

# Enigmatic Response of Three Dasturjis to the United Zarthoshti Calendar

by Dr. Kersey H. Antia, 1994

At last the trio of Dasturjis Mirza, Jamasp Asa, and Kotwal have responded to the recent movement for a unified Zarthoshti calendar based on *Fasl* (season), predictably, of course, in favor of maintaining the status quo. While other high priests of India have not yet responded to this topic, many of the trio's assertions seem to be contradicting Mirza's own views in his *Outlines of Parsi History* (Bombay, 1974):

1. "Jamshid founded the festival of Navroz, the New Year's Day, and celebrated it every year in a royal fashion on Roz Hormazd Mah Farvardin." Space limitations do not allow quoting Mirza in full, but, to be succinct, he cites Firdausi (I. 133-134) on p. 14 to assert that "ever since that time that glorious day remaineth the memorial of that Shah."

2. The trio advises that the "*Bundahishn*'s reference to 'increase in night from Maidhyoshahem' imply it as vernal equinox," whereas Mirza describes it as "mid-summer" and describes Hamaspahmaedem as "vernal Equinox: Roz Hormazd, Mah Farvardin, (pp. 440-442)" and adds that his description of the Gahambaras as "seasonal festivals... is based on the Avesta Visparat and the Pahlavi-Pazand Afrin of Gahambar" (p. 455).

3. On the calendars in use during the Sasanian times, Mirza gives the seasonal divisions as "Mah 1 to 3: Spring, Mah 4 to 6: Summer, Mah 7 to 9: Autumn, (and) Mah 10 to 12: Winter" and observes: "The following two systems of time-reckoning were generally in simultaneous use in the Sasanian times among Zoroastrians:

(1) *Sâl Oshmurtik* 'the year of (ordinary) reckoning'. This was a fixed year of 365 days – 12 months of 30 days each with extra five days (epagomenae) after the end of the 12<sup>th</sup> month.

(2) *Sâl Vihezakik* 'the shifting year'. This was a shifting or leap year. It had 365 days (as in the Oshmurtik year) with an intercalation of a month every 120 years ... At present the first system of time-reckoning, as noted above, is generally in use among the Parsis in Iran as well as in India." (page 438)

4. On Intercalation, Mirza states: "In ancient Iran, this intercalation [of 120 years] was affected under royal patronage .... The last intercalation under the Iranian sovereignty was affected in 406 A.C. during the reign of Sasanian Emperor Yazdgerd I (399-420). On this occasion, two months were intercalated – one that was due and the other in anticipation of troubled time in the coming century when the next intercalation was due [i.e. 526 A.C.].... In 1006 A.C. four

intercalations were due; and it appears that in that year four months were intercalated, and the Gatha days, which were after the end of the Avan month at that time, were shifted and placed after the end of the 12th month Aspandarmad. Hence the Oshmurтик year coincided with the Vihezakik year. Since then there was no difference between the two systems, or really speaking only the Oshmurтик year remained in practice.” (page 443)

The statements made by Mirza in his book concord fully with Avesta, Pahlavi, Persian, and Arabic writings, some of which he quotes in his book. They point to the following conclusions:

(a) The names of the six Gahambars clearly show that they were celebrated on specific times of the four seasons.

(b) The six Gahambars, unevenly spaced because of the agricultural activities, fell, without any exception, within the solar tropical year which began on *Hamaspahmaedem* on Roz Hormazd Mah Farvardin.

(c) This would make the year *Sâl Vihezakik*, the leap year of 365.2422454 days, *the same as the Fasli year*.

(d) It would also mean that the rituals and prayers were performed according to the Fasli calendar and that it did not upset any dates and events.

(e) The Sasanians maintained intercalation and their learned mobeds went even further to affect an intercalation in anticipation of bad times ahead.

(f) The intercalation in 1006 A C. made the two calendars coincide but instead of maintaining the one which was in tune with the seasons and the precise timings of the Gahambars, it was abandoned in favor of a shifting year that has been unfortunately advancing by one day every four years for approximately 900 years.

(g) 998 years have passed since the last intercalation in 1006 A C. It means that eight intercalations are already due and since only 28 years have passed of the current 120 years, the next will be due in the year 2086 A C.

(h) There are many precedents that warrant a correction by affecting the due intercalation because the Shahenshahi Gahambars are well out of tune with their seasons and this is religiously untenable.

(i) If our ancestors could add one month even before it was due in anticipation of bad times,, we could forgo 28 years and have the Oshmurтик year coincide with the Vihezakik at the coming *Hamaspahmaedem* Gahambar but this time maintain the intercalation.

