

## **Exit Aratta: Southeastern Iran and the Land of Marhashi**

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### **Introduction**

Over half a century has elapsed since Samuel Noah Kramer's publication of the Sumerian epic text commonly referred to as *Enmerkar and the Lord of Aratta* (hereafter ELA; Kramer 1952). Although Unger had previously suggested that Aratta lay near Shuruppak in Mesopotamia (Unger 1932: 140), the balance of opinion after Kramer's publication swung decisively in the direction of Iran (Edzard *et al.* 1977: 17; Vallat 1993: 18). Kramer himself originally sought Aratta in Laristan (Kramer 1952: 3), though he later suggested it lay somewhere near the Caspian Sea (Kramer 1963: 42). Sjöberg tentatively identified Aratta with Takht-e Suleiman (Sjöberg 1960: 61), and was followed in this by M. Lambert (Lambert 1972: 70, n. 6). E.I. Gordon proposed a location "somewhere in the Sanandaj area" (Gordon 1967: 72, n. 9). Herrmann sought Aratta to the south or southeast of the Caspian Sea (Herrmann 1958: 54), while Wilcke placed Aratta to the north or northeast of Anshan (Wilcke 1969: 39).

For the most part these suggestions were made without reference to the archaeology of Iran. In 1972, however, J. Hansman, struck by the association between Aratta in ELA and lapis lazuli, proposed an identification with Shahr-i Sokhta in Iranian Seistan (Hansman 1972: 118, n. 97; 1978). Four

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between the two poles. The dual *bərəzanta* combines the notion of both deep and high, reflecting *apa.srita* and *\*fra.srita* of the *stūna yuxtōiš*. Most significant, the phrase *urvarā paiti barəsmanya* ‘at the *barsman* plant’ suggests that this “plant,” at which the priest stands, refers to the cosmic “plant,” which is better known as the cosmic tree, and whose stem and four branches represent the three cosmic axes.

## Conclusion

The preceding geometric approach to the interpretation of the Zoroastrian ritual area has uncovered numerous patterns of links which reflect intimate knowledge of the cosmos and cosmic cycles, and time speculation, which find close parallels in the Taoist ritual.

Also found were intimate correlations between the *zautar* and Mithra. Hitherto there were only a few hints that pointed to such correlation, most prominently the fact that the novice priest is given the ox-headed mace of Mithra, which is laid between the ritual table and the fire vase, and the designation of the fire temple as *Dar-e Mehr*, traditionally rendered as “Court of Mithra.” It was shown that the *zautar* and Mithra share the same location in this multi-grid network: winter solstice, northern cosmic pole, and the Bridge.

The geometric approach also revealed why and in what specific ways the consecrated *barsman* functions as a “conduit between the material and spiritual realm” and “establishes *payvand*” between the two. This includes the peculiar sequence of moves towards the end of the Yasna liturgy: By first laying down the horned tripods, horns facing east, and then by laying across their feet the *barsman* bundle, i.e., the cosmic tree, facing south, the *zautar* “heals” the world, just like Mithras Soter kills the Bull in central scene of the Roman Mysteries, and just like Darius slew the magus Gau-māta.

It would thus appear that there is a close link between the central scene in the Roman Mithraic Mysteries and the concluding section of the central Zoroastrian ritual, each modulated according to its own cognitive environment: The bull-slaying by the Roman Mithras corresponds to soteriological deed enacted every day by the Zoroastrian *zautar*-priest, who stands for Mithra. Moreover, by implication this deed also enacts the final sacrifice by the Zoroastrian Sausyant during the final events in Limited Time.<sup>44</sup>

44. Cf. Windfuhr, in preparation.

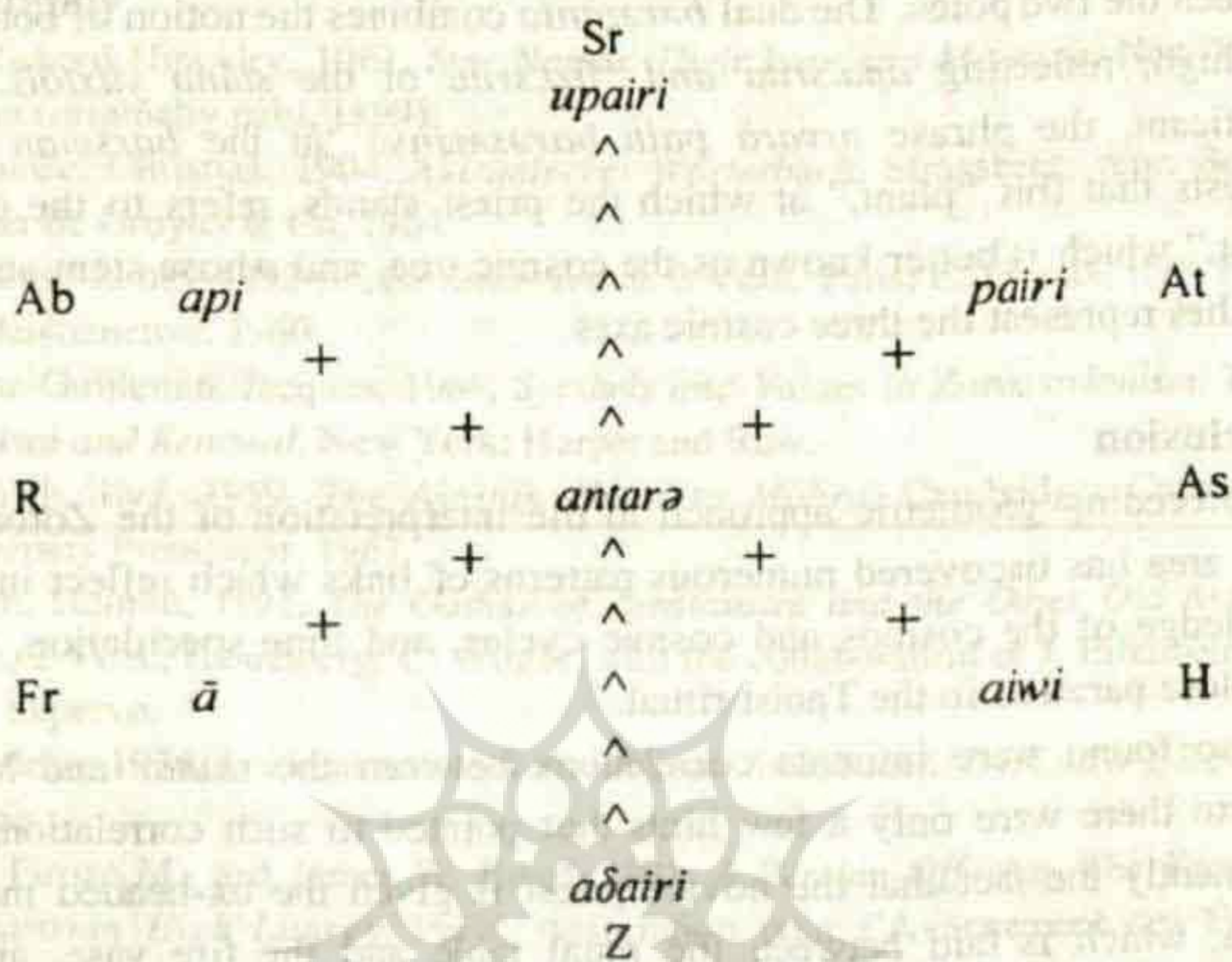


Fig. 16. Hexagon and cosmic cube according to Yasht 10.144

### Barsman and the cosmic tree

The concluding stanza 145 of the hymn to Mithra reinforces the cosmic ties between *zautar* and the *barsman*, again citing Gershevitch:

*Miθra ahura bārəzanta*  
*aiθyejanha ašavana yazamaide*  
*strəušca māñhəmca hvarəca*  
*urvarā paiti barəsmanya*  
*miθrəm vīspanəm danhunəm*  
*daiñhupaitīm yazamaide*

(Standing) by the Barsman plant, we worship Mithra and Ahura – the two exalted owners of Truth that are removed from danger – as well as the stars, the Moon, and the Sun. We worship Mithra, who in (*lit. of*) all countries is the head of the country.

In the geometric approach taken here, “countries” would appear to imply bounded sections of the cosmic sphere, those of the zodiac and of the celestial equator, and of the corresponding sections of the spherical sky

### Correlation between horizontal and vertical representation

The preceding discussion of the vertical representation of the layout of the ritual area provided a number of clues that suggest the correlation of the *zautar* with Mithra and the North Pole, and of the *sraušawarza* with Mazdā Ahura and the South Pole. This correlation seemingly conflicts with the position of Mazdā Ahura and Mithra in the calendar; there Mithra is the guardian of the fall month named after him and thus of the fall equinox, while Mazdā Ahura is the guardian of the winter month guarded by Dadwah who is also the guardian of the winter solstice. However, rather than implying conflicting statements and conclusions, these correlations simply imply that the pair jointly guards the three axes of the spherical cosmos. Vertically, the two, or their substitutes, are the joint guardians of the central axis of the cosmos through the twelve cosmic ages. Horizontally, they guard the cross of the two temporal axes defined by the four cardinal points of the day, year, and Great World Year: Mazdā Ahura guards the solstices, while Mithra guards the equinoxes at the intersections of the equator with the ecliptic. Mazdā Ahura is the *Da-d-wah* 'who has set' the true things at their proper place and in proper measure (*\*dhē-*), while *Mi-thra* is his contractual partner, the instrument that 'ties' (*\*mei-*) them through space and time. Accordingly, the *zautar* is correlated with both and has dual representational functions corresponding to the dual, but correlated functions of the supreme divine pair. His role is that of the contractual partner in the deal whose work together with his seven priestly partners is essential for reestablishing and reinforcing the other axis which is the beneficial tie between humanity and the divine.

In fact, the spherical cosmos is implied in stanza 144 of the Hymn to Mithra, where seven positions for him are listed, with the seven-fold formula *Miθrəm PREP. dahyūm yazamaide* 'we worship Mithra when he is PREPOSITION country.' Gershevitch translates the sequential prepositions as follows:<sup>43</sup> *aiwi* 'faces,' *antarə* 'between,' *ā* 'inside,' *upairi* 'above,' *adairi* 'below,' *pairi* 'around,' *aipi* 'behind'. However, the spatial interpretation of this passage suggests the intersection of three axes as above. At the same time, when one draws lines connecting the six corners one can easily recognize this hexagonal figure also as the more esoteric planiphenical projection of the cosmic cube (overtly reflected in the Ka'ba) (Fig. 16).

43. Gershevitch 1959: 146-147.

architect of the universe,<sup>41</sup> so it was Varuṇa who “surveyed the first creation,” RV 8.41.10,<sup>42</sup> and declares “I fastened the sky to the seat of *ṛta*,” RV 4.42.2.

#### (4) The cosmic axis and the triple cord

The vertical *stūna yuxtōiṣ* would thus represent the central axis of a cosmos which is reminiscent of the geocentric cosmos of Ptolemaic system. Accordingly, the *naēma*-axis would represent the circle of the terrestrial equator as well as the circle of the celestial equator around the cosmic sphere.

If this correspondence holds, it is likely that the two other cosmic circles, the ecliptic and the Milky Way, could be represented as well. Tentatively, then, the SE-NW diagonal would represent the ecliptic, showing the “obliquity of the ecliptic,” while the SW-NE diagonal would represent the similarly oblique Milky Way (Fig. 15).

This triple pattern is reminiscent of the well-recognized cosmic representation of sacred cord of the Zoroastrians that is wound three times around the waist.



Fig. 15. The eight positions and three cosmic cords

41. Modi 1922: 410.

42. Note the repeated Gathic reference to *ahu parwiya*, i.e. first or primal existence.

choice of this term by the Avestan authors may imply sacred word play, which would not be unusual.

### (3) Polar constellations

The most prominent star of the south is “steady” Canopus in the constellation Argo; it once was believed to be exempt from the precession.<sup>37</sup> Canopus would aptly point towards the invisible abode Mazdā Ahura, at the southern end of the *stūna yuxtōiš*, noting that astronomically the celestial South Pole proper is “empty” of bright stars, as opposed to the north-polar region.<sup>38</sup>

In Indian astronomical myth, Canopus is identified with the *ṛshi* Agastya. He was born of the seed of both Varuṇa and Mitra which dropped into a jar RV 7.33.13-14, an excellent example of a mythological tale for more sober cosmological speculations. The jar may however remotely be reflected in the mortar in the Zoroastrian ritual. At the same time, from the seed of the two gods that fell on the ground was born the *ṛshi* Vasiṣṭha, most likely zeta Ursae Majoris, Alcor.<sup>39</sup> There would thus appear to be the following correspondence:

South Pole:	Varuṇa	Mazdā	<i>sraušawarza</i>
North Pole:	Mitra	Mithra	<i>zautar</i>

The latter correspondence was already suggested above in relation to the pattern of sunrises and sunsets, and in relation to the position of the *zautar* and Mithra at the material anchor of the spiritual bridge. Most directly it is supported by the “weapon” of a Zoroastrian priest: When initiated as a novice priest into the priesthood as *nāvar*, he is given Mithra’s *wazra*, Modern Persian *gorz*, just like the fire temple came to be known as the *Dar-e Mehr*, the court of Mithra.<sup>40</sup>

The correspondence between the *sraušawarza* and *Mazdā Ahura* appears to be indirectly supported by Vedic statements: Just as Mazdā Ahura is the great

37. Cf. Santillana and Dechend 1969: 269; 1994: 245.

38. While Canopus may be difficult to observe from the latitudes of Iran, it is part of a triangle of stars which also includes Achenar, alpha Eridani, as well as Fomalhaut, alpha Piscis Australis, which has been identified with the Avestan star Satawaisa; for this triangle, cf. Allen 1963: 345-346.

