

x^vardag-āmārišnīh

calculation of Asterisms (“lunar mansions”)

The groups of stars in the moon’s observed path in the heaven were known to the Perso-Aryans¹; they are called in Pārsīg *x^vardag*. We know four lists of the lunar mansions in Pārsīg, Sogdian, X^vārazmian, and Persian.

Pārsīg

The Bundahišn 25-26 gives the names of the asterisms in a Pāzand transcription: *kē-šān hambaxšišnīh ped vīst-u-haft x^vardag-āmārišnīh kē-šān nām ēn ast* ‘the same (ecliptic) is divided into twenty-seven² asterisms (“lunar mansions”) whose names are these: ...’ The manuscripts do not agree with each other for some names; moreover, “the Pāzand names are so corrupt that no reliance can be placed upon them, and the first step towards recovering the true Pahlavi names would be to transliterate the Pāzand back into Pahlavi characters.”³ However, the names of some lunar mansions are given in Hāmdibīrīh (“Pahlavi characters”) in the Bundahišn and the third book of the Dēnkird, ch. 419.

Sogdian

Bērōnī gives the list of Sogdian lunar mansions in Arabic script.⁴ A Sogdian manuscript from Turfan, contains the same list in Sogdian script (M 549); however, the text is damaged and only a few words are legible. The number of the x^vardag is taken as 28 by both texts (ii qmbyy xxx ptšmyrtyy). However, Bērōnī’s list begins with prwy corresponding to the first nakṣatra in the Vedic list, i.e. Kṛttikā, while the other list begins with bšyš corresponding to the nakṣatra Aśvinī.⁵

X^vārazmian

¹ . The Avesta book on astronomy was called Naxtar “starry night”. This book was lost after the onslaught of Alexander.

² . According to the short Bundahišn the number of the asterisms is 28; however it mentions 27 names.

³ . E.W. West, *Pahlavi Texts*, I (SBE, v, 1880), 11.

⁴ . ايلاتار الباقية، ١١ : ١٥ "اساؤها بلغة السغد".

⁵ . W.B. Henning, « An Astronomical Chapter of the Bundahishn », JRAS, 1942, 243.

As to the lunar mansions with the X^vārazmians Bērōnī says that: “They were in the habit of using the mansions of the moon and deriving from them the rules. The names of the mansions in their language they have preserved, but (now) those who made use of them, who knew how to observe them and how to draw conclusions from them, have died out. Their using the lunar mansions is clearly proved by the fact that in the X^vārazmian dialect an astronomer is called ’xrwynyk, i.e. ‘looking to the lunar mansions’, for ’x(y)r⁶ means a mansion of the moon. They used to distribute these stations over the twelve signs of the Zodiac, for which they also had special names in their language.”⁷ In a Sogdian manuscript from Mt. Mug (Freiman, 1938) we find a list of lunar mansions, called ’nyrn’ m’k ‘stars of the moon’; this list is identical with the X^vārazmian list given by Bērōnī.⁸

Persian

A Pārsī fragment gives a list of the x^vardag in Persian, in a corrupt state.⁹ In the beginning it is said that :

بیست و هشت اختران که آن را خردگ اشمارشی می گویند، آن پیدایش و آفرینش اورمزد است، و اندر وی اهریمنی نیست. و این بیست و هشت اختر صورت همچون فرشتگان دارند، نورمند اند، و نور می دارند، و اختیار همه جهان به دست ایشان.

‘The 28 constellations which are called x^vardag (in) Astronomy, are the creatures of Ahura Mazdā, and there is (nothing) of Anra Mainyu in them. The figures of these 28 constellations are like angels; they are luminous, and have control over the whole world of life.’

Then it gives the names of the lunar mansions in both versions, Pāzand (Bd.) and Persian, and their Arabic equivalents.

In the following we try to give the transcription of the Pārsīg names of the x^vardag.