According to the *Bundahishn* (Chapter 7.60) “A year is reckoned from the point the sun goes and returns to the same point. It has 365 days and 5 hours and a fraction. One day is of 24 hours.... There are other astronomical reckonings, but the most clear of them is that of the Mazdayasni Behdins.”

This is clearly the tropical solar year of 365 days 5 hours 48 minutes and 46 seconds.

In its tenth chapter under the title of “Concerning the Religious Year,” the *Bundahishn* explains the bases for the calculation of six Gahambars and summer and winter and their relations to the gahs on the bases of the Vihezakik year, and leaves no doubt that *the religious year was the tropical solar year* and not sidereal as contended by the trio. Even regarding the Oshmurtik year it says: “Furthermore, the revolving year [i.e. lunar year] is not equal to the Oshmurtik year because the moon once returns in 29 days and once in 30 days.... He who calculates the year on the basis of the revolution of the moon, mixes summer with winter and winter with summer. Furthermore, the Vihezakik months of Farvardin, Ardibehesht, and Khordad are spring, the months of Tir, Amurdad, Shahrevar are summer, the months of Meher, Avan, and Adar are autumn, and the months of Dae, Bahman, and Aspandarmad are winter. The sun begins its revolution from the beginning of Aries and returns to the same point in 365 days and five hours and a fraction, which makes a year.” (*Zand-Akasih, Iranian or Greater Bundahishn*, Behramgore T. Anklesaria, Bombay, 1956, pp.206-11; *Bundahish*, Mehrdad Bahar, Tehran, 1990, pp. 155-57). This clear statement does not need any detailed comments that the religious year is the solar year and not the one, which has, in 900 years, much like the lunar year, “mixed winter with summer and summer with winter.”

Let us now examine the trio’s contentions point by point. They raise more questions than provide guidance.

1. “Jamshidi Navroz is in essence the Jalali Navroz.” According to Omar Khayyam “Jamshid fixed the first day of Farvardin ... and celebrated it as Navroz and commanded the people to celebrate it every year. ...Caliph Mamun the Abbasid said in his days [813- 833 AC] that intercalations be done so as to bring Nowruz to the beginning of Aries and founded the Mamun calendar. It was Mohammad ibn Abd al-Malik, the vizier of Jafar Al-Mutwakkil [846-61 A. C.], who said that in order to collect the taxes without burdening the people, the year be intercalated so that the sun returns to Aries. The next person to introduce an intercalation was Khalafson of Ahmad [963-1002 AC.], the Amir of Sistan. But since it has advanced by 16 days, Sultan Jalal [1072-92 A.D.] was informed of discrepancy and scholars were brought to correct it and return Navroz to Farvardin.” (*Navroznameh of Omar Khayyam*, ed. Ali Hassouri, Tehran, 1964).

In his *Áthâr al-Bâqiah*, Biruni provides further information about Jalali Navroz. “The Persians had a year of 365 days and waited for 120 years to add one full month to compensate for the quarter of the day not calculated.” Biruni then describes how a mobed explained to Mutawakkil that... “Iranians always maintained intercalation but when Islam came and put an end to our government, intercalation was canceled which resulted in a loss to people.

Farmers then complained to Hishâm ibn Abd al-Malik [724-43 A.C.]” but to no avail. “It was brought up again during Hârûn al-Rashtd’s days [786-809 A.C.]... but since the enemies of his Barmaki vizier started a rumor that the vizier was tainted with his ancestral religion of Zoroastrianism, he too abstained.” However, Mutawakkil commanded that “he cooperate with a mobed about Navroz and the dates were corrected and letters were sent to all over the realm to follow it.. This happened in Moharram of 234 Hijra (848 A.C.).” Regarding intercalation during the Sasanian Iran, he writes: “The total of the days of the Iranian year came to 365. They ignored the quarter of the day until it amounted to one full month and this happened in 120 years. They then added the thirteenth month with the same names of the days. They did this until the government went out of their hands and their religion was destroyed. They have not observed the intercalation since then.” Biruni goes into detail on the Iranian calendar and says that Navroz fell on the first day of Farvardin.

*The Jalali Calendar is, in other words, the formal restoration and recognition of the Zoroastrian calendar* by Muslim rulers and as such stands as a tribute to the Fasli calendar. If the Muslim rulers could restore the Zoroastrian calendar, why can we Zoroastrians not do it?