39. For the myth in India and elsewhere, and Varuṇa/Mitra = south/North Pole, cf. Santillana and Dechend 1969: 264; 1994: 241.

40. Cf. Modi 1922: 204-205.



be, get or make ready,' MidPers. *ā-rāstan* 'to arrange.'<sup>33</sup> He saw here a reference to the arrangement of the ritual food and drink, 'Darbringungen, i.e. offerings. The latter interpretation is based on his emending *zwt'd'n* in *pad mayānag ī zōtdān* 'connected in the middle by the seat of the *zōt*' to *zōhr-ān*, the term for ritual offerings. In fact, "arrangement" can equally well refer to the arrangement of instruments on the ritual table, or to the arrangement of the ritual area as a whole.

However, *arāθru-* has *-θr-*, not *-sr-*, which suggests *\*arā-θra-*, or *\*ā-rāθra-* (with *ā < á*). This reconstruction would offer three options, even though each option has its own phonological problems:

- (a) IE *\*h<sub>2</sub>elh<sub>3</sub>-e-* 'to plow,' Ir. *\*ara-θra-* 'plow' (cf. Arm. *araur* < *\*arātrom*).
- (b) IE *\*h<sub>2</sub>elh<sub>1</sub>-* 'to rub, grind,' them. *\*h<sub>2</sub>lh<sub>1</sub>-e-*, thus Ir. *\*aaá-θra-* < IE *h<sub>2</sub>lh<sub>1</sub>-e-tro-* 'instrument of grinding, mill-table, millstone, mill,' related terms would be Av. *yāwarəna-* < *\*yawa-arəna* 'grain-grinder' used for the pestle in the ritual; *aša-* 'ground' < *\*arta-*, Pers. *ārd* 'flour,' Khot. *ārr-* 'grind,' but note Pers. *āsiāb* < *ār-θrya-* (cf. also Arm. *alauri* < *\*alatrio-* 'mill;' Greek 'alétai 'millstones,' alétōn 'mill').
- (c) IE them. *\*h<sub>2</sub>er-e-* 'to fit together,' Ir. *\*ara-θra-* 'felly,' adducing Ind. *ará-* 'spoke of wheel' and *ara-tí-* 'Speichenkranz, felly,' the epithet of Agni in reference to the flames; note also RV 4.19.9 *sam ar-* 'to heal (intr).'<sup>34</sup>

All three of these etymologies imply instruments that involve circular motion: a plow circling the fields, a millstone, a wheel. In fact, all three are widely found metaphors for the revolution of the skies: (1) the sky as a plowing field (specifically referring to the polar constellations Ursa Major and Ursa Minor as the plow-oxen); (2) as a "mill;"<sup>35</sup> and (3) as the wheel with spokes (the constellations). In addition, healing may be implied, given that the central function of the ritual is to heal and re-establish cosmic order, *arta*. Moreover, there is a possible correspondence between the ritual table and a horoscope, and likewise between the ritual table and the nine-field square, with a central field or well, found in the Taoist ritual.<sup>36</sup> Therefore the

33. Waag 1941: 118, 128.

34. Thieme 1949: 26-35; Mayrhofer 1986, I: 107-109.

35. Cf. the title of Santillana and Dechend 1969, *Hamlet's Mill*.

36. Windfuhr 2004: 190.

## ABOVE

*Sraušawarza**ĀTAR*Bridge *Srausha* listens*Ahura Mazdā*abode of the *Amiṛta Spanta-s**Ab hu-waršta At*

good deeds

EAST *R hu-uxta As*

good words

*Fr hu-mata H*

good thoughts

Bridge *Mithra* at bridge*BARSMAN**Zautar*

Zarathushtra, abode of humans

## BELOW

Fig. 14. The paris of positions and cosmic levels

(2) *Arāθru* and the celestial sphere

The term *arāθru* in Nēr. 2.60.1(b) is a hapax. It is used instead of the term *rwaisa* which is found in the Gathas, and thus again shows the care by the authors of the *Nērangestān* passage in their choice of terms.<sup>31</sup> Therefore it is likely that it was chosen to convey a particular sense and function of the table. The following attempts to explore possible connotations intended by the authors.

The exact meaning and etymology of *arāθru-* is uncertain; the two manuscripts have *arāθraō!* (TD) and *arāxraō!* (HJ), respectively. Bartholomae questioned the accurate transmission of the term, and was uncertain about its etymology.<sup>32</sup> Waag disregarded the *u*-stem, and suggested *arāstra-*, relating the term to the verb Av. *rād-*, Ind. *rādh-* 'to

31. Cf. also Windfuhr 2004: 176-177 and passim. The term *rwaisa-* 'turn-table' reminded already Darmesteter 1892-93. I: LXVII n. of a hippodrome as a multivalent metaphor (for both the revolution of the skies and the serious business of poetic and ideological competition).

32. Bartholomae 1904, col. 188.

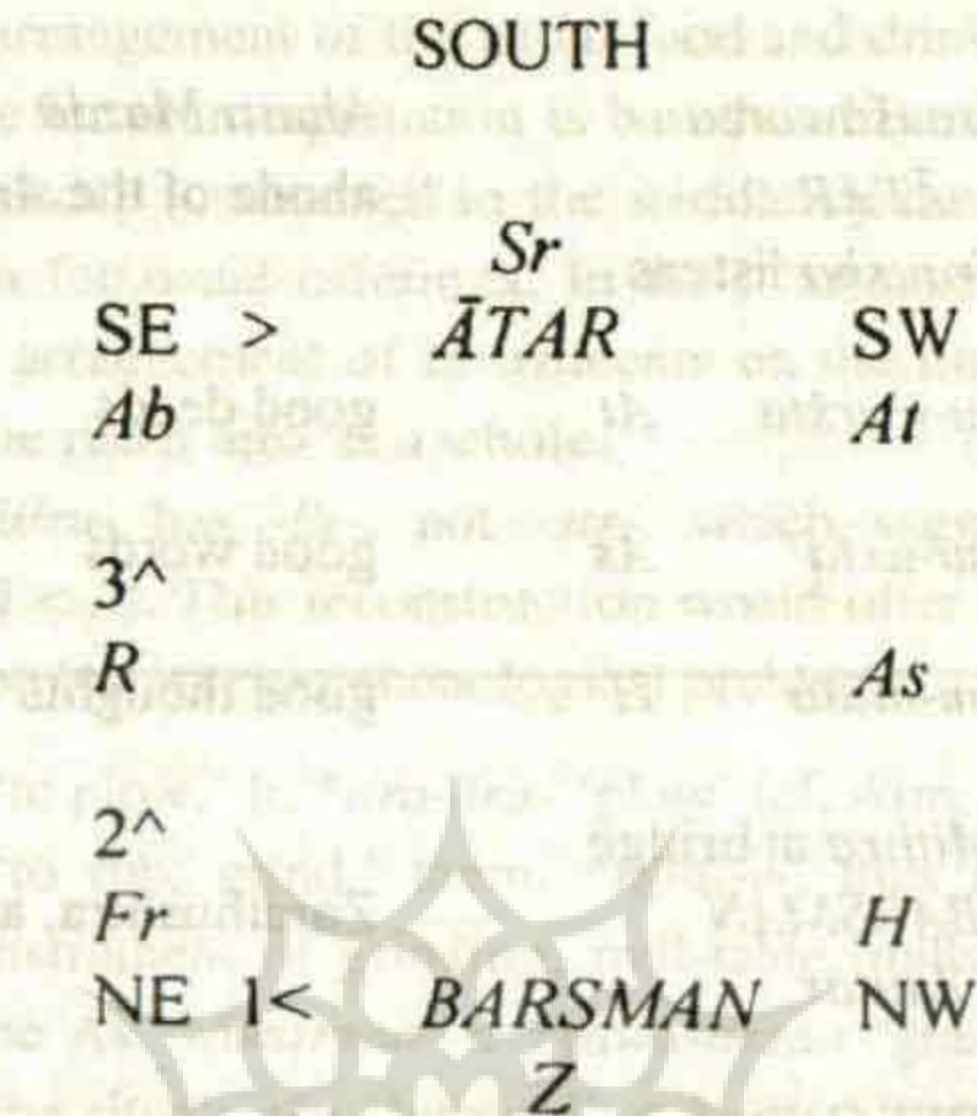


Fig. 13. The eastern positions and the steps of the *zautar*

The passage also provides clues for the representational location in this geometry of the mysterious weight-piler's ford, *cinwatah p̄rtu*, which links the spiritual and material worlds: It is the eastern side of the ritual area.<sup>30</sup> Its material anchor is between the positions of the *zautar* and the *frab̄rtar*, and its spiritual anchor is between the positions of the *āb̄rt* and the *sraušawarza*.

These observations provide further clues for the correlation between the *zautar/Zarathushtra* and Mithra: Ritually the seat of the *zautar* is located directly at the lower end bridge. The lower anchor of the bridge is said to be the location where the judgment of the souls of the deceased is taking place on the morning of the fourth day after death. The hearing is supervised by the judge Mithra, assisted by Rashnu who holds the scales, while Srausha listens. While the *sraušawarza* represents Srausha as the representative of *Ahura Mazdā*, the *zautar* represents Mithra (Fig. 14).

30. For the astronomical location of this bridge across the Milky Way between Canis Major and Canis Minor, cf. Windfuhr 2003.

Moreover, within that geocentric system, the zodiac represents the “flat” center, the celestial “earth,” between the northern and southern hemispheres, and thus between the two celestial poles. Accordingly, the fire stand and the *barsman* can be recognized as representations of the celestial South Pole and North Pole, respectively, in one of their functions. One of the functions of the *stūna.yuxti*, then, must be to represent the polar axis.

Thus, while the ritual area is a rectangle on a flat surface, the geometric analysis here shows how exactly it was once perceived as representing a three-dimensional space. These cognitive insights can be specified further when correlated with a passage to which already Darmesteter drew attention.<sup>27</sup> The passage is found in Dēnkard 43.3-8. It summarizes the chapters of the lost Sasanian Varsht.mānsar Nask, and is a commentary on the ritual action accompanied by the recitation of Y. 64.3-4.

In the present Parsi practice, the action here involves the laying down of the two horned tripods, the horns facing east. In the older Iranian practice, this action is correlated with the passage of the head priest, *barsman* in hand, in three steps along the east side of the ritual area, over the position of the *frabrtar* in the NE, via the position of the *raiθwiškara* in the E, to the position of the *ābrt* in the SE, from where the priest glances at the fire; he then returns to his seat. However, according to the Nask, this action symbolizes the return of the six main spiritual guardians, the Amṛta Spantas, via the three levels of preliminary stations of the departed souls, i.e., *hu-mata*, *hu-uxta*, *hu-wršta* ‘well-thought, well-spoken, well-done,’ into the highest heaven of Ahura Mazdā, after their consultations with Zarathushtra, presumably after first having crossed the spiritual bridge. The pattern may be shown as follows (Fig. 13).

The implications of this passage include the following:<sup>28</sup>

- (a) North and south represent both horizontal terrestrial directions and vertical celestial directions, below and above.
- (b) The divine beings attending the Yasna service are the six Amesha Spentas.
- (c) The *sraušawarza* represents Srausha, and indirectly Ahura Mazdā.<sup>29</sup>
- (d) The *zautar* represents the priest Zarathushtra.