1 Paz. padēvar¹⁰/ 𐭯𐭥𐭥𐭥𐭥 (Bd), 𐭯𐭥𐭥𐭥𐭥 (Dk).¹¹

⁶. ’xyr (’xr, xyr) comes from x^var(a)- and means ‘sun’. Bērōnī possibly speaks of ’nxr < *anxara- ‘star, fixed star’ (cf. Sogd. ’nyr/’nxr; ’nxr-wzn/’xrwzn ‘zodiac’)

⁷. *The Chronology of Ancient Nations*, E. Sachau, London, 1879, 226. (اتار الباقية، ١٢-١١:١١)

⁸. A.A. Фрейман, Описание, публикации и исследование документов с горы Муг, Москва, 1962, 46-60. See also Henning, op.cit., 242.

⁹. R.VIII.1.B, folio 370 (Library of the Cama Oriental Institute, Mumbai). I have published it in 1995:

آموزگ گیہانینگِ مغان، ۲۲۳-۲۲۷.

There is also another Persian list in the Šārestān ī Cahārcaman.

¹⁰ padevar DH, K20, padaevar R, padaivār M67.

¹¹. در پارسی فرایسه و به تازی شرطین می گویند R

The first x^vardag may be read /*pedispar*/ or /*perispar*/ (it may be derived from *paiti-spara-* ‘counter-shield’). It corresponds to Skt. *Aśvayujau* (or, *Aśvinī*).¹²

The 27th x^vardag in Bērōnī’s list is *بشیش*, corresponding to Arab. *الشقرطان*. The corresponding X^varazmian name is *rywnd* /*rēvand*/ (Sogd. M 549 *ryw’ndyy* /*rēvand*/ is 26th in Bērōnī’s list, *ر.یوند*. Skt. *Revatī* is 26th in the Vedic list, and 27th in another list which starts with *Aśvinī*.)

2 Paz. *pēšparvīz*/ *پشپارس* (Bd).¹³

The second x^vardag is called *Pēšparvīz* or *Pēšparvīn*, that is, the asterism that precedes *Parvīz* ‘Pleiades’.¹⁴ It corresponds to Skt. *Apabharaṇī* (or, *Bharaṇī*).

The 28th x^vardag in Bērōnī’s list is *پرو*,¹⁵ corresponding to Arab. *الفرنج*. The corresponding X^varazmian name of the asterism is *الفرنج*.

3 Paz. *parvīz*/ *پارس* (Bd).¹⁶

The third x^vardag is called *Parvīz* or *Parvīn*¹⁷; it can be identified with Av. *paoryaēinī* pl. f. ‘Pleiades’ (*Paštō Pērūne* ‘id.’). It corresponds to Skt. *kṛttikā*.

The 1st x^vardag in Sogdiano-X^varazmian, according to Bērōnī’s list, is *پرو*, corresponding to Arab. *الثریا*.

4 Paz. *pahā*¹⁸

The fourth x^vardag is called *pah* or *pahak* (Av. *pasu-*, *pasuka-* ‘small cattle’).¹⁹ It corresponds to Skt. *Rohiṇī* ‘red cow, cow’.

¹². This double pronunciation is not rare in Pārsīg, for example *pedišmār*/ *perišmār* ‘reckoning’.

¹³. در پارسی پیش پروین می گویند، و در زبان تازی بطین می گویند. R

¹⁴. According to Behrangore T. Anklesariā the *Upa-paoirī* of the *Tištār Yašt* 12 seems to correspond to the *Pēšparvīz* of the *Bundahišn*. “Asterisms in Iranian Literature”, *The K.R. Cama Memorial Volume*, Bombay, 1900, 220. See also Henning, op. cit., 247. But Av. *upa*^o is rendered by Pers. (*ped*) *abar*. Pers. *pēš-parvīn* could render Av. **paurva.paoiryaēinī*.

¹⁵. Sogd. *pr(w)* ‘after’. However, there is another *prw*^o that means ‘before’ (Av. *Paurva-*, OPers. *paruva-*), cf. *prw’cyk* ‘former’.

¹⁶. در پارسی پروین و در تازی ثریا می گویند. R

¹⁷. پروین، پرن، پرو، پروه.

¹⁸. *paha* K20 ; *pah* R.

در زبان پارسی بهک و در عربی دبران می گویند. R

¹⁹. It « seems to be a corrupt form of *پرو*, or *پرو* ‘following after’.