It may be added here that what is known as the *Kharâji* (Taxation) year, based on the Sasanian Vihezakik calendar, was reportedly introduced by the Arab conquerors as early as the days of Caliph Omar (633-44 A.C.) rather than by the later Muslim rulers.<sup>1</sup>

2. I do not understand what the trio means by saying “it is not even equinox.” The spring, according to all observatories and almanacs in the world, begins with vernal equinox, the day observed as Navroz. This is known as the “tropical” or “solar” year. It is different from sidereal year which is of 365.2563612 mean solar days and which has nothing to do with the four seasons. The Fasli year belongs to *Fasl* “seasons”— the four seasons of the year and as such, it is a befitting name. The sidereal year does not harmonize with the seasons. If “the Jamshidi Navroz falls anywhere between March 17 and 21,” it is entirely due to the problematic Gregorian year and not the Fasli year.

3. “Intercalation of a day every 4 years was not known in Iran throughout its history.” But the *Dinkard* says quite to the contrary: “...Besides the sum-total of 365 days, there are six additional hours. These hours have to be added every year. These additional hours (for every year) make up *one day for four years*, ten days for 40 years, one month for 120 years, five months for 600 years, and one year for 1440 years. The time of six hours should be kept apart from (i.e. not to be added) to the last days of the year for many years, till (the

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<sup>1</sup> Since there are many such evidences available in Persian and Arabic literature which have largely gone unnoticed, I am grateful to Dr. Ali Jafarey for pointing them out to me and sending me the translation as well as for making it press ready.

hours) amount to (a definite period of time). *This additional period is fixed by calculations.* And it is necessary for Navroz, Mehrgan, and other time-honored Jashans .... The additional hours of each year get accumulated in the course of years. Exalted (religious) work (i.e. ceremonies) is fixed (or connected) with the four seasons of the year. The spring is the season of the commencement of the year. It is from (the time) when the sun enters the first portion (or degree) of Aries ... Again the proper arrangement of four seasons of the year is connected with the motion of the sun through the constellations. And through the many delays in the course, additional hours are accumulated, (by the proper addition of which) days remain with days, months with months, and years with years.... The certainty of the prayers of the faith and of the ripening of corn and the growth of plants is through taking the intercalary period into calculation.... And by the order of the king, those who work have done so to make the four seasons fall in at the proper time. And through this a religion-glorifying sentiment is felt clearly by men and plants.” (*Dinkard*, vol. 9, Peshotan Dastur Behramji Sanjana, Bombay, 1900, pp 562-68). The quotation from the *Dinkard*, shortened for the lack of space, describes in detail how a Fasli calendar is maintained abreast of seasons for both religious ceremonies and daily work. It clearly shows how, by the order of the king, care was taken and calculations were made to avoid being out of step by one more day so that the year began exactly on the first day of spring – *Hamaspadmaedem*, vernal equinox – for both religious and agricultural purposes. In other words, there was no waiting done to let the Gahambar and agricultural activities be marred by the advance of ten days in 40 years, one month in 120 years, five months in 600 years or one year in 1440 years. The *Dinkard* gives these periods to show the length of discrepancy if the “hours ... to be added every year” were not taken into account, and not to prescribe them to be followed. For the agricultural Iran, it would have been tantamount to disaster. It was done by the king during his reign. An average length of reign is ten to 20 years, not 40 to 120 years. A total of 18 rulers sat on the imperial throne during the last 120 years of the Sasanian period. While Khusrau Anoshirwan ruled for 48 years, others occupied the shaky throne for average of less than five years each. The average reign for the earlier 120 years is 17 years per ruler. There is no sign in Pahlavi books that it took more than one generation to correct the calendar. The story of 120-year intercalations, it appears, belongs to a turbulent period. That is why it is reported only in Arabic and Persian books. Let us keep in mind that none of the Pahlavi, Persian or Arabic writings show that the *Vihezakik* calendar was abandoned or discarded at any time during the Sasanian or earlier period. *It was the Oshmurтик year of 365 days which warranted intercalations.*

4. “Iranian seasons changed with migrations.” The fact is otherwise. Seasons do not change and Iranian seasons have naturally not changed. The entire Iranian Plateau, extending from the Iraqi plains to the Pamirs and including Afghanistan, Pakistani Baluchistan, and some of the Central Asian

republics, enjoys the four seasons. The Gahambars, dating from the Avestan times to the present days, fully comply with the solar tropical year and are the best proof of four seasons, as vouchsafed by Mirza in his book.

