Pahlavi writers meant to say, when they talked of the Druj emanating from the North, conveniently ascribed to this very scientific remark, a mere geographical connotation of the Turanian attacks from the North!

Before coming to the scientific aspect, let's examine in detail what the Avesta and Pahlavi texts have to say about the **Uttar Deesha** and try to unravel the mystery behind it with the key of Ilm-e-

Khshnoom.

AVESTIC EVIDENCE

The Avestic word for North is, '**Apakhtara**'. The Pahlavi variant is '**Avakhtar**'. According to Kangaji's Dictionary, this word can be explained in two ways.

- (a) '**Apa**' = 'far from' + '**akhtara**' = star; i.e. "away from the (Zodiacal) star – towards the North".
- (b) '**Apa**' = away from + '**anch**' = to go + '**tara**' (suffix) = to go away from.

The antonym of '**Apakhtara**' in the Avesta is **Rapithwitarā**, the South, where lies '**Dadare Gehan**', the Heavenly Gate towards the first of the six "**Keshvars**" (vast expanses in Space meant for saintly souls), **Vouru Bareshti**. That the North has always been considered a degenerate and a blighted direction, is evident from the following Avestic and Pazand references :-

In Vendidad VIII 16, 17 and 18, we are told, among other things, that the "Druj-i-Nasu" (putridity emerging from a corpse) "rushes hither from the North, in the form of a fly". Echoes of this fact are also to be found in Fargards VII and XIX. In Fargard XIX. 1, 'Apakhtara' is mentioned in the sense of the region of Darkness.

So too in para 21 of the eighth Fargard of the Vendidad, which is recited by us daily during our Kushti prayers (the last part of the 'Kemna Mazda'), it is said that, ". **nase daivi druksh** **apakhedre apanasyehe**" in this sentence, all the evil currents and forces (the Druji Shakti) are meant to be exorcised towards the North.

In the 'Ardibehest Yasht', para 9, we pray, "**Vato Paourvo - Apakhtar Apa-dvarata, Vato Paourvo - Apakhtar Apa-nasyata**", i.e. "You, 'wind' blowing from the North, scam! Beat it!" In the same Yasht, at three other places has this radiation (lit, 'wind') from the North been derided.

In the 'Khordad Yasht', para 8, the devotee recites, "**Pascha Hu-frashmo-daitim, Apakhedre-naemem**" = "A holy man forges sharp weapons at dawn to drive off the putridity (**Nasa**) towards the North"

When we recite our Kushti prayers, we lightly crack the Kushti and shake off all the inferior vibrations only towards the North, so that all the bad magnetic currents emanating from the body every second can be dispatched to the North, which has the characteristic of attracting such evil magnetic forces.

Then, in the 'Hadokht Nask', it has been mentioned that at dawn, on the fourth day after death (**Chaharum**), a person who has not practised **Ashoi** during his lifetime because of his evil thought - forces, has to inhale a constantly unbearable stench, coming from the North; it's the other way round for the **asho** man.

PAHLAVI AND PAZAND ALLUSIONS

There are other passages in the Avestic texts which allude to the harmful radiations emanating from the North. Even the Pahlavi "Bundahishn" categorically states that Ahura Mazda's throne in Heaven is towards the South and that on the southern side, Dadaar Ahura Mazda performs the "Yazashne" ceremony with the Ahmeshaspands and the Yazatas. On account of this Yazashne, Ahriman, who dwells in hell in the North, gets a sound thrashing with diverse weapons.

In the 'Afringan' ceremony while reciting the "Afrin-e-Hafta Ahmshaspand", too, the radical difference between the North and the South has been delineated.

At the end of every 'Nyaish' and 'Yasht', a Zoroastrian prays in Pazand, "**Mun anno avayad shudan**" (I want to get there) and then immediately turns towards the South and recites, "**Dadare Gehan, Dine Mazdayasni** etc." i.e. the reciter expresses a strong desire for his soul to proceed towards the Gateway to Heaven **Dadare Gehan**.