» *Anklesaria*, 221. See also Bērōnī:

«و دبران را نیز تابع النجم خوانند، ای پسروده پروین.» التفهیم، تهران، ۱۳۵۱، ۱۰۸.

The second x^vardag in Sogdiano-X^varazmian, according to Bērōnī's list, is بابرو (x^vprwr), corresponding to Arab. الببران. In the Sogdian manuscript from Mt. Mug the name of this asterism is written prprw'k (pr-prw/ pr-prw'k 'following upon the Pleiades').

5 Paz. azesar (DH)/ avesar (K20)²⁰

The fifth x^vardag is called Abesar 'crown', or less likely Azēsar 'goat's head'²¹. It corresponds to Skt. Mṛgaśira 'antelope's head'.

The third x^vardag in Bērōnī's Sogdian list is مرارنه²² (Sogd. *mārāz* 'workman'), corresponding to Xvar. اخماء, and Arab. الهنعة.

6 Paz. bašn/ bəšn, باشن (Bd)²³

The sixth x^vardag is called Bašn.²⁴ The corresponding Sanskrit asterism is called ārdṛā (*ārdra*- adj. 'wet, moist').

The fourth xvardag in Bērōnī's Sogdian list is رشنوند (Sogd. *mārāz* 'workman'), corresponding to Xvar. خويا, and Arab. الهنعة.

7 Paz. rax^vat/ rajat (DH), راجات (Dk)²⁵

The form راجات may be read Rāsan (Av. *urvāsna*- name of a plant). If the Pazand form Rax^vat be right, it may refer to the river Harax^vaitī.

However, the original form could be راجات [l'yt'], possibly a mere transcription of Av. *rāiti*- 'gift'.²⁶ The corresponding Sanskrit asterism is called Punarvasu (*punar-vasu*- adj. 'restoring goods').

The fifth x^vardag in Bērōnī's Sogdian list is غثف, corresponding to Xvar. غوثف, and Arab. الذراع.

8 Paz. taraha/ tarāha (TD1), تاراهو (Bd)²⁷

²⁰. به پارسی روس و به تازی هقعه می گویند. R

²¹. "I read azēsar, taking it to mean the 'ram's head'; cf. بابرو with the Skt. अजः (=मृगः)." Anklesaria, 221-222

²². اذکائی: موازنه.

²³. به پارسی فرخ و به تازی هتعه می گویند. R

« Mobad Manekji Rustamji Unwala has in his possession an old MS. Persian Dictionary named بحر الفضائل فی منافع الافاضل, written in 764 A.Y.; it contains the Persian names of the asterisms rarely to be met with elsewhere. Most of the names seem to be corrupt scripsions of the Pahlavi asterisms. The sixth asterism is there named فرخ, 'auspicious'." Anklesaria, 222

²⁴. ¹bašn 'height; stature; top' (Av. *barəšnu*-); ²bašn 'idol'; ³bašn/ buš 'mane'.

²⁵. راجات. به پارسی سو و به تازی ذراع می گویند. R

²⁶. M. Boyce read it Rahēt.

²⁷. تاراهو. به پارسی سیمر و به تازی نثره خوانند. R

The eighth x^vardag is called Trišag. The corresponding Sanskrit asterism is Tiṣya or Puṣya. Note that Vedic *tiṣṭya-* comes from **tiṣṭri-* a- (Av. *tištrya-*).

The sixth x^vardag in Bērōnī's Sogdian list is غنب, corresponding to X^var. ²⁸ جیری, and Arab. التثره.

9 Paz. azara/ avara (DH), 𐬀𐬎𐬎𐬎 (Bd)²⁹

The ninth x^vardag is called Abarag 'above; north'. The corresponding Sanskrit asterism is Āśreṣā/ Āśleṣā.

The seventh x^vardag in Bērōnī's Sogdian list is خمشریش, corresponding to X^var. ³⁰ خمشیش, and Arab. الطرف. Sogd.-X^var. xmšryš/ xmšlyš may come from *ham-sriš* 'to put together' (Av. *ham.sriš*), and then is cognate with the Sanskrit word.