The only geographical change which has occurred is in climate. The region is drier than it used to be. This means a change in climate and not the four seasons. For a change of seasons, one has to migrate to the southern hemisphere. Migrations within a hemisphere only see changes in the intensity of the four seasons. In some places they are clear cut and in some they are not felt very much apart. In some places the colder period lasts longer, and in others it is shorter. This condition depends on the relevant latitude. The four seasons, seen clearly or not, stand where they are.

5. “*Bundahishn*’s reference to ‘increase in night from maidyoshem” would imply it as vernal equinox.” The trio have not given the full text here. What the *Bundahishn* really says is: “From Maidyoshem .... until Maidyarem ....., day decreases and night increases, and from Maidyarem to Maidyoshem night decreases and day increases.... In the same way, on *Hamaspahmaedem* .... *day and night are of equal length.*”

6. “Scholars are unanimous about the Iranian year being sidereal with the calculation of 116 years.” However, to the best of my knowledge, Biruni is the only person who says so: “*The Persians chose the solar year* during their sovereignty. They had fixed the year as of 365 days and did not count the fractions until these quarters made one full month in 120 years and the one-fifth of the hours formed one day, and in every 116 years, one complete month was added.” This ambiguous sentence has led a few European scholars to believe that the “116-cycle of intercalations accord well (at the beginning dates) with the sidereal year (365.2536 days) ... Nevertheless, the problem remains open.” (*Encyclopaedia Iranica*, p. 662). The scholars generally discount Biruni’s ambiguous statement. I would welcome a single unequivocal reference in support of the trio’s statement. However, even conceding it were true, are the Dasturjis inclined to correct the calendar on the basis of a sidereal year because the Shahenshahi year is neither sidereal nor solar according to them. Moreover, are the Dasturjis suggesting that the Sasanian mobeds and astronomers were wrong all along in making intercalations of 120 years instead of 116 years? If so, was this grave mistake corrected by the mobeds after the fall of the empire?

7. The Faslis have never questioned the intercalations of one or two months and have not objected to it. It is the Dasturjis who are saying that a change will hamper the rites and events. The Faslis would rather welcome the move if the Dasturjis propose that all the due intercalations be made good.

8. I am afraid that the trio do not seem to comprehend the difference between sidereal and solar tropical years. The true period of the earth’s

revolution is called the sidereal year, which is the interval of time in which the sun apparently completes a revolution with reference to the stars. The tropical year is the interval between two successive returns of the sun to the vernal equinox. It is the ordinary year of the seasons on which all the solar calendar are based. It is 20 minutes shorter than the sidereal year. That places the sidereal year out of tune with the seasons, and is, therefore, not related to the Fasli, Jalali, Christian or any other solar calendar. It is 365.2563612 mean solar days long and therefore shifts with time. It is the solar tropical year of 365.2422454 mean solar days which goes well with the seasons and always begins with vernal equinox. Therefore the Fasli celebration of Gahambars on specific days is exactly what the Afrin-e Gahambar suggests as shown by Mirza in his book while describing “the Six Gahambars of the Year” and “Seasonal Divisions of the Year in Sasanian Times” (pp. 440-41).

9. “365 days are treated as equal for all higher rituals....” This point is not clear. The Faslis have never claimed any particular superiority of certain days over other days of the month. Rather they subscribe to Mirza’s views: “The Jashans or the festivals of the Parsis have religious, seasonal, and historical importance; but the religious importance permeates all Jashans.” Mirza then gives a list of 27 festivals which are distinct from other days of the month under the title “Important Festivals of the Year” (pp. 449-54).

10. “Even in Iran, the Shahenshahi (or Shahrsay) calendar was in vogue until 1939...” The Iranis, who may soon outnumber Parsis, are all Faslis. Are the trio disowning them for their “defective and quixotic” calendar? The verdict completely ignores the Iranis as if they are of no importance to them and in substance contradicts the Irani Councils of Mobeds in Iran and the U.S.A. which follow the Fasli calendar. One fails to understand why the trio’s views are diametrically opposite to those of the Irani Dasturs and therefore how credible the Iranis will regard them.

11. “The Fasli calendar cannot boast of correcting a proper and convenient system prevalent since times immemorial.” Mirza’s own statements, cited earlier, assert that intercalations were affected and that the *Vihezakik* year existed and that the Gahambars and other festivals were celebrated according to that year. With a religious history of at least 3500 years, how could the span of only 987 years since the abandonment of intercalation in 1006 A.C. mean “times immemorial”? Moreover, how can a system, like the Shahenshahi year, be proper when it leads to the performance of various celebrations at such improper times?