27. Darmesteter 1892-93, I: 400-401; cf. also West 1892: 292-293 with n. 1.

28. Cf. Windfuhr 2004: 201.

29. This corrects the correlation of this level with the *ātīwaxša* in Windfuhr 2004: 200-201.

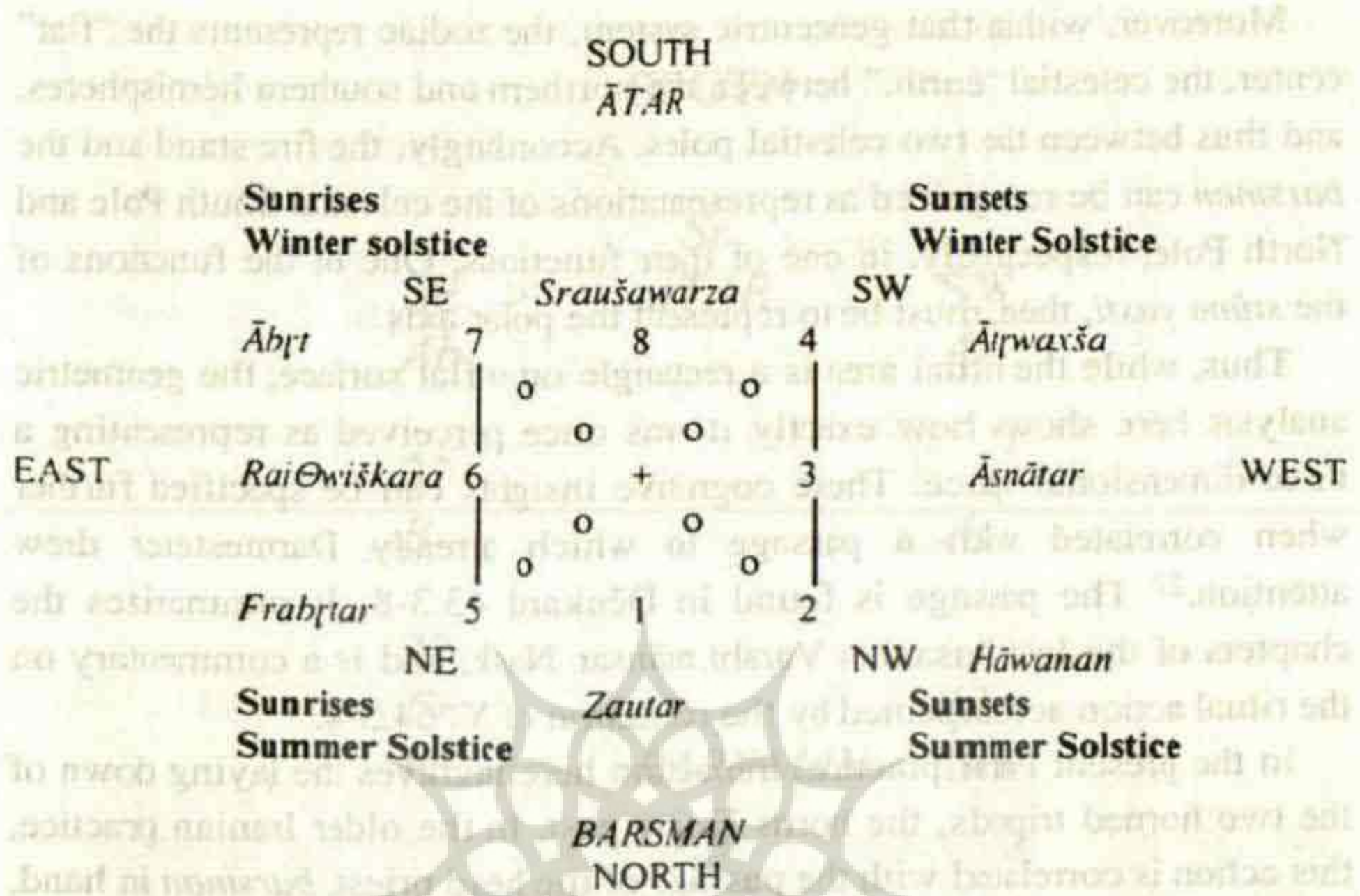


Fig. 12. The oblique cross, sunrises and sunsets

The recognition of this function of the geometry of the ritual area implies that movements of the priests have to be seen as temporal-spatial tracing of the Sun. It also implies a spiritual correspondence between the *zautar* with Mithra: The ritual of the Yasna proper begins before sunrise. It is then when the *zautar* enters the area from the SE “gate” of the Sun. This move corresponds to that of Mithra in the morning, who in his hymn, Yt. 10.12-13, is said to be “the first supernatural god to approach across the Harā, in front of the immortal swift-horsed Sun.”<sup>26</sup>

## Spherical Verticality

### (1) Cosmic levels and the Bridge

As indicated earlier, it has been well recognized that the fire represents the Sun, and the horned tripods the Moon. The recognition that the twelve instruments represent the zodiac completes the picture. More important, the zodiac is the apparent path of the Sun and the Moon, but not only of these two, but also of the other five traditional planets in the Ptolemaic geocentric system.

26. Cf. Gershevitch 1959: 79.

prominent divine being Srausha, who is the representative of Mazdā Ahura. Kotwal and Boyd describe the general role of Srausha as follows:<sup>23</sup> “All dedications begin with an invocation to Ahura Mazda except the dedication to Srōsh who presides over the material world as a special divine representative of Ahura Mazda. Srōsh has his own dedication because of his direct involvement in the affairs of this world on behalf of the Lord of Wisdom.” One should also note the corresponding liturgical text; while Y. 2 is dedicated to the *barsman*, Y. 3-8 (and Y. 57-58) are specifically dedicated to Srausha (correlated with the ritual action of the Meal).

### (3) The oblique cross and the annual course of the Sun

By the complementary ties between left and right, the four corner positions form an oblique cross. When correlated with cyclical time, the diagonals can be recognized as representations of the endpoints of the Sun’s annual oscillation between the northernmost and southernmost sunrises and sunsets at the solstices. The eastern side therefore would at one time have functioned as the line to trace the shadow of a gnomon for sunrises, and the western side for the sunsets. They can thus be recognized as the “180 windows” on the west and east side of Mt. Harburz/Alburz (i.e. the horizon) referred to in Bundahishn V B3.<sup>24</sup>

These conclusions can be linked directly to the exact alignment of each performance of the Yasna to month, the day, and the watch of the day discussed earlier: The priest who determined the alignment was the *zautar*. He is supervised by the representative of Ahura Mazdā, the *sraušawarza*, who stands in the south, at the cosmic fire, and the Sun (Fig. 12).

As such, the layout of the ritual area appears as a variant, confined inside the closed fire temple, of the circular structures of which Stonehenge is the best known example. Those large multi-ringed open-air structures may date back to the Neolithic, such as the recently found complex in Goseck near Halle, Germany, as one besides many. The latter happens to be oriented towards Aldebaran, alpha Tauri, which was the equinoctial constellation of the “cosmic age” of Taurus, astronomically roughly between 4000 B.C. and 1800 B.C., just as the layout of the Zoroastrian ritual table is still oriented towards Taurus as discussed above.<sup>25</sup>

23. Kotwal and Boyd 1991: 91, n. 87.

24. Cf. also Pahlavi Rivāyat 65.9, Williams 1990, I: 235, II: 140.

25. Cf. also Windfuhr 2004: 226.

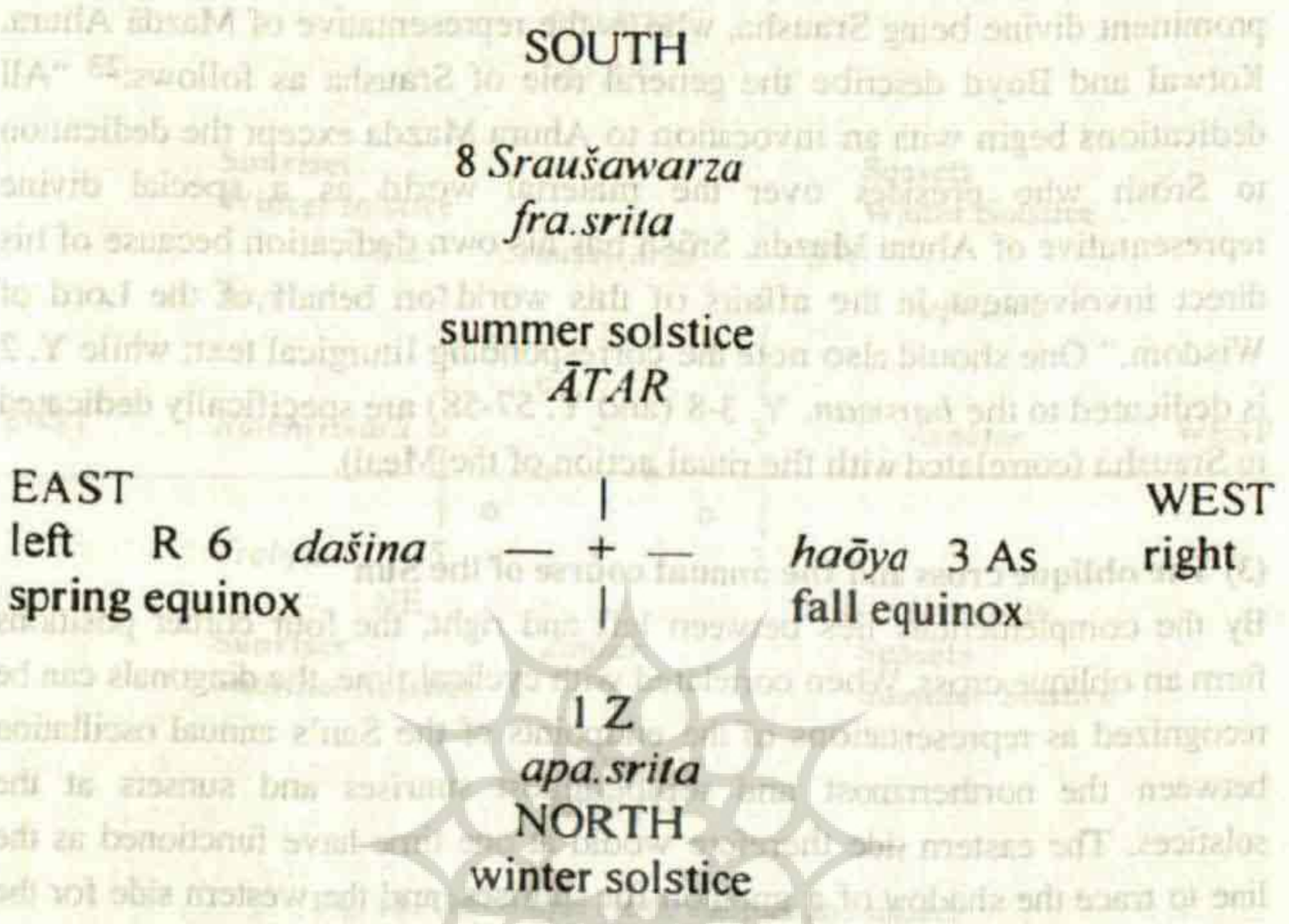


Fig. 10. The upright cross of positions and cardinal points of the year

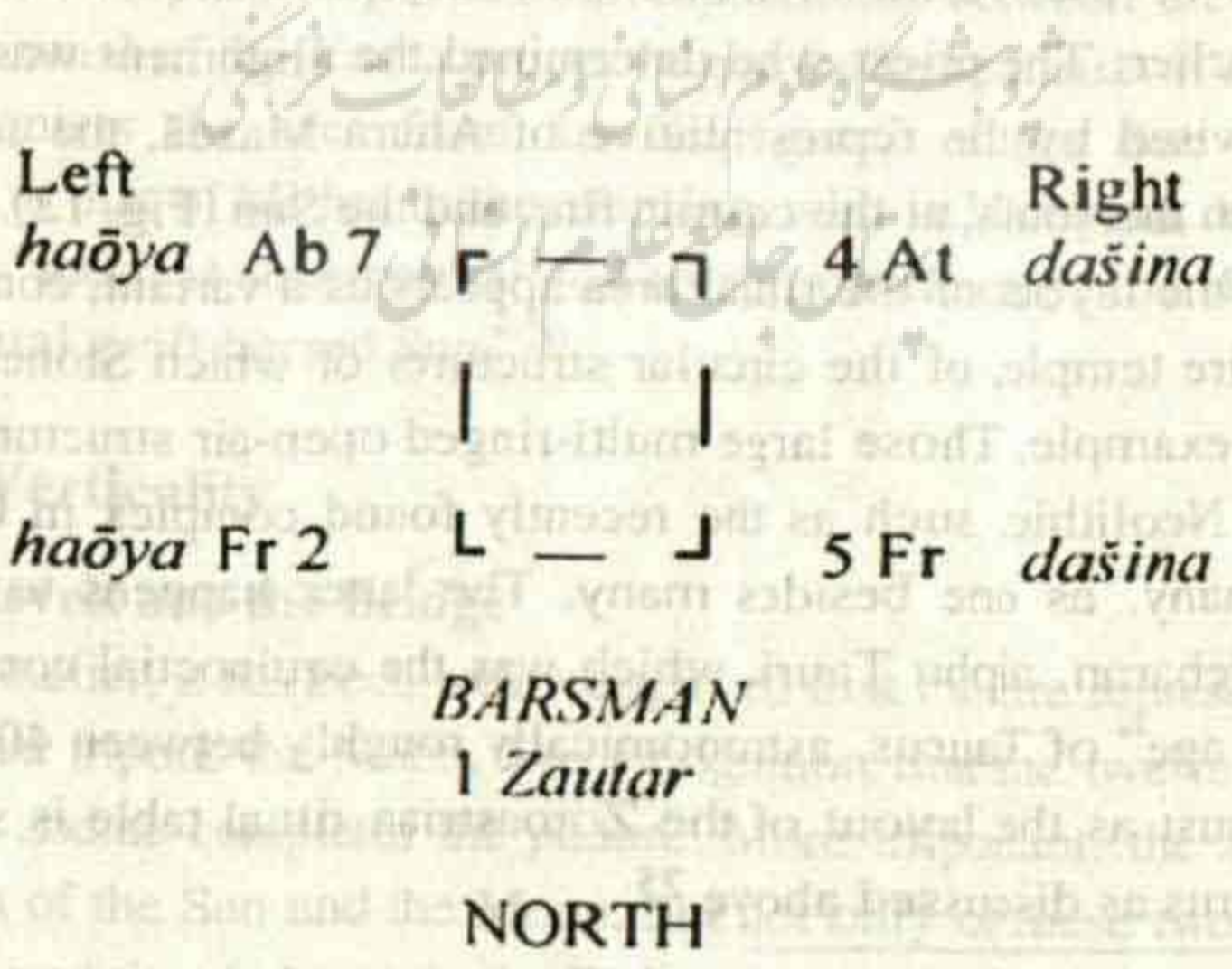


Fig. 11. The four corner positions and frame

explanatory parentheses, Kotwal and Kreyenbroek recognized that the right-left reference of the middle pair of the *āsnātar* and the *raiθwiškara* is to the fire, not to the *barsman*:

<i>dašināṭ hē naēmāṭ</i>	R 6	3 As	<i>haōyāṭ hē ncaēmāṭ</i>
at his (the fire's) right			at his (the fire's) left

In fact, the inversion of the point of view, combined with the pattern of inverting near and far, reveals the complex logic of two interlocking geometric patterns.

### (1) The upright cross

The two positions of the *āsnātar* and the *raiθwiškara* are the ones clearly identified as seen from the *sraušawarza*. This implies that the *zautar* is likewise to be seen from that position, as is also indicated by the designation of that position as *apa* 'away' in the term *apa.srita*. Accordingly, the Avestan authors must have seen all four cardinal points of the ritual area, and only those four, as anchored at the southern vantage point of the *sraušawarza*. Geometrically, this set of ties has the form of an upright cross (N-S, E-W). When correlated with cyclical time, the upright cross represents the four cardinal points of the year, that is, the two solstices and the two equinoxes (Fig. 10).

### (2) The rectangular frame

The two corner points on the western side are identified as right, and the two corner points on the eastern side as left. As recognized by Kotwal and Kreyenbroek, this implies reference to the position of the *zautar*. When the four positions are seen together, they form a rectangular frame (Fig. 11).

Thus, geometrically, the upright cross of the four cardinal positions and the rectangular framework of the four corner positions can be recognized as complementary patterns, defined by complementary orientation from north to south and vice versa. Therefore the role of the *sraušawarza* should be re-evaluated: In the Nērangestān (and in later sources) he appears as a rather insignificant ancillary priest. However, the geometry suggests that his role must once have been equal to that of the *zautar*. Indeed, the term *sraušawarza* would appear to connote not only ritual supervisor, but its first component would also correlate this position with the ritually



EAST SOUTH WEST

*\*maḍamyā nmānahe*

*\*maḍamāt arāθraōt*

*\*fra.sritō*

*\*stūna yuxtōiś*

in the middle of the rectangle

on the vertical through the fire stand

at the near end (viz. of the central column)

Left corner

*\*haōꝥqm upa sraxtim*

*\*aparqm harasmqn*

*\*fratarqm āθrō*

at the left corner

distant from the *barsman*

close to the fire

Right

*daśināt hē nāemāt*

at his (the fire's) right

Left corner

*\*aparqm āθrō*

*fratarqm harasmqn*

*haōꝥqm upa sraxtim*

distant from the fire

close to the *barsman*

at the left corner

Right corner

*daśinam upa θraxtim*

*\*aparqm harasmqn*

*fratarqm āθrō*

at the right corner

distant from the *barsman*

close to the fire

Left

*haōꝥāt hē naēmāt*

at his (the fire's) left

Right corner

*aparqm āθrō*

*fratarqm harasmqn*

*daśinam upa sraxtim*

distant from the fire

close to the *barsman*

at the right corner

Ab 7 Sr 4 At

ĀTAR

R 6 3 As

BARSMAN

Fr 5 Z 2 H

1

*maḍamyā nmānahe*

*maḍamāt arāθraōt*

*apa.sritō*

*stūna yuxtōiś*

in the middle of the rectangle

on the vertical through the ritual table

at the far end (viz. of the central column)

Fig. 9. Pattern of handedness

Two Avestan passages would support the centrality, and the ritually essential binary bond suggested. One is the Gathic locative *aša.yuztā* 'im Anschirren mit *ṛta*' Y. 49.9, said of the artāwan, which parallels Skt. *ṛtá-yukti-* 'das Zusammenshirren mit dem *ṛta*' RV 10.61.10.<sup>21</sup>

The other term is found in the hymn to Mithra: *mərəzu.ča stūnō gayehe* 'the spine, too, the pillar of life' Yt. 10.71.<sup>22</sup>

In addition, the term *stūna.yuxti* is reminiscent of the familiar Indo-Iranian image of a race course whose turning points are marked by pillars, similar to the metaphoric race course of poetry, and by extension of the ritual, against formidable opponents.

### (c) *Nmāna*

Finally, the geometric interpretation here suggests that the term *nmāna* 'house' in *maḍəmya nmānahe*, which is the very first specification for first priest, was intended as a geometric term as well. In addition to referring to the fire temple as 'the house,' *nmāna* could well refer to the shape of a house, that is, to the rectangle of the ritual area.

The passage on the position of the *zautar* may thus be rendered as follows:

*maḍəmiia nmānahe maḍəmət arāθraōtapa.sritō stūna yuxtōiš*

It is in the middle of the rectangle (of the ritual area),  
(specifically) the lower endpoint of the vertical axis  
(when looking from the position of the *sraušawarza*)  
along the line going through the (geometric) center  
of the ritual table.

### (5) Handedness: Left and right

Having highlighted the extraordinary care in terminology and presentational strategy, one must also note a curious pattern of breaks, or rather inversion, in the orientation towards left and right. To recall, the specifications of the positions are as follows, presented here with slight rearrangements within the individual sets for the purpose of clarity (Fig. 9).

There is a clear logic to these inversions. As indicated by their

21. Cf. Humbach 1991: 150; Mayrhofer 1986, II: 417-418.

22. Cf. Gershevitch 1959: 106-107, 221.

*arāθraōt*, a pair which has been generally understood as a possessive construction, “middle of the table”. However, if understood geometrically, there is no need for that interpretation. Rather, the two ablatives appear to imply looking “along” a line, seen from the position of the *sraušawarza*, that goes through the “center” of the ritual area and through the ritual table, and ends at the position of the *zautar*. The latter position is thus also *apa* ‘away, off’ in relation to the table, and the geometric center.

### *Stūna.yuxtiš*

Both manuscripts add *stnuiuxitiš* after *apa.sritō*. Bartholomae listed the term, without suggesting a meaning or etymology. He assumed that it is an adjective related to the *zautar*, and that it is to indicate that the *zautar* has a fixed seat as opposed to the other priests.<sup>19</sup>

Waag recognized the corrupted spelling of the term *stūna.yuxtiš*, which he translated as “connection of the pillars,” *Verbindung der Pfeiler*, apparently taking *stūna-* as a dual, “the two pillars”.<sup>20</sup>

In a second step, Waag emended the nominative to a genitive, *stūna.yuxtōiš*, and syntactically related it to *apa.sritō*: “gelehnt and die Verbindung der Pfeiler.” Kotwal and Kreyenbroek interpret the term as “connected pedestal,” and translate “which leans towards the connected pedestal.” However, the identity of the “Pfeiler” or of the “pedestal” and the manner of “leaning” remains unclear. Therefore, an alternative interpretation must be sought based on the geometric approach suggested here.

The component *yuxti* implies “connection,” and thus the connecting line that ties the position of the *zautar* with the position of the *sraušawarza*. The component *stūna* ‘pillar, column’ therefore refers to the two endpoints of the central line, which geometrically is the line segment *SZ* (*sraušawarza-zautar*) oriented from due south to due north. One endpoint is identified as *apa.srita*, the other implicitly as *\*fra.srita*, i.e. the lower or northern endpoint and the upper or southern endpoint, respectively. Further, *stūna* connotes firmness, and thus identifies this line as the main vertical axis of the ritual area.

19. Bartholomae 1904, col. 1609.

20. Waag 1941: 84-85.

(a) *Naēma* and *maḍama*

Thus, *naēma* ‘half,’ also ‘the other/opposite half,’ which may be used in the general sense of ‘side,’ is here clearly correlated with the horizontal E-W axis, with the two endpoints that are defined by the complementary pair *dašina/haōya* ‘right/left.’

Similarly, and more unusual, the term *maḍama* ‘middle’ is here clearly correlated with the central vertical N-S axis. Only one endpoint is given, *apa.srita* in the middle of the northern side. However, as indicated, its southern pendant is implied by the grid pattern, *\*fra.srita*.

It should also be noted that, due to the careful choice of terms by the Avestan authors, both *naēma* and *maḍama* do retain their sense of ‘middle,’ since both evidently specify the intersection points in the <middle> of the respective intersecting lines. For example, *haōya naēma* is not only the western endpoint on the central <horizontal> axis, but also at the exact <middle> of the vertical line on that side. Similarly, *maḍama* together with *apa.srita* is not only the northern point on the central <vertical> axis, but also at the exact midpoint on the northern side.

The care by the authors in their choice of the terminology is further evidenced by the fact that for the two endpoints on the outer vertical lines, i.e., the western and eastern sides, they use *aparal/fratara*, but for the central vertical axis they use *apa.srita/\*fra.srita*. Moreover, they use a special term for the four corner intersections, *sraxti, θraxti* ‘corner,’ a term found only in this text (also used for the corners of the fire stand).

(b) *Apa.sritō*

The participle *srita-* is derived from *sray-* ‘to lean, be inclined’; *apa* is ‘away’ with ablative; thus, literally the position of the *zautar* is *apa.srita* ‘leaning away from’.

Geometrically this implies ‘off’ or ‘at’ the lower middle of the table, rather than leaning “against”, or “facing”, as *apa* used to be understood in this context.<sup>18</sup>

Moreover, this participle is preceded by two ablatives, *maḍamāṭ*

18. Thus, Darmesteter (1892-93, III: 130) who translates “appuyé”, and Waag (1941: 84-85) who translates ‘gelehnt an’, while Bartholomae (1904, col. 1653) suggested “facing” and translated ‘der Mitte des Gerätetisches zugewendet’. Kellens (1974: 285) correctly identified *apa-sray-* as ‘se retirer’.

In their footnotes to the first part of this passage, Kotwal and Kreyenbroek indicate that “[t]he passage is corrupt and its meaning is not clear; the translation is tentative.” For the second part, they suggest the following: “i.e. between the ritual table and the large water container (*kundi*). This reference to water may represent an attempt to translate Av. *apa*.”

“Water” here is indeed clearly out of place, so that an alternative reading should be sought: The Pahlavi commentator(s) must have assumed that the translation they found, *pad mayānag ī āb*, represents the literal translation of the Avestan original. They therefore concluded that what was meant is the large water basin in the NW of the ritual area (from where water is taken, and instruments taken out and deposited at specific moments; see fig. 1). Their solution was to add *tā* ‘till,’ resulting in the reading ‘up to the middle of the water,’ presumably somewhere between the center and the NW point of the northern side (allowing for some movements of the *zautar*).

The problem of *āb* ‘water’ should therefore be due to textual corruption in the Pahlavi transmission. The two Pahlavi letters that look like <’b> *āb* must be a rendering of a term for ritual table. If so, the two letters can be recognized as a remnant, or shorthand, of <\*xn> or <\*xw> where the vertical line of <n> or <w> had a leftward flourish resembling <b> (or is the shape that was left after the rest of the ligatures and letters were lost), standing for *xwān* ‘table, tray,’ which is a common term used for the ritual table.<sup>17</sup>

#### (4) Geometric terminology

Turning to the first main topic of these notes, there is a clear effort by the Avestan authors to find terms and to define them geometrically in order to indicate clearly the spatial relationships, the vertical and horizontal axes, and the points of intersection.

17. If this interpretation is correct, the word read as *āb* is probably not, as Kotwal and Kreyenbroek suggest as a possibility, a mechanical rendering of the preverb *apa* ‘away’

*apa.sritō* (\**stūna yuxtōiš*) which leans towards the connected pedestal.