10 Paz. nahn³¹

The tenth x^vardag is called Nax^v/ Nox 'top, beginning'. The corresponding Sanskrit asterism is Maghā.

The eighth x^vardag in Bērōnī's Sogdian list is مغ (≈ Skt. *maghā*), corresponding to X^var. اچیر, and Arab. الجبهة.

11 Paz. maīān/ miīān (K20)³²

The eleventh x^vardag is called Meyān 'middle, center'. The corresponding Sanskrit asterism is (Pūrva-)Phalgunī.

The ninth x^vardag in Bērōnī's Sogdian list is وده, corresponding to Xvar. امغ (mγ' in the Sogdian manuscript from Mt. Mug), and Arab. الزيرة.

12 Paz. avdām³³

The twelfth x^vardag is called Abdum 'last; end'. The corresponding Sanskrit asterism is (Uttara-)Phalgunī.

The tenth x^vardag in Bērōnī's Sogdian list is ویدو, corresponding to Xvar. ویدیو, and Arab. الصرفة.

13 Paz. māšāha/ maṣāha (K20)³⁴

²⁸ . jryr is the name of the 13th day of the month in Bērōnī's list. The same day is called tyry in the document from Tok-kala.

²⁹ . 𐬀𐬎𐬎𐬎. به پارسی ایراک و به تازی طرف گویند. R

³⁰ . اذکائی: خمشلش.

³¹ . 𐬀𐬎𐬎𐬎. به پارسی نوان و به تازی جبهه می گویند. R

³² . 𐬀𐬎𐬎𐬎. به پارسی میان بود و به تازی زبره می گویند. R

³³ . 𐬀𐬎𐬎𐬎. به پارسی اودم و به تازی صرفة خوانند. R

The thirteenth x^vardag is called Mašāy/ Mahrāb (from Av. *mašya-vohu- ‘good man’). The corresponding Sanskrit asterism is Hasta.

The eleventh x^vardag in Bērōnī’s Sogdian list is ³⁵فستشت, corresponding to Xvar. افسست, and Arab. العواء.

14 Paz. spur, ³⁶𐭮𐭩 (Dk)³⁷

The fourteenth x^vardag is called Spurr ‘complete, entire’ (from *us-pərəna-), or Spul (Av. spərəzan- ‘spleen’). The corresponding Sanskrit asterism is Citrā.

The twelfth x^vardag in Bērōnī’s Sogdian list is ³⁸شغار, corresponding to Xvar. اخشفرن (wγšprn in the Sogdian manuscript from Mt. Mug), and Arab. الشاك.

15 Paz. husru³⁹

The fifteenth x^vardag is called Husrav (Av. hu-sravah- adj. ‘famous’). The corresponding Sanskrit asterism is Svāti.

The thirteenth x^vardag in Bērōnī’s Sogdian list is ³⁹سرو, corresponding to X^var. شوشک (’strwšk or ’štrwšk in the Sogdian manuscript from Mt. Mug), and Arab. الغفر.

16 Paz. srōi/ srōb (K20)⁴⁰

The sixteenth x^vardag is called Srū/ Srūy (Av. srū-, srvā- ‘horn; claw’). In Avesta there is a fixed star called *hapta.srū*). The corresponding Sanskrit asterism is Viśākhā.

The fourteenth x^vardag in Bērōnī’s Sogdian list is ⁴⁰فسرو, corresponding to X^var. سرافسريو, and Arab. الزبانيان.⁴¹

17 Paz. nur/ nor (DH)⁴²

The seventeenth x^vardag is called Var (Av. varah- ‘breast, chest’)⁴³. The corresponding Sanskrit asterism is Anurādhā.

³⁴ 𐭮𐭩𐭮𐭩𐭮𐭩. به پارسی مهرباب و به تازی عوا می گویند. R

متراک: نام منزلی است از منازل قمر، و آن را به عربی عوا گویند. (برهان قاطع)

³⁵ اذکائی: فششت.

³⁶ 𐭮𐭩 -spw- (cf. 𐭮𐭩𐭮𐭩 /harvisp/).