12. “Changing the calendar will create difficulties in the understanding of historic dates and the continuity of past events.” What historic days are covered by the Shahenshahi calendar—the Avestan period, the Achaemenian, Parthian, and Sasanian times or the post-Sasanian upheaval? Could they enumerate some of these historical dates and the continuity of past events in

light of the Shahenshahi calendar? The Dasturjis own writings are generally understood better by all Zoroastrians when given with Gregorian equivalents.

13. “Seasons in Northern Hemisphere and Southern Hemisphere are diametrically opposed” but not their respective lengths of time. The year in both the hemisphere is 365 .2422454 mean solar days long. The equinoxes and solstices are on the same precise times. Furthermore, the clear majority of human beings live in the northern hemisphere. That is why all those in the southern hemisphere follow the same Gregorian calendar as the northerners do. But the Parsis of southern hemisphere will be free to make their own choice of calendar. The Iranis follow the Fasli calendar.

14. Fasli calendar of 365.2422454 days, based on seasons, will never be out of tune. It is the Gregorian calendar which is 11 min 24 sec longer and therefore requires periodical correcting. But it does not concern us as Zarthoshtis.

15. The Shahenshahi calendar is the one which is evasive and variable vis-a-vis the precise solar year and therefore hampers both spiritual and material progress. It is out of tune with nature with which the Zoroastrian religion is in harmony.

16. Attention is also drawn to the opinions of Dasturjis Bode, Minocher-Homji, Dhalla, Dr. P.K. Anklesaria, and K.R. Cama to mention just a few. Ilme Khshnumists follow the Fasli calendar for decades even in India, besides many other Parsi Faslis, and they observe Muktdad per Fasli calendar.

In conclusion, one would have expected the Dasturjis to follow the example of the Sasanians and make good the eight and odd intercalations (a total of 988 years by 1994) overdue by now. Instead one feels they look unfavorably on the Sasanian intercalations, and favor the incorrect calendar, apparently because historically the function of our Dasturjis has been to maintain the status quo, which ensured our survival so far, for which we are ever so grateful to them. However our future survival will depend on adjusting to the unprecedented changes around us without losing the essence of our religion. And what better opportunity could we have of achieving this objective than letting the two calendars coincide ultimately? The younger generation the world over talks about environment almost with religious fervor. But our youth is aware that Asho Zarathushtra was the world’s first and foremost environmentalist. The divine revelation he received made him perceive God, unlike all other sages, not just as God of mankind but God of all creations. Man cannot attain piety by being good to man alone, but has to be good to Ahura’s entire creation, and actively strive for renovation. The Fasli calendar comes closer to represent Asho Zarathushtra’s emphasis on living in harmony with nature than the Shahenshahi calendar. That fact alone should inspire our progeny not to give up on our calendar and religion. I clearly remember to this day how shocked

and dismayed I was as a youngster when I first discovered that the Shahenshahi calendar I followed so religiously was incorrect. The faithful, nevertheless, continue to follow the conventional calendar but the future generations who will be increasingly conscious of Asho Zarathushtra's crusade for environment may not forgive us for missing a rare opportunity to correct the situation long overdue.

Perhaps, the trio's rejection of Fasli calendar is, consciously or unconsciously, guided by the difficulty inherent in taking the lead in changing adherence to a firmly entrenched calendar, as also by other overriding concerns pressing the community in India. If so, one can understand their predicament. However, the situation is somewhat different in North America, though not totally, and the question of Alat, which the trio did not even deem fit to raise as others have, is not applicable to North America. Others who object to the Fasli calendar on the basis of Alat may not be so aware as the trio is that the originally Shahenshahi mobeds have been performing ceremonies of Ilm-e Khshnumists who follow the Fasli calendar. These mobeds have been performing for both the Fasli and the Shahenshahi calendars on one and the same day! This is surprising in view of the Ilm-e Khshnumists' insistence on ritual purity. However, if it is acceptable for Ilm-e Khshnumists that a mobed can pray for both the calendars, then why should it not be acceptable in the case of others who are not obsessed by Alat? *Parsiana* (March 1993, p. 23) even reported that Mirza "recognizes that something needs to be done and had said that 'the community in North America could go ahead with the change because of the climate there was comparable to Iran's,'" which makes the trio's response even more enigmatic. But one would have no doubt whatsoever what Asho Zarathushtra would like us to do in this matter.

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