Now, the most important question that arises is, why is the North so looked down upon in Zoroastrian literature? A thousand pities that most Parsi historians and philologists, without giving the issue a second thought and doing any independent thinking, have rushed to endorse what their Western teachers and scholars have said about this very vital scientific fact mentioned in our books! Luckily, we have the science of Khshnoom, which throws considerable light on this subject.

"KHAster" & "PAIRI"

The word 'Khaster' (Avesta 'Khastra' or 'Khathra') means very subtle ultra-electric energies or vibrations emanating from every functionary agent. According to Ilm-e-Khshnoom, there are 81 kinds of 'Khaster' in Nature, of which 45 belong to the naturally - created 15 Fire Energies, while the remaining 36 includes the various types of other electricity, including electricity used by men.

The Earth itself has its two magnetic poles in the North and in the South. The northern hemisphere with the North Pole has the capacity to attract matter, with the result that that part of the Earth is inhabited by human beings since it is covered more with earth than the Southern Hemisphere, most of which (below the Equator) is covered with water.

Ilm-e-Khshnoom teaches that every thought, word and deed of every human being is registered in Nature and forms, what is technically called, "**Gubbars**" or invisible masses in a certain ultra-physical region surrounding the Earth. Collectively these subtle layers or '**Gubbars**' are called "**Pairi**". Every community, town, city or country has its **Pairi**. This **Pairi** can be formed in the direction of the North Terrestrial Pole or the South Terrestrial Pole – the two directions of the Earth's magnetic poles. In which direction the **Pairi** will be formed, depends entirely on the quality, nature and characteristic of human thoughts. The thoughts of those persons who are able to maintain their spiritual or religious equilibrium are attracted towards and concentrated in the South. Nature helps build the **Pairi** of such noble and lofty thoughts in the South. Low, base, ignoble thoughts are thrown towards and accumulated in the North.

Why does this happen? According to the Law of Polarity, the North magnetic pole has been earmarked by Nature to attract all the naturally-produced "Hararate Jabun" (wave after wave of harmful radiation and streams of subtle particles emanating from every creation in Nature) that is generated every millisecond in the atmosphere. Thus, this side of the Earth does play a vital role in Nature, too, in that, it not only constantly sucks the "Hararate Jabun" but also pulls towards it all the bad thought - masses generated by mankind. In contrast to this, the **Pairi** of those lucky ones who are on their last trip to Earth (after having successfully completed their cycles of rebirth), is formed in the South.

"PAIRI" OF BASTE-KUSTIANS

Now comes what is at once the most delicate and the most important point in the Khshnoomic exposition of the North. Every Baste-Kustian knows that his religion is based on **ASHOI**. **Ashoi** is the very foundation on which the magnificent edifice of Zoroastrianism has been constructed. To practise **Ashoi**, one of the fundamental requirements is to inculcate good thoughts and recite the Avesta Manthra as often as possible during the day. But what about those who practise various other religions and faiths and who have other beliefs? They form their own **Pairi**, which is different from that formed by the thought - clusters of a devout Zoroastrian, who rigorously observes and practises most of the **Tarikats** of **Ashoi** every day.

In these days of rank materialism, when the social order is based on material foundation instead of a spiritual one, it is self-evident that the bulk of the thought-masses of most of the Earthlings get concentrated in the North, because, as we have seen, the North per se has the ability to attract matter and grossness. This results in the formation of a coarse, turbid **Pairi** in that direction. (Imagine what the sum total of Nature's own 'Hararate Jabun' and Man's impure putrid thoughts could be!). The North, therefore, is away from 'Asare Roshni' (The force of Boundless Light) and leans heavily towards 'Asare Tariki' (The force of Boundless Darkness); i.e., the Northern direction is the path of ultimate spiritual regression, while the South is the direction for spiritual progress.

The next question that arises is, granted that impure thought - forms are concentrated in the North; but why is a Zoroastrian forbidden from **facing** that direction while praying? Once again, there is a splendid answer given by Khshnoom.