³⁷ 𐭮𐭩𐭮𐭩. به پارسی سپر و به تازی سماک می گویند. R

³⁸ اذکائی: شغان.

³⁹ 𐭮𐭩𐭮𐭩. به پارسی حره و به تازی عقر می گویند. R

⁴⁰ 𐭮𐭩𐭮𐭩. به پارسی سیون و به تازی زبانا می گویند. R

⁴¹ «نام منزل شانزدهم زبانی، ای دو سروی گزدم» التفهیم، ۱۱۱

⁴² 𐭮𐭩. به پارسی دونان و به تازی اکلیل می گویند. R

⁴³ Cf. Arab. الجبهة (العقرب).

The fifteenth x^vardag in Bērōnī's list is *اغنوند*, corresponding to Xvar. *الإكيل*, and Arab. *القلب*.

18 Paz. *gēlw*⁴⁴

The eighteenth x^vardag is called Dil (Av. *zərəd-* 'heart'). The corresponding Sanskrit asterism is Jyeṣṭhā.

The sixteenth Sogd.-X^var. asterism in Bērōnī's list is *یغنوند*, corresponding to Arab. *القلب*.⁴⁵

19 Paz. *grafša*⁴⁶

The nineteenth x^vardag is called Drafš(ag) (Av. *drafša-* 'drop, droplet; banner'). The corresponding Sanskrit asterism is Mūla/Vicṛtau.

The seventeenth x^vardag in Bērōnī's Sogdian list is *مغن سدویس* (mγn-sdwys: *sdwys* < Av. *Satavaēsa*), corresponding to X^var. *ذاريند* (*δ'r'nt* in the Sogdian manuscript from Mt. Mug), and Arab. *الشولة*.⁴⁷

20 Paz. *varaṅt*⁴⁸

The twentieth x^vardag is called Vanand⁴⁹ (Av. *vanant-*). Notice that the 20th Sogdian x^vardag in Bērōnī's list is called Vanand. The corresponding Sanskrit asterism is Aṣādhā/ Pūrvāṣādhā.

The eighteenth x^vardag in Bērōnī's Sogdian list is *بستم*, corresponding to Xvar. *سرذیو*, and Arab. *التعائم*.

21 Paz. *gā*, *𐰽𐰺𐰍* (Dk)⁵⁰

The twenty-first x^vardag is called Gāv (Av. *gao-/ gu-* 'cow, ox'). The corresponding Sanskrit asterism is Aṣādhā/ Uttarāṣādhā.

The nineteenth x^vardag in Bērōnī's Sogdian list is *وژزیک*⁵¹, corresponding to X^var. *مرخشیک*⁵², and Arab. *البلدة*.

22 Paz. *gōī/ goī* (K20)⁵³

⁴⁴ *𐰽𐰺𐰍*. به پارسی دل و به تازی قلب می گویند. R

⁴⁵ «و نام منزل هژدهم قلب، ای دل کزدم.» التفهیم، ۱۱۱

⁴⁶ *𐰽𐰺𐰍𐰽𐰺𐰍*. به پارسی درفشه و به تازی شوله می گویند. R

⁴⁷ «نام منزل نوزدهم شوله، ای نیش کزدم برآورده زیر بندهاء دنبال.» التفهیم، ۱۱۱

⁴⁸ *𐰽𐰺𐰍𐰽𐰺𐰍*. به پارسی بازناپورم و به تازی نعایم گویند. R

⁴⁹ Vanand is written by *𐰽𐰺𐰍* in the Bundahišn 50₄.

⁵⁰ *𐰽𐰺𐰍*. به پارسی بازباده و به تازی بلده می گویند. R

⁵¹ اذکائی: وژرتک

⁵² اذکائی: موخشیک

⁵³ *𐰽𐰺𐰍*. به پارسی گاو و به تازی ذابح می گویند. R

The twenty-second x^vardag is called Jōg (Av. *yaoya-* ‘bond; yoke’). The corresponding Sanskrit asterism is Abhijit.

The twentieth x^vardag in Bērōnī’s Sogdian list is وندند, corresponding to Xvar. *خچمن*, and Arab. *سعد الذابح*.