[*pad mayānag ī zōtdān*] *be abāyuxt* connected [in the middle by the seat of the *zōt*].

This is because the preverb appears to be fairly well rendered by Phl. *be* ‘away’:

Av. *apa.sritō*

Phl. *be abāyuxt*.

of the two tripods the eastern side of the ritual table, though even there repeatedly touched and manipulated.<sup>16</sup>

Since the Avestan authors anchor the *barsman* in the north, chapters 60-61 must describe the positions <before> it was moved east onto the horned tripods. This suggests the very first section of the ritual, which is accompanied by the recitation of Y. 1-2. Indeed, Y. 2 is the so-called *Barsom Yasht*.

The later translators and commentators, it appears, did no longer recognize that the Avestan authors anchored the *barsman* in the middle of the northern side, but instead assumed its position on the two horned tripods on the middle and lower eastern side. Thus, referring to the two northern corner positions, the *frabrtar* in the NE and the *hāwanan* in the NW, the Avestan text has *fratarqm barəsmqm* 'close to the *barsman*' for both positions; however, the Pahlavi rendering is *frāz-tom* 'clos-est' for the position of the *frabrtar*, but *frāz-tar* 'clos-er' for the *hāwanan*. This distinction makes only sense if the *barsman* was assumed to be located on the eastern tripod (Fig. 8a).

	EAST	SOUTH	WEST
	Horned tripods		
Avestan	<i>fratarqm barəsmqm</i>	<i>BARSMAN</i>	<i>fratarqm barəsmqm</i>
Pahlavi	<i>frāz-tom az barsom</i>		<i>frāz-tar aī barsom</i>
	Fr 5	Z	2 H

Fig. 8a. Avestan *fratarqm* vs. Pahlavi *frāz-tom* and *frāz-tar*

### (3) The assumed reference to the water basin

There is another spot where the Pahlavi commentators struggled with the text, involving one of the specifications for the position of the *zautar*:

*maḍəmāṭ arāθraōṭ apa.sritō*

facing the center of the ritual table

*pad mayānag [tā pad mayānag] ī āb*

in the middle [up to the middle part]  
of the water

16. The *barsman* is placed onto the tripods at Y. 2.1 and removed only at Y. 64.4.

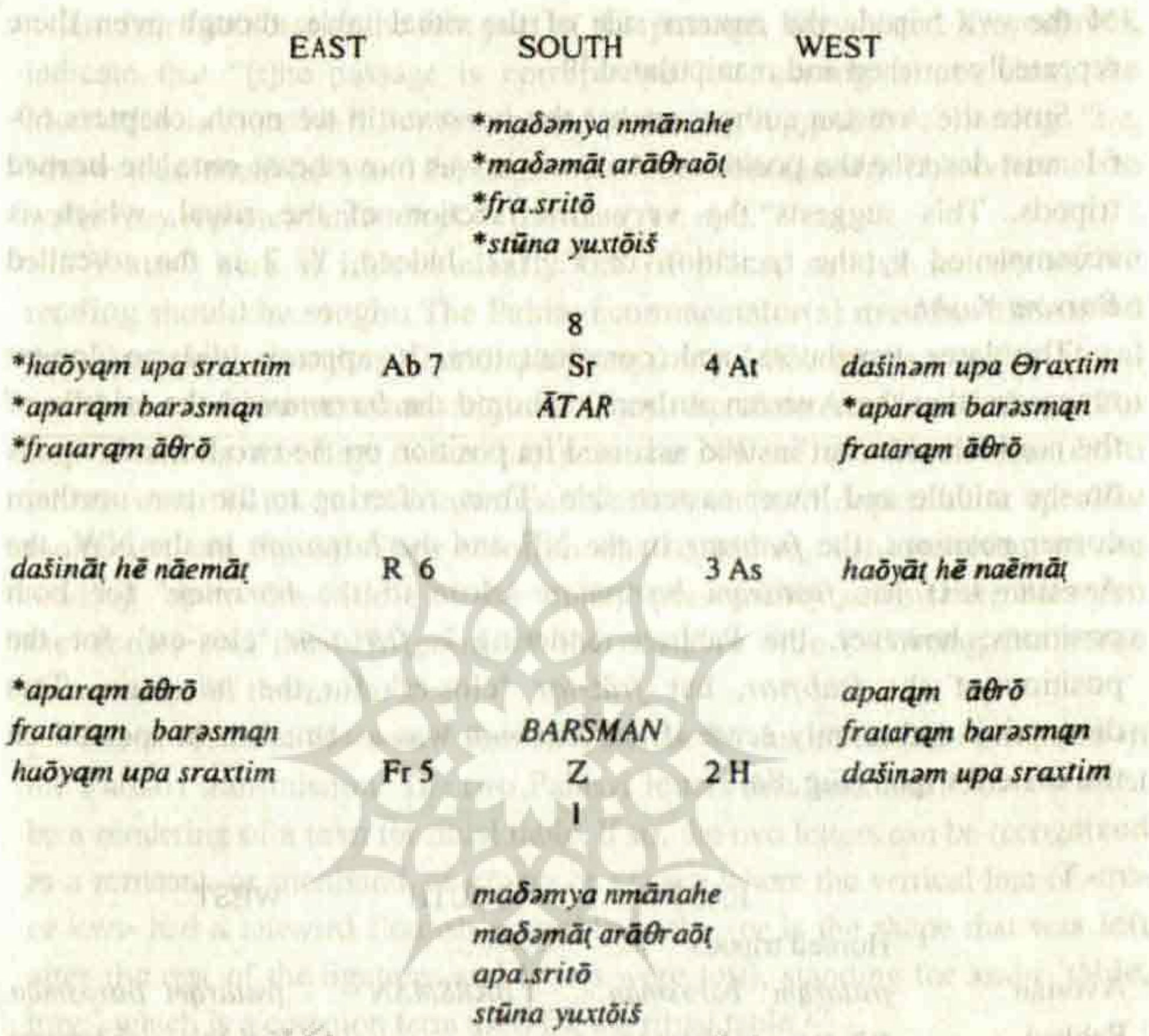


Fig. 8. Complementary pattern of descriptive terminology

## (2) The location of the *barsman*

The Avestan text makes it clear that the authors place the bundle of the *barsman* twigs in the middle of the northern side, at the position of the *zautar*. This implies that the *barsman* in the north of the ritual area is attributed the same central importance in the ritual arrangement as the fire, *ātar*, in the south. That is, both were considered the primary anchors in the Yasna ritual.

This correlation is notable considering that the fire is fixed in the fire stand while the *barsman* is manipulated by the *zautar*. However, even the fire is manipulated in the sense that it is being fed, today by the associate priest, at specific moments during the ritual. In turn, the *barsman* is also 'fixed' during an extended stretch of the ritual, when it lies across the horns

(5) *frabr̥tar* (61.7)

- (a) *haōyqm upa sraxtim* on the left-hand side  
*(az hōy abar sraxt)* (on the left-hand side)
- (b) *fratarqm barəsmqn* in front of the *barəsmān*  
*(frāztom az barsom)* (in front of the *barsom*)
- (c) *(aparqm āθrō)* (behind the fire)  
*abāztom az ātaxš* farthest behind the fire

(6) *raiθwiškara* (61.8)

- dašināṭ hē naēmāṭ* on the right-hand side (viz. of the fire)  
*az dāšn nēmag* on the right-hand side

(7) *ābṛt &*(8) *sraōšāwarza* (61.9)

- (a) *anaīβi. ərətuwō.gātu* without a fixed place  
*an-abar-drang-gāh* not having a fixed place

(b) *wīčarayātəm*

- be raw-ēnd* move up and down  
*[kū-šān* are on the move  
*pad rāspīgyašt guftan* [i.e. they have  
*gāh nē paydāg]* to recite the service of the *rāspīs*  
 no evident place]

**Commentary****(1) Complementary patterns**

The basic means for defining the positions are complementary pairs. This clear pattern allows filling in blanks that have been left out by the original authors, precisely because they are redundant. Kotwal and Kreyenbroek already inserted *aparqm āθrō* at the position of (5) *frabr̥tar*. When all redundancies are recovered, the complete set of specifications appears as shown below; note in particular the postulation of the undocumented *\*fra.sritō* at the position of the *sraušāwarza*, in analogy to *apa.sritō* at the *zautar*'s position; recovered insertions are marked by "\*" (Fig. 8).



indicate Pahlavi explanatory passages; note in particular that the parentheses in (5) below indicate the two scholars' reinsertion of apparently lost but recoverable specifications for that position:

(1) *zautar* (60.2)

(a) *maḍamiia nmānahe* in the middle of the house  
*pad mayānag ī mān* in the middle of the house

(b) *maḍamāṭ arāθraōṭ* facing the center of the ritual table  
*pad mayānag* in the middle  
*[tā pad mayānag] ī āb* [up to the middle part] of the water

(c) *apa.sritō (\*stūna yuxtōiš)* which leans towards the connected pedestal  
*be abāyuxt* connected  
*[pad mayānag ī zōtdān]* [in the middle by the seat of the *zōt*]

(2) *hāwanan* (61.2)

(a) *dašinam upa sraxtim* to the right-hand side (viz. of the *zautar*)  
*az dāšn abar sraxt* to the right-hand side

(b) *fratarqm barəsmqn* in front of the *barəsmān*  
*frāztar az barsom* in front of the *barsom*

(c) *aparqm āθrō* behind the fire  
*abāztar az ātaxš* behind the fire

(3) *āsnatar* (61.3)

*haōyāṭ hē naēmāṭ* to its (viz. the fire's) left-hand side  
*az hōy nēmag* to the left is the side

(4) *ātṇwaxša* (61.5)

(a) *dašinam upa θraxtim* on the right-hand side  
*az dašn [nēmag] ī sraxt* on the right-hand side [half]

(b) *fratarqm āθrō* in front of the fire  
*frāztom az ātaxš* in front of the fire

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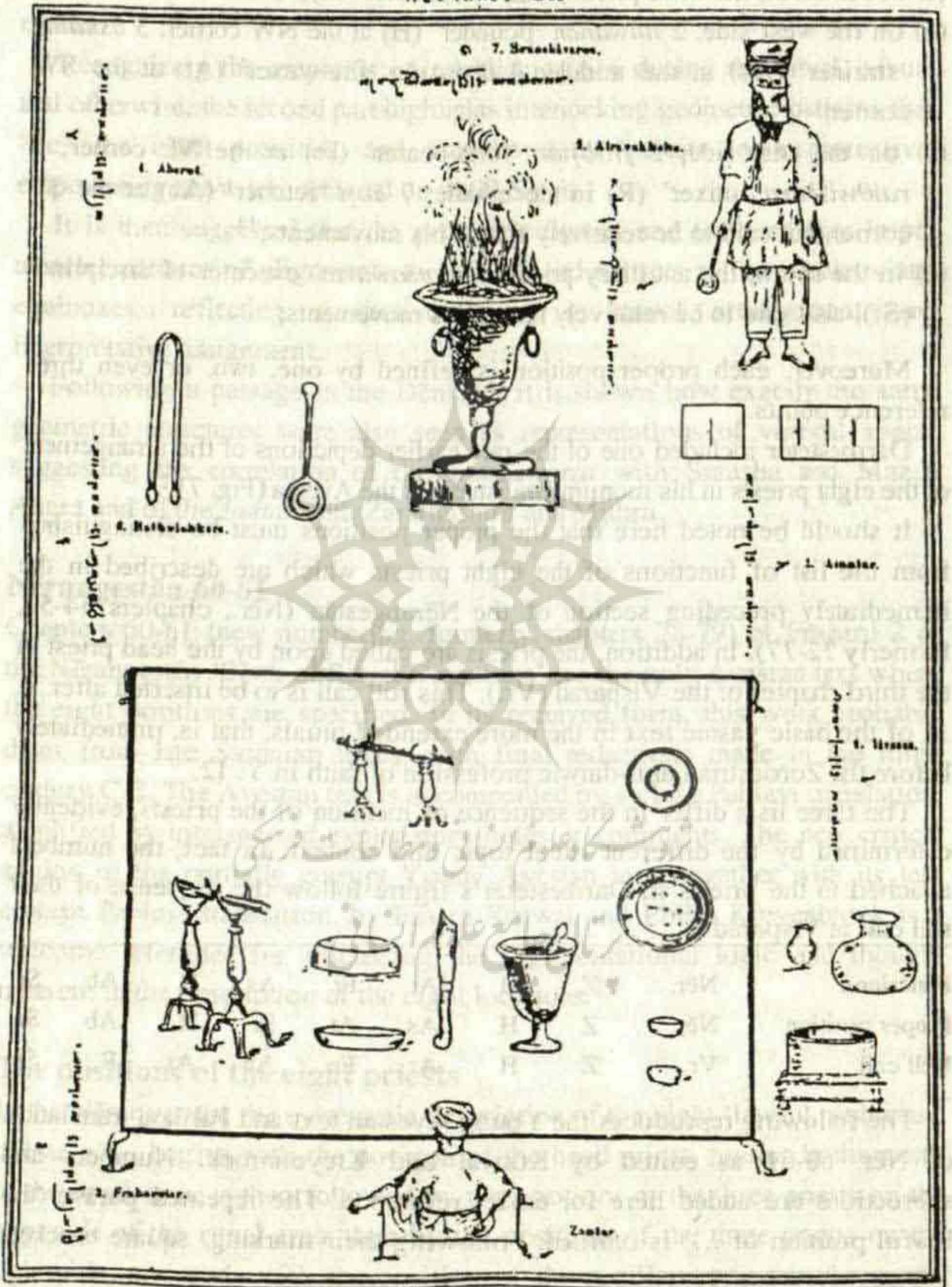


Fig. 7. The eight priests (Darmesteter 1892, I: LXVII)

- (a) in the north, the head priest (1) *zautar* 'libator' (Z);  
 (b) on the west side, 2 *hāwanan* 'pounder' (H) at the NW corner; 3 *āsnatar* 'strainer' (As) in the middle; 4 *ātrwaxša* 'fire-waxer' (At) at the SW corner;  
 (c) on the east side, 5 *frabrtar* 'forth-bearer' (Fr) at the NE corner; 6 *raibwiškara* 'mixer' (R) in the middle; 7 *ābrt* 'fetcher' (Ab) at the SE corner, but said to be relatively free in his movements;<sup>14</sup>  
 (d) in the south, the ancillary priest, 8 *sraušawarza* 'executor of discipline' (Sr), also said to be relatively free in his movements.