BRAIN WAVES AND MANTHRA VIBRATIONS

The magnetic currents and energies that bombard an individual from different parts of the Universe every second enter through the head and are spawned out of the feet in the form of putrid matter. Therefore, the head has a close connection with the South - the direction from which benevolent planetary rays and forces keep raining on Earth. The feet, on the other hand, have a close bond with the North. (Now you may stop wondering why our elders insist on our sleeping with our heads in any direction except the North!)

If we pray while facing the North, our brain waves (and there are at least four – alpha, beta, delta and theta – so far discovered by Science) keep clashing with the impure currents emanating from that side. Thus the 'staota' (vibrations) of our Manthras get constantly pulled towards the North, thanks to the interference of the northern wave stimulus. On the other hand, the waves emanating from the South harmonise splendidly with the brain waves, and the mind of the 'Mantravani' reciter is at peace.

"GAASHAK" AND "VAYU-UPARA-KAIRYA"

Here, a brief understanding of the Law of **Gaashak** functioning in Nature, is necessary. This technical word is the Pahlavi '**Gashk**' = darkness or night.

Every creation of Nature, belonging to the Animal, Vegetable and Mineral Kingdoms., has a continuous link with the Atmosphere (**Vayu-Upara-Kairya**), which stretches to a distance of a few miles from here. This Atmosphere is divided into four parts or layers with different grades. The nearest layer to the Earth is directly connected with the breath of Man; the next layer functions for and is connected with the animals; the third layer is meant for the Vegetable Kingdom and the furthest (topmost) layer is connected with the Mineral Kingdom.

Now, everyone of these creations ceaselessly produces different kinds of sounds and noises, ranging from 'infra' to 'ultra' sounds. These sounds and every operation and function of the creations naturally keep coming into contact with **Vayu-Upara-Kairya** and there is constant friction in the Atmosphere. For instance, even if a thought crosses the mind of a person under the deepest ocean or pit, this thought, too, comes into friction with the Atmosphere. All this causes the formation of **Gubbars**, which get concentrated in the topmost layer of the Atmosphere, where they and their radiations are filtered. After this filtration, they become lighter and are scattered as microbes, which spread over vast expanses of the Atmosphere. These microbes are then attracted by the terrestrial magnetism towards the North and get concentrated there. This, in a sense, is **Gaashak**, the subtle but highly destructive pollutant, which keeps attacking every organism on Earth. So powerful and

vicious is the ceaseless assault of **Gaashak** that but for the Sun, which effectively attacks and pulverises it during the day, and the Moon, which plays a similar but a lesser role at night, no life would be possible on Earth.

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The liar's punishment is not in the least that he is not believed, but that he cannot believe anyone else.

My way of Joking is to tell the truth; it is the funniest Joke in the world.

– Bernard Shaw.

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EYE'S "VANTHWO-FRADO"

We have yet to consider why we cannot face the North while praying. Our eyes, which are called the "Windows of the Soul" are the source of very powerful ultra-magnetic vibrations, which, in Avesta, are called "Vanthwo Frado." This term is used in Avan Niyaish for one of the subtle spiritual forces whirling in that miraculous thing on this earth - WATER. Human body is almost 75% water. All the physical, mental and spiritual processes which constantly go on within a human culminate in a subtle psychic current ever emanating from the eyes. As the Kirlian photography has shown, energy radiates from hundreds of points in the body. However, the current flowing out from a human eye is extremely sharp-sharper than that emitted by any other organ of the body. This eye currents are mainly results of thought forces vibrating in men.

Zoroastrian Science teaches that any thought force or thought energy or thought vibration works on the principle of 'like attracts like'. Thus, the eyes have the capacity to attract those thought-waves, vibrations, impulses, and forces which float around in the atmosphere. If the current from a human's eye is good i.e. if it is the result of his good thoughts, it would attract the good energy-currents floating in the atmosphere. If the eye-current is 'bad', it attracts the evil forces. While reciting Avesta prayer if one faces the North, the vibrations from evil forces prevailing in that direction is strongly attracted by the Vanthwo Frado flowing from the eyes. This results in exciting the base, animal instincts in man and increasing the spiritual pollution all round. We are all sinners and not saints, and do emanate evil currents in varying degrees from our eyes.