23 Paz. *muri/ muru* (K20)⁵⁴

The twenty-third x^vardag is called Murv (Av. *mərəya-* ‘bird’). The corresponding Sanskrit asterism is Śravaṇa.

The twenty-first x^vardag in Bērōnī’s Sogd-X^var. list is *يوغ*, corresponding to Arab. *سعد بلع*.

24 Paz. *bunza/ bunda* (TD1, K20)⁵⁵

The twenty-fourth x^vardag is called Banz(ag)/ Bang (*banz/ bang* ‘henbane, hemp’⁵⁶). The corresponding Sanskrit asterism is Śraviṣṭhā/ Dhaniṣṭhā.

The twenty-second x^vardag in Bērōnī’s Sogdian list is *شدمشير*, corresponding to Xvar. *سذمسيج* (*stmyš* in the Sogdian manuscript from Mt. Mug)⁵⁷, and Arab. *سعد السعود*.

25 Paz. *kahtsar*⁵⁸

The twenty-fifth x^vardag is called Kahtsar ‘the head of Kaht’ (Pers. *کاهت* /*kaht, kāt/ ≈ kahas* ‘channel, sewer’). The corresponding Sanskrit asterism is Śatabhiṣaj/ Śatatārakā.

The twenty-third x^vardag in Bērōnī’s Sogdian list is *شوشت*⁵⁹, corresponding to X^var. *مشتوند* (*stmyš* in the Sogdian manuscript from Mt. Mug), and Arab. *سعد الاخبية*.

26 Paz. *kahtmyān/ vaht.miyān* (K20)⁶⁰

The twenty-sixth x^vardag is called Kahtmeyān ‘the middle of Kaht’. The corresponding Sanskrit asterism is (Pūrva-)Proṣṭhapadā/ (Pūrva-)Bhadrapadā.

⁵⁴ . *وید* . به پارسی کول و به تازی بلع می گویند. R

⁵⁵ . *وید* . به پارسی متزک و به تازی سعود گویند. R

⁵⁶ . Cf. Bd 43 *mang ī bēšaz kē ast ī banz xvāned*.

⁵⁷ . Cf. Skt. *śatabhiṣaj*.

⁵⁸ . *وید* . به پارسی سیمر و به تازب اخبیه گویند. R

⁵⁹ . اذکائی: مشتونت

⁶⁰ . *وید* . به پارسی دیک و به تازی مقدم می گویند. *وید* . به پارسی نوار و به تازی مؤخر می

The twenty-fourth x^vardag in Bērōnī's Sogdian list is فرشتبات (M 549: [frwxš]pδδ), corresponding to X^var. فرخشبت (βrwyšt in the Sogdian manuscript from Mt. Mug), and Arab. الفرغ المقدم.

27 Paz. kaht⁶¹

The twenty-seventh x^vardag is called Kaht. The corresponding Sanskrit asterism is (Uttara-)Proṣṭhapadā/ (Uttara-)Bhadrapadā.

The twenty-fifth x^vardag in Bērōnī's Sogdian list is برفرشت (M 549: prw frwxšpδ), corresponding to X^var. وبر (prwβrwyšt in the Sogdian manuscript from Mt. Mug), and Arab. الفرغ المؤخر.

The Bundahišn and the Dēnkird give some information about the X^vardag :

Bd 30 *az avēšān axtarān tēzravišndar hend: tištar ud bašn ud x^vtrišag ud abarag ud pedispar ud pēšparvīz.*

‘Among the fixed stars the following move quicker (than others): Tištar, Bašn, Trišag, Abarag, Pedispar, and Pēšparvīz.’

Bd 72 *cōn gōbed kū: axtarān ābcihrag ud zamīgcihrag ud urvarcihrag hend. avēšān ābcihragān tištar ud trišag ud abarag ud pedispar ud pēšparvīz ud šaš stārag kē parvīz x^vānend, avēšān ābsardagān. hān ī zamīgcihr haftōring ud mēx ī meyān ī asmān, avēšān zamīgsardagān. hān ī urvarcihrag abārīg jud az avēšān.*

‘As it says: “Fixed stars are *afš.ciθra* (‘containing the seed of water/ rain’), *zəmas.ciθra* (‘containing the seed of earth’), *urvarō.ciθra* (‘containing the seed of plant’).” The *afšciθra* stars are: Tištar, Trišag, Abarag, Pedispar, Pēšparvīz, and the six stars that are called Parvīz. The *zəmas.ciθra* stars are: Haftōring, and the Peg in the Centre of the Sky. The other (stars) are *urvarō.ciθra*.’