Moreover, each proper position is defined by one, two, or even three reference points.

Darmesteter included one of the rare earlier depictions of the arrangement of the eight priests in his monumental study of the Avesta (Fig. 7).<sup>15</sup>

It should be noted here that the proper positions must be distinguished from the list of functions of the eight priests which are described in the immediately preceding section of the *Nērangestān* (*Nēr.*, chapters 54-59, formerly 72-77). In addition, the priests are called upon by the head priest in the third chapter of the *Visparad* (*Vr.*). This roll call is to be inserted after Y. 11 of the basic yasnic text in the more extended rituals, that is, immediately before the Zoroastrian anti-daiwic profession of faith in Y. 12.

The three lists differ in the sequence of mention of the priests, evidently determined by the different ritual topic and context. In fact, the numbers attached to the priests in Darmesteter's figure follow the sequence of their roll call at *Visparad* 3:

Functions	<i>Nēr.</i>	Z	H	At	Fr	As	R	Ab	Sr
Proper position	<i>Nēr.</i>	Z	H	As	At	Fr	R	Ab	Sr
Roll call	<i>Vr.</i>	Z	H	At	Fr	Ab	As	R	Sr

The following reproduces the Young Avestan text and Pahlavi translation of *Nēr.* 60-61 as edited by Kotwal and Kreyenbroek. Numbers and subsections are added here for easier reference. The repeated phrase 'the lawful position of ...' is omitted. Following their marking, square brackets

14. Kellens (1974: 136-137) suggests *ā-brt* "(le prêtre) qui apporte" with the preverb *ā* 'to' complementary to *fra* in *fra-brtar*, rather than contraction from *āp-brt* 'water-bearer' suggested by Bartholomae (1904: 329).

15. Darmesteter 1892, I: LXVII.

Avestan reflected in the terminology suggests an Achaemenid date, if not earlier.

Recognizing the emphasis on establishing ties during the ritual, visual and otherwise, the second part highlights interlocking geometric patterns that “tie” the eight positions, and thus bond the priests in a protective, empowering net-work, centered on the N-S axis.

It is then suggested that the geometric figures and textures may imply abstract patterns of alignments to sunrises and sunsets at the solstices and equinoxes, reflecting successive layers in ritual arrangement and interpretative assignment.

Following a passage in the *Dēnkard*, it is shown how exactly the same geometric structures were also seen as representations of vertical space, suggesting the correlation of the *sraušawarza* with Srausha and Mazdā Ahura and of the *zautar* with Zarathushtra and Mithra.

### **Nērangestān 60-61**

Chapters 60-61 (new numbering, formerly chapters 78-79) of Fragard 2 of the Nērangestān ‘Book of Ritual Directions’ are the only Avestan text where the eight positions are specified. In its received form, this work probably dates from late Sasanian times, with final redactions made in the ninth century C.E. The Avestan text is accompanied by a close Pahlavi translation, amplified by interspersed explanatory notes or comments. The new critical edition of the partially corrupt Young Avestan text, together with its less corrupt Pahlavi translation, by Firoze Kotwal and Philip Kreyenbroek is a welcome reference for discussing the representational logic and thought inherent in the description of the eight locations.<sup>13</sup>

### **The positions of the eight priests**

In the Nērangestān, the systematic description of the eight ‘lawful positions,’ *dātiya gātu*, begins with the position of the head priest, *zautar*, in the north of the ritual area; is then followed by the positions of the three priests on the west side of the ritual area; then by the positions of the three priests on the right side; and ends with the position of the ancillary priest in the south. Overall, the sequence is north to south in each set:

13. Kotwal and Kreyenbroek 2003.

re-connect with those two states of pure order through ritual healing in a truly double entendre

An important socio-functional aspect of the performance of the Yasna should not be overlooked: By retaining much of the inherited complexity, each enactment of the Yasna by the priests is therefore implicitly also a social act of communal memory, and of re-establishing the living bond and ties with the generations of ancient forebears, and the generations to come.

It is in place here to note that modern priests continue to be well aware of the need for *payvand*, that is, ritual contact between priests or items, visual or otherwise, and the need to maintain it throughout the ritual performance. This notion still reflects the largely forgotten internal connective net-works that assure the success of this ancient purifying and empowering procedure.<sup>12</sup>

The following notes address the issue of the geometry of the ritual area, and the cognitive patterns that are likely to be encoded in it. As indicated, it is well recognized that as a whole the ritual area represents, horizontally, the seven continents, six circling a central one, while vertically it represents the three layers of earth, atmosphere, and sky or heaven. The specifics, however, are again not well recognized.

The basic texts that will be presented and commented on here are chapters 60-61 of the ritual guidebook *Nērangestān*. In particular, that text prescribes in detail the “proper positions” for the eight priests who once performed the Zoroastrian Yasna ritual. Again, the text is well known, so are the proper positions of the eight priests. However, once a number of textual problems of the Young Avestan text and its Pahlavi rendering, including corruptions, are approached with the recognition of a geometric system, or theory, that underlie it, this text offers clues that not only support the cognitive system and patterns briefly hinted at earlier, but also clues for significant new insights into that cognitive system.

It is shown that the authors of the passage developed, or applied, a precise geometric terminology to define the relationship of the eight positions in relation to the fire-vase in the south, and to the *barsman* bundle in the north, at the positions of the *sraušawarza*-priest and the leading *zautar*-priest as the two anchors. The creative use of Young

12. Cf., e.g., Kotwal and Boyd 1991: 8, 19.

repetitions, constantly embed, strengthen, and protect sections of recitation and action. Their word count gives the enigmatic number sequence 21, 12, and 15, respectively, numbers which are specified repeatedly in exegetical texts. What had been forgotten is the fact that these are exactly the numbers of the northern, zodiacal, and southern constellations in the Ptolemaic system, which is commonly dated to the second century C.E.<sup>11</sup> But in view of the fact that the triplicities are already encoded in the Achaemenid calendar, that system should be of Achaemenid date as well.

As such, these three cosmic numbers are perhaps the most prominent, hitherto unrecognized examples of the pervasive sacred numerology that informs the Yasna. Thus, the sacred geometry of the embedded layout, the temporal sequence of the actions, and their numerology constitute the matrix of ties that build up and uphold the spatial and temporal, and verbal and mental architecture of the ritual.

The specificity of cosmic tying is further shown by the very fact that each performance is dedicated to the specific tutelary deities not only of the month and of the day, but also of the specific watch of that day. This implies, cognitively, that the ritual area is a south-oriented sun-dial, and that each performance is spiritually re-aligned accurately with the astronomical calendar, so as to clear the proper daily path and bridge that ties the sacred space here with that of the divine guests from beyond invited for mutual support and exchange of strengthening gifts. Similarly, Yasnas performed for the benefit of the deceased can be seen as being thus aligned to assure the most timely and protected path for the soul. As such, the ritual area of the Yasna still reflects the cognitive function of the open-air ceremonial and observational circles which are well known from archaeoastronomy.

Even the fact that the ritual area, like the fire temple, is oriented towards the south encodes more than simple alignment. Cognitively, this specific orientation ties the ritual architecture with both the primal and the final points of mythical time: South is the direction where the Sun is said to have stood in the original unperturbed and unmoving ideal state of creation and ordering, before the attack of the forces of evil in the middle of time. This state will be restored at the end of time, followed by transfiguration. The course of the ritual performance is thus a process to re-establish and

11. Windfuhr 2001.

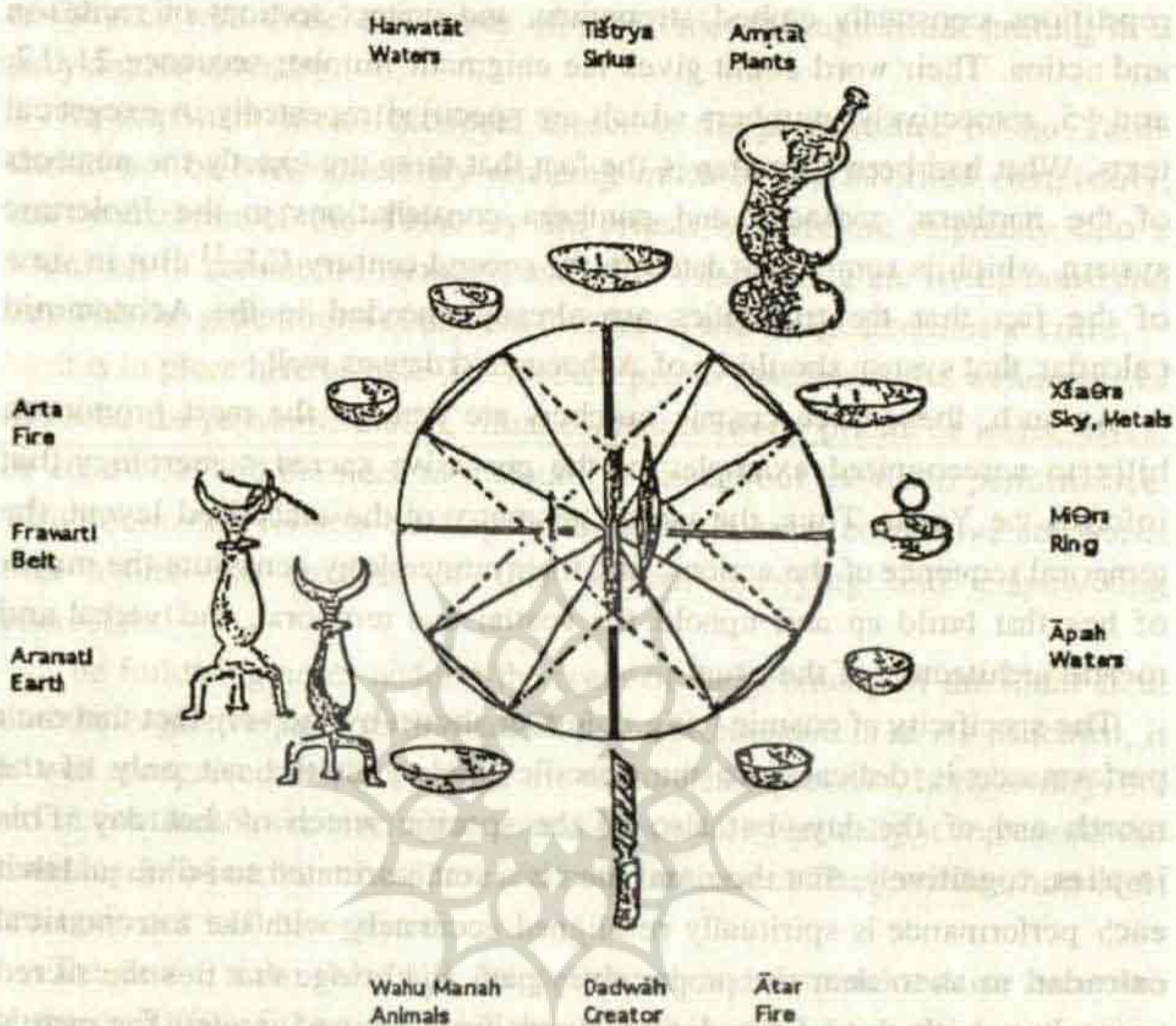


Fig. 6. Twelve instruments and Zoroastrian calendar (Windfuhr 2004: 194)

recently suggested that it is regressive, leading backwards to the original pure state of creation, following similar observations in general ritual studies. However, by correlating instruments and ritual actions it becomes apparent that there is not only regressive, but also progressive motion, as should be expected.<sup>10</sup>

Cosmic numerology is not confined to the number twelve, which encodes the 'year' (and possibly also the 12-year period of the revolution of the planet Jupiter, who is called Ohrmazd in Middle Persian). Particularly significant is such coding in the three most sacred manthric spells of Zoroastrians, i.e. the *yaθā ahū wariyah*, the *artam wahu*, and the *yejñhē hātąn*. These three, alone and in combination, and in specified numbers of

10. *Ibid.*, 227.