Further, the subtle vibrations and the ultra-magnetic formations caused by the recitation of the Avesta Manthra are neutralised by the subtle turbidities uninterruptedly flowing from the North. The intended effect of the prayer is therefore neutralised. That is precisely why a Zoroastrian is supposed to face any other direction, depending on the Gaah in which he is praying, except the North. (In the Aivisruthrem and Ushahin Gaahs, it is preferable to face the South).

In Agiaries and Atash Behrams too, one should take great care in not facing the North while praying. Many old Fire-temples are designed in such a way that you cannot face the Holy Fire and the North at the same time. That side of the Holy Room is blocked up by a wall.

DO THE MAGNETIC POLES CHANGE?

When we talk of the North pole or the South pole, doubts are raised and Prof. Davar has expressed almost similar misgivings as to what or which side or direction is North and what or which side or direction is South? These are mere names given for convenience. There is nothing like "absolute" north. Some even state that the Earth's magnetic poles keep shifting after a certain time.

True that the deviation of the compass needle from "true north" (the direction of the North Pole) called the compass variation varies irregularly as one travels east or west. A notable example is that of Columbus, whose compass needles shifted quite a bit on his first voyage. The use of a magnetic compass to determine direction is, therefore, less than perfect. For this reason, a 'gyroscopic compass' was considered to be better. But even if the magnetic compass is less than perfect, it has been useful enough to serve mankind for centuries. The deviation of the magnetic needle from the true north is quite negligible and can be allowed for. For instance, though it has been found that even at one spot the magnetic declination changes with time, the maximum declination recorded at London was 32 degrees of arc in 200 years; it was 8 degrees east of north in 1600 and steadily swung round counter-clockwise until it was 24 degrees west of north in 1800. Since then it has shifted back and in 1950 was only 8 degrees west of north.

Then again, like everything else about the magnetic field, the overall intensity of the field also changes. For some time now, the intensity has been diminishing. The field has lost 15% of its total strength since 1670; if this continues, it will reach zero by the year 4000. This has led one scientist to ask, "Will it continue decreasing, in the sense that it will reverse with the north magnetic pole in Antarctica and the south magnetic pole in the Arctic?" Recent study of volcanic rocks has shown that not only has the Earth's magnetic field reversed, it has done so many times! Nine times in the last 4 million years, at seemingly irregular intervals.

All this, we would like to assert most emphatically, does not alter a wee bit our basic principle that at any given time, after ascertaining, by the magnetic compass, the direction of the North, we should not face the North while praying. We are not concerned whether the Arctic or the Antarctica is in the North or the South. If we are re-born in 4000 A.D., and the north magnetic pole is in the Antarctica, we shall avoid that direction while reciting the Avesta prayers! These long-term drifts in the magnetic fields need not bother us at all!

IS NORTH, NORTH OR SOUTH?

Still the 64,000 - rupee question, viz. is there a specific, scientific way to distinguish between the North and the South poles, remains to be answered. Are 'North' and 'South' mere conventional names given to the opposite sides of a bar magnet? In other words, can 'North' be called 'South' and vice versa? Or is there some intrinsic, observable difference between the poles?

Until the end of 1956, physicists were convinced that 'North' and 'South' were mere nomenclatures and were interchangeable.

And then, 20 years ago, it happened! One of the most cherished beliefs and theories of our scientists was shattered by a revolutionary experiment conducted by a Chinese woman physicist in America. She took up the gauntlet thrown by two other Chinese-born physicists living in the United States, Chen Ning Yang and Tsung Dao Lee. The woman experimenter was Madame Chien-Shuing Wu.

Till then, there was nothing to prevent one from switching the labels North and South on all the magnetic fields in the Universe. What Madame Wu did was to place some radio-active cobalt (cobalt - 60) between the poles of a strong magnet, cooling it to near absolute zero (-275°C).