Dk iii, 419 ^{M403} *sāl ī zaman-vihēzagīg ī az sālān ī vas ham-baved, ōz abargār ī az rōz abāg hangāmān ī sāl x^vcahār handāxtag. sāl hangām bun vahār, hān ī ka x^varšēd ō fradum x^vardag ī varrag ī ast perispar rased, u-š se māh hān ī ka x^varšēd ped varrag gāv dopehikar axtar-z raved x^vēš. ^{M404} u-š didīgar hāmin hān ī ka x^varšēd ō fradum x^vardag ī karzang axtar rased ī ast rād, u-š se māh hān ī ka x^varšēd ped karzang ud šagr ud hōšag axtar āyed <x^vēš>. sidīgar pādēz hān ī ka x^varšēd ō fradum x^vardag ī tarāzūg <axtar> ī ast spurr rased, u-š se māh hān ī ka x^varšēd ped tarāzūg ud gazdum ud nēmasp axtar raved x^vēš. ud cahārum abdu zimestān hān ī ka x^varšēd ō fradum x^vardag ī vahīg ī*

*gāv x^vānend rased, u-š se māh hān ī ka ped vahīg ud dol ud māhīg
axtar raved x^vēš.*

‘The year with moving hours, which are produced from several years, has its superior power in this that the days are fixed with the four seasons of the year. The origin of the seasons of the year is spring, when the sun reaches the first asterism of (the constellation of) Aries, that is Persipar; and three months belong to it, when the sun goes through the constellations of Aries, Taurus, and Gemini. The second (season) is summer, when the sun reaches the first asterism of the constellation of Cancer, that is Rād; and three months belong to it, when the sun goes through the constellations of Cancer, Leo, and Virgo. The third (season) is autumn, when the sun reaches the first asterism of (the constellation of) Libra, that is Spurr; and three months belong to it, when the sun goes through the constellations of Libra, Scorpio, and Sagittarius. The fourth and last (season) is winter, when the sun reaches the first asterism of Capricornus, which is called Gāv; and three seasons belong to it, when the sun goes through the constellations of Capricornus, Aquarius, and Pisces.’

As we see, the above system of the stellar x^vardag consists of twenty-seven equal parts, each x^vardag has 13° 20' of space, and when the sun, the moon, or a planet is between 0° and 13° 20' in longitude, it is said to be in the first x^vardag Pedispar, and so on.

Longitudes of the ending-points of the X^vardag

1	Pedispar	13°	20'
2	Pēš-Parvīz	26°	40'
3	Parvīz	40°	0
4	Pah(ak)	53°	20'
5	Abesar	66°	40'
6	Bašn	80°	0
7	Rād	93°	20'
8	Trišag	106°	40'
9	Abarag	120°	0
10	Nax ^v	133°	20'
11	Meyān	146°	40'
12	Abdum	160°	0
13	Mašāy	173°	20'
14	Spurr	186°	40'
15	Husrav	200°	0
16	Srūy	213°	20'
17	Var	226°	40'
18	Dil	240°	0
19	Drafš(ag)	253°	20'

20	Vanand	266°	40'
21	Gāv	280°	0
22	Jōg	293°	20'
23	Murv	306°	40'
24	Banz(ag)	320°	0
25	Kahtsar	333°	20'
26	Kahtmeyān	346°	40'
27	Kaht	360°	0

This list of twenty seven x^vardag, begins with the vernal equinox, and the four cardinal points of it are Pedispar, Rād, Spurr, and Gāv, representing the beginnings of the four seasons. Notice that the asterism Gāv (‘cow’) coincides with the month Miθra in the ancient Persian calendar, which is in the beginning of the winter.

Raham Asha