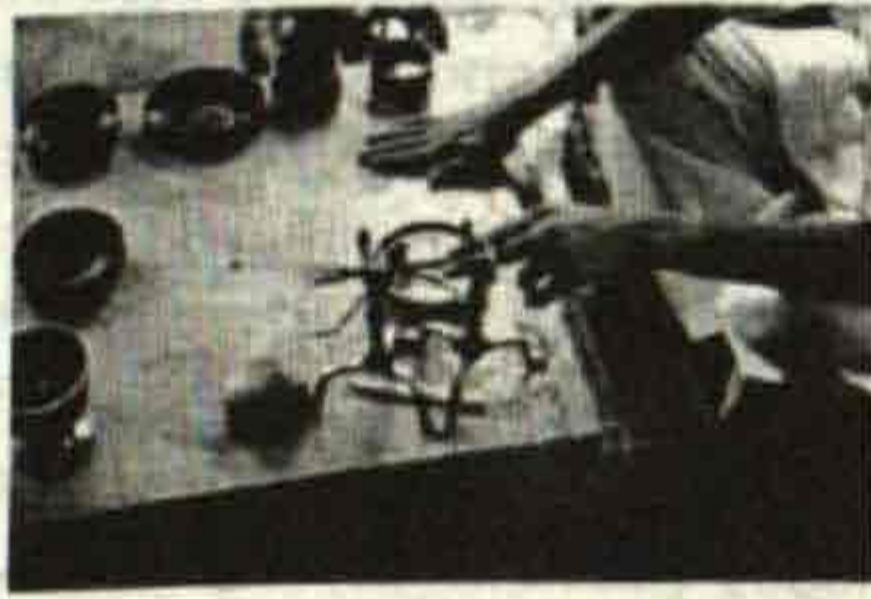


Fig. 5. Barsman on ritual table, Athornan Boarding Madressa, Dadar near Mumbai (photo by courtesy of Jamsheed Choksy)

the tree, *urwarā*, from which the twigs are cut is considered sacred and deserves homage.”<sup>7</sup>

Regarding the  $4 \times 3$  instruments arranged around the rim of the ritual table, I have shown that they correlate sequentially with the twelve months of the Zoroastrian calendar, which are guarded by a specific set of Zoroastrian divine powers. As units of a natural seasonal calendar that begins at spring equinox, each of the Zoroastrian months corresponds to a zodiacal constellation. That is, the Zoroastrian calendar superimposes those deities over the natural zodiacal constellations. This is shown by the fact that the particular instrument on the ritual table that represents the month of the spring equinox, which is guarded by the Frawashis, i.e. the Zoroastrian guardian spirits, is a horned tripod, which represents Taurus (Fig. 6).

In turn, the twelve months correspond to the Zoroastrian Great World Year which has the duration of 12 millennia. The number twelve is likewise encoded in the ritual progression, noting that each of the two halves of the ritual, i.e. the so-called preparatory ritual and the Yasna proper, consists of six main actions.<sup>8</sup> The twelve ritual instruments, thus, systemically correlate with the twelve millennia, and it can be shown that they also correlate with the mythological events said to occur during those millennia, both prior and after Zarathushtra.<sup>9</sup>

Regarding the temporal motion of the ritual action, some scholars have

7. Kotwal and Boyd 1991: 6, 10, 19; cf. also Kanga, “Barsom”, *Enlr* I: 825b-827a; also Modi 1922: 277ff.

8. Windfuhr 2004: 204.

9. *Ibid.*, 212.



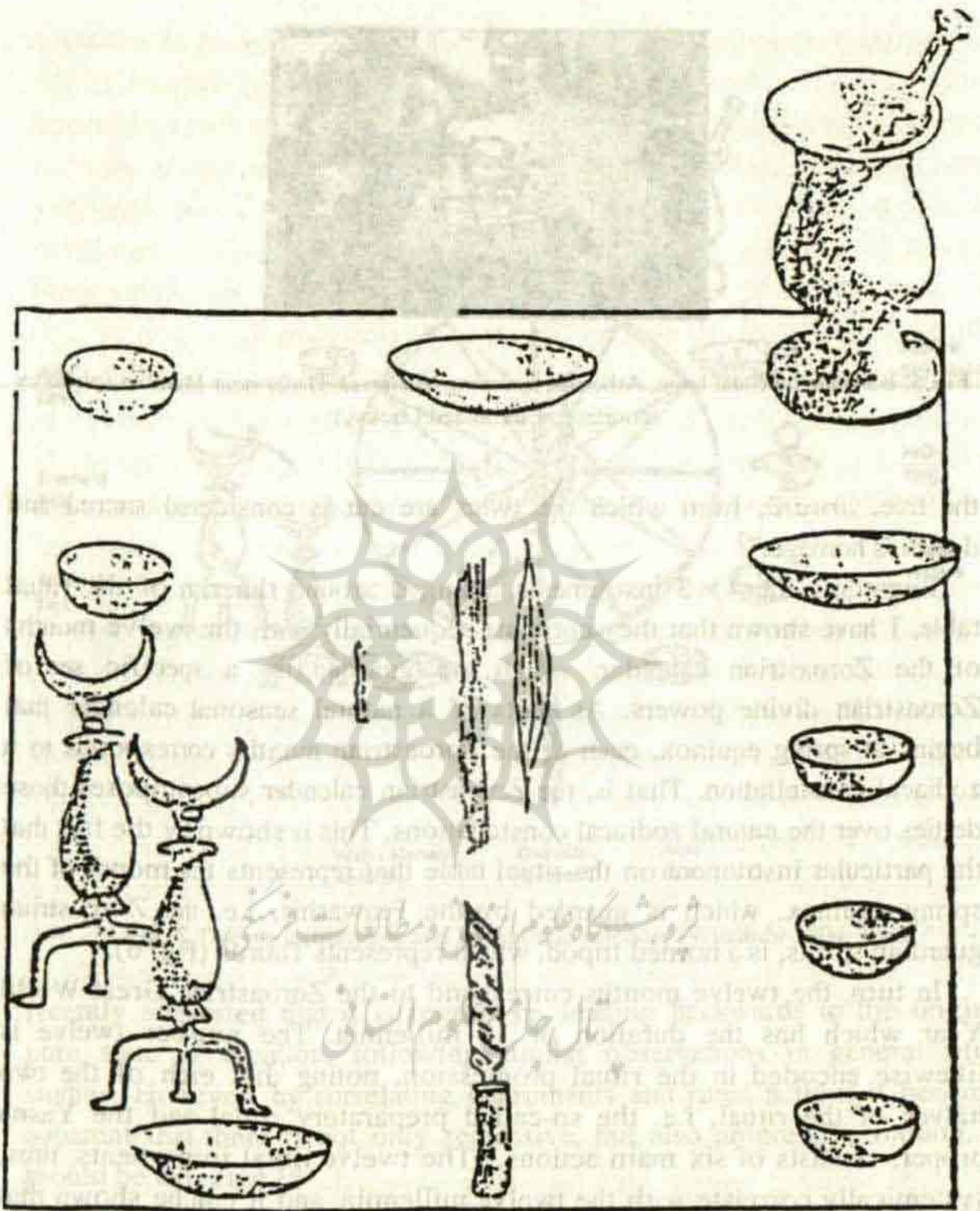


Fig. 4. Idealized arrangement of 12 instruments (Windfuhr 1997:269).

powers and blessings conveyed through this sacramental channel ... All inner rituals require the *barsman*, which as an emblem once signified a Mazdayasnian. It used to be held upright when doing homage to the vegetable kingdom, and once was required even for the simplest forms of grace. Even

alone and had hitherto been considered not significant but “preparatory,” constitute an integral part of the performance. That is, rather than being a cosmogram in general terms as has been assumed earlier, this activated cosmogram provides the multi-layered stage for the progression of the ritual action following specific Zoroastrian cognitive knowledge. Moreover, not unexpectedly, both layout and action are abstractly patterned by sacred numerology and geometry.

While there was some degree of uncertainty about the number of the instruments on the ritual table because not all instruments are on the table throughout the ritual, there are exactly twelve. Beginning in the NE, on the northern side there are a bowl with a mix of milk and water; a knife; and a cup. On the western side are another cup; a small vessel with a ring; and a bowl with twigs. On the southern side are a mortar; a bowl with consecrated bread; and also a cup. On the eastern side are a cup; and a pair of horned tripods (Fig. 4).<sup>6</sup>

In addition to the twelve instruments mentioned, an essential instrument is a bundle of twigs, Avestan *barsman*, Pahlavi *barsom*. The twigs (now wires in Parsi performance) are tied by a cord made of a date-palm leaf during the early phases of the ritual. This bundle is laid across the two horned tripods on the eastern side for long stretches of the ritual, but is manipulated and held by the main priest on his seat in the north both at the beginning and in the later sections of the ritual (Fig. 5).

According to Kotwal and Boyd, this bundle “is the ancient Indo-Iranian emblem of seeking the Holy” ... “an emblem of the whole liturgy, for with it the chief priest establishes a connecting link between this *gētīg* world and the *mēnōg* realm. The *barsom* is, as it were, the conduit through which the archetypal principles and powers manifest their presence and receive the offerings.” ... “[T]he officiating priest establishes and maintains contact with the *barsom* throughout the service ... i.e., the consecrated *barsom* establishes a *peywand*, a connecting link between the finite world of human endeavor and the universal realm which is temporally and ontologically prior to and the very source of our existence ... by maintaining continual contact with the *barsom* and invoking sacred *manthras*, becomes the bestower and receiver of the

6. The location of the mortar in the SW shown in Kotwal and Boyd 1991, and reproduced here, is specific to the Sanjana diocese, where it is kept during the preparatory ritual and for the first fifteen textual chapters in the Yasna proper. Elsewhere it is located in the SE.

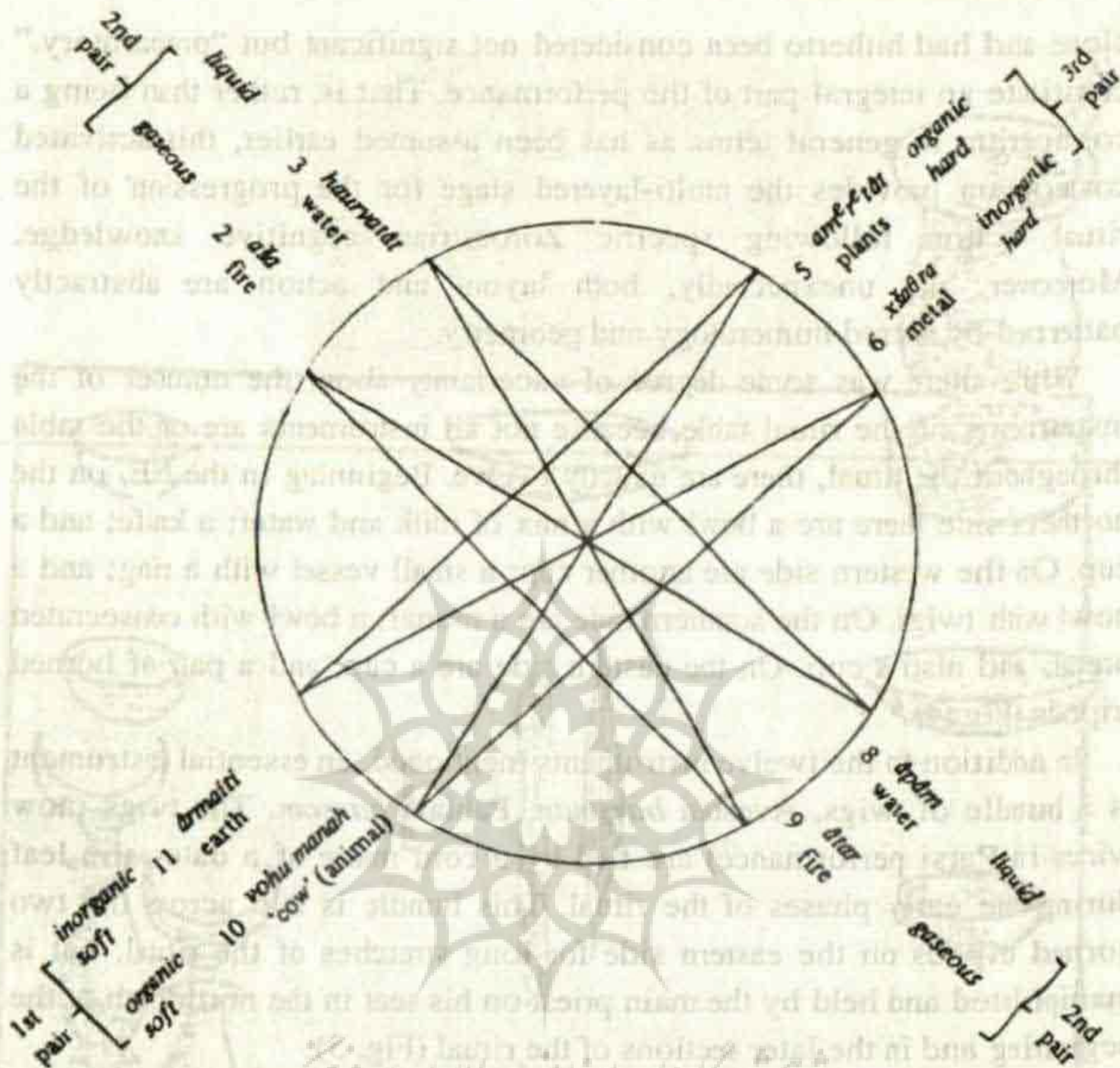


Fig. 3. Ties across the Zoroastrian calendar (Windfuhr 1976: 299)

since the Gathas were first envisioned and recited, most likely about the middle of the second millennium B.C.E. The following few paragraphs briefly summarize some of the findings so far.