The atoms of Cobalt-60 emit electrons from their nuclei (the centre-particles). Normally, the nuclei of all atoms point in all directions, and thousands of electrons are shot out in all directions. But when cobalt-60 is cooled to near zero, it is possible to apply a powerful electromagnetic field which will induce more than half the nuclei to line up with their north ends pointing in the same direction. The nuclei keep shooting out electrons. Because of the magnet, the electrons are concentrated in two directions, but not equally or symmetrically, as was supposed! Most of them

were flung out from the south end, that is, the end towards which a majority of the cobalt-60 nuclei pointed their south poles. For the first time in the history of science, a method of labelling the ends of a magnetic axis was found.

There is an inherent difference between the two poles. One can do something different than the other. You can define the south end of a magnetic axis as that end of a Cobalt-60 nucleus which is most likely to fling out an electron! There is therefore a definition of "absolute" south, in modern science. Today, it is rash and risky to make assertions even on most obvious looking events in nature. Things are not what they seem. And modern science has established that things are very much different from what they may seem.

BACTERIA IN THE NORTH!

We now come to the most important contemporary scientific discovery, which comes close to the highly advanced Avestic assertions that the Druj "rushes from the North in the form of a fly." It is the word "makhshi" which is here translated by philologists as "fly". As we have already seen, the Zoroastrian Science plumbing into deeper truths, declares that bacteria and microbes dwell in the North. In fact, the North is considered to be full of "hives of invisible microbes."

Dr. Richard Blackemore of Woods Hole Oceanographic Institution in the U. S. A, a microbiologist, stumbled in September 1975 upon a startling discovery which created a violent flutter in the dovecotes of biologists the world over!

Dr. Blackemore was examining some drops of mud found in sediments in salt marshes. To his great surprise he found that bacteria, which respond to the Earth's magnetic field, had collected on the northern side of the drops of mud!

The keen scientist could not believe his eyes. After discounting light from a north-western window in the laboratory as the attraction, he found that when a magnet was placed near the bacteria, reversing the normal magnetic field, the bacteria promptly turned tail.

Further investigations showed that the bacteria were found to contain chains of tiny iron-rich particles, each chain apparently acting as a tiny compass needle aligning the bacterium with the Earth's magnetic field. Dead bacteria simply became oriented in the magnetic field, but did not move, indicating that the bacteria were not simply being "pulled" northwards by the magnetic field but were actively following it!

Dr. Blackemore speculates that the bacteria use the magnetotactic (northward movement) response to the vertical component of the Earth's magnetic field, which is strong away from the Equator, to burrow down into the sediments in which they live and in an environment poor in oxygen.

Be that as it may, Dr. Blackemore and his colleagues are in for bigger surprises as they experiment further along these lines.

PYRAMID RAZOR BLADE SHARPNER

Finally, we would like to draw the attention of our readers to the now*

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### **SO SAID EINSTEIN**

**"Joy in looking and comprehending is nature's most beautiful gift."**

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**"Light carries mass. A fascinating and intriguing idea. I only wonder if God might not just be jesting and making a fool of me".**

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* famous experiment of the Chepos Pyramid razor blade sharper. If you just construct a card-model of the Great Pyramid of Egypt with certain specified dimensions, place a match-box at its centre and put on it a used razor blade on the north-south axis on top of the match-box, the blade will be sharpened overnight! How this happens no body knows! But there is no doubt that it does happen. Karel Drbal, a radio engineer in Prague, has patented the model-(Czechoslovakian Republic Patent No. 91304). A factory there turns out miniature pyramids of cardboard and even styrofoam. The unknown force which sharpens the blade insists on three conditions (i) the model must be of the shape of Chepos Pyramid, (ii) it must have specified dimensions, same as the great pyramid but reduced proportionately and (iii) the blade must be placed precisely on the north-south axis; otherwise the sharpening effect just doesn't work! The question: why a pyramid and why only a **north-south axis**? What is there in the shape of a pyramid? What is there in the North ?

Is there any Doubting Thomas still left, who considers the injunction to a Zoroastrian not to face the North while praying, some kind of hocus pocus or mumbo jumbo? Then, get thee behind me, Satan!

(Concluded)

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