Regarding basic cosmic representation, the two complementary components are layout and ritual action. The sections of the liturgical text are attached to these, but are secondary to the ritual action, or rather constitute an interstitial pattern. The layout of the ritual area, which embeds the layout of the instruments on the ritual table, is not a simple, but a layered cosmogram, and the ritual instruments are the tools to activate and navigate that cosmogram. In terms of ritual action, the actions of the preparatory ritual, which is performed by the later assistant priest

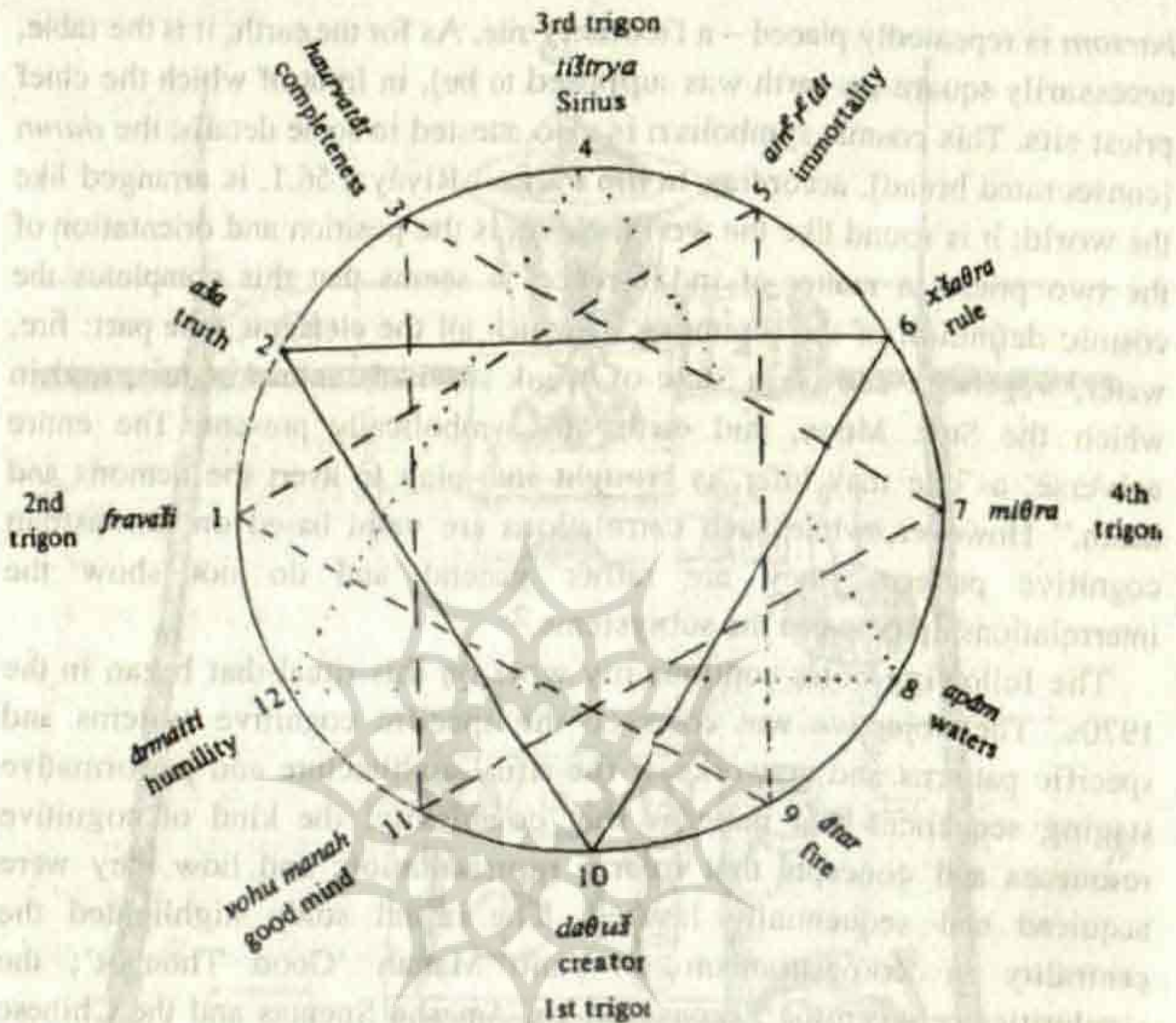


Fig. 2. Zoroastrian calendar, showing the triangles encoding astrological triplicities  
(Windfuhr 1976:296)

Yasna and the Taoist ritual. The comparison thus offered proof for the correctness of the conclusion that the underlying system for both is that of Late Antiquity, probably communicated to China by Sogdian Zoroastrians.<sup>5</sup>

At this stage of research it appears certain that the ritual in its present form reflects the cognitive system of Late Antiquity as expressed in the Sasanian sociolinguistic environment, but that it also reflects layers of earlier and archaic stages prior to the confinement of the ritual in fire temples by the later Achaemenians. That is, the specific cognitive patterns found reveal a succession of historical layers that reflect the theological thoughts of generations of Mazdayasnian scholars and priests through the millennia

<sup>5</sup> Windfuhr 2004.

*barsom* is repeatedly placed – a fecundity rite. As for the earth, it is the table, necessarily square (as earth was supposed to be), in front of which the chief priest sits. This cosmic symbolism is also attested in some details: the *darun* [consecrated bread], according to the Pahlavi Rivāyat 56.1, is arranged like the world; it is round like the world. Never is the position and orientation of the two priests a matter of indifference. It seems that this completes the cosmic definition of the ceremony in which all the elements take part: fire, water, vegetable and (in a state of weak survival) animal nature, and in which the Sun, Moon, and earth are symbolically present. The entire universe, as one may infer, is brought into play to avert the demons and death.” However, while such correlations are valid based on Zoroastrian cognitive patterns, they are rather general and do not show the interrelationship between the subsystems.<sup>2</sup>

The following notes continue my work on this ritual that began in the 1970s. The objective was to trace the specific cognitive systems and specific patterns and networks of the ritual architecture and performative staging sequences that underlie that complexity; the kind of cognitive resources and concepts that inform representation; and how they were acquired and sequentially layered. The initial study highlighted the centrality in Zoroastrianism of Vahu Manah ‘Good Thought’; the similarities between the Zoroastrian six Amesha Spentas and the Chinese system of the five virtues; and the intricate symbolism of the Zoroastrian calendar.

The geometry of calendar had hitherto not been recognized. It is defined by triangular ties across the geometry of the calendrical circle that reflect the Iranian astrological theory of triplicities.<sup>3</sup> Astronomically, these are the cycles on Jupiter-Saturn conjunctions that occur about every twenty years in constellations 120 degrees apart, thus forming triangles in the circle of the calendar which provide a distinct time reckoning system,<sup>4</sup> as well as paired diagonals (Figs. 2, 3).

More recently, the detailed comparative analysis of the Yasna with the main Taoist ritual, which proved to be unexpectedly similar in layout to the Zoroastrian ritual area, provided parameters for re-describing both the

2. For the world-like *drōn*, cf. Williams 1990, I: 196, II: 92.

3. Windfuhr 1976.

4. For triplicities, cf. Pingree 1963, 1997.

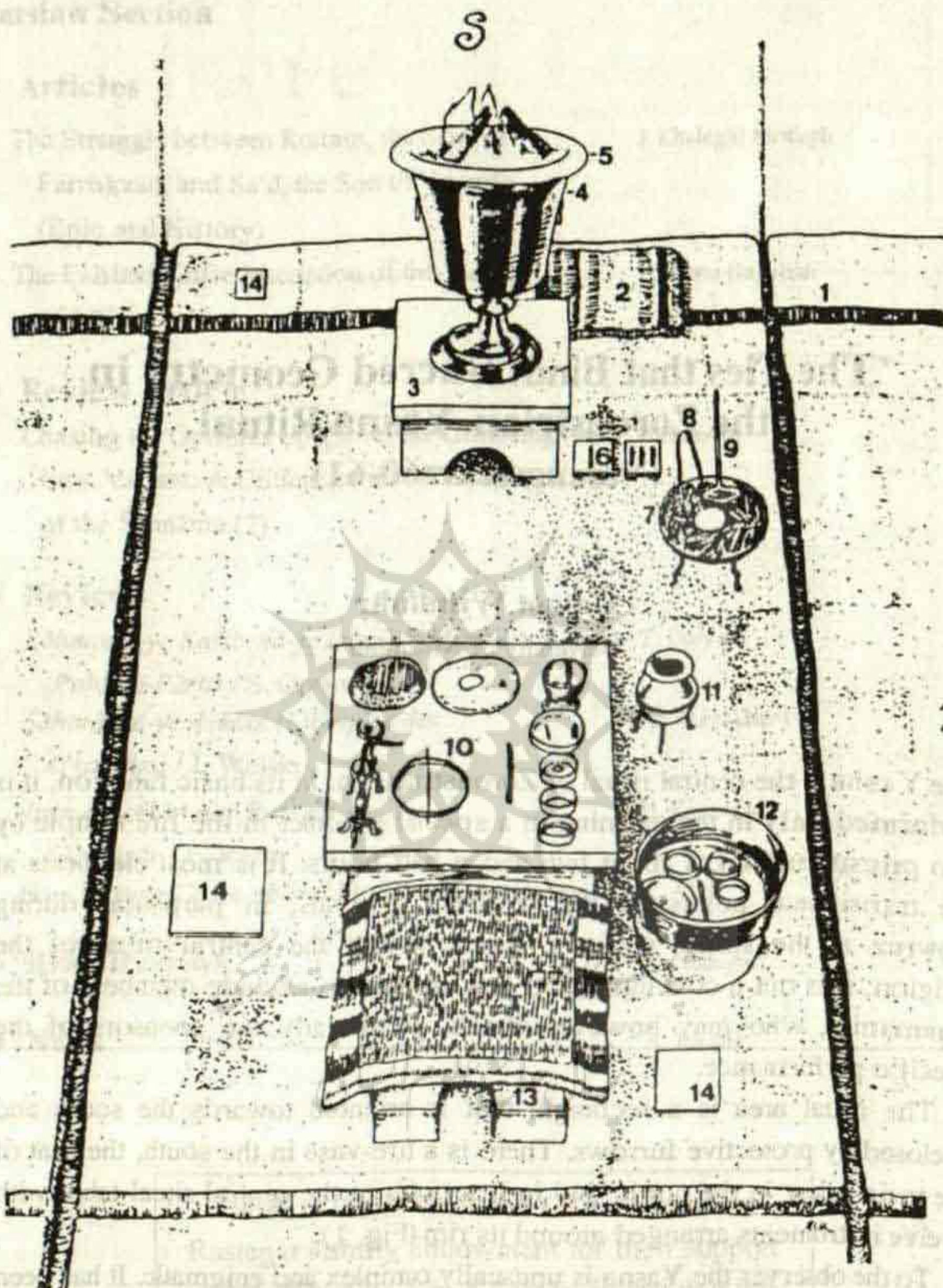


Fig. 1. The Zoroastrian ritual area (Kotwal and Boyd 1991: 33)

“(the) figuration of the Sun, Moon, earth are easily recognizable. Fire is a rival or substitute of the Sun: that is probably why it is placed on a circular vase. The Moon is present in the form of the two metal crescents on which the