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Visual Astronomy in the Mythology and Ritual of India: The Sun Temples of Varanasi

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Abstract

We use Varanasi, the paradigmatic holy city of India, as an illustration of the incorporation of visual astronomy into Hindu culture. In the city the Sun is honored in three ways: at morning worship, during pilgrimage, and as an icon in temples. Specific attributes of the Sun are symbolized by the *Adityas*, represented by fourteen temples which were destroyed during the years of Mughal occupation of the city after C.E./A.D. 1192. According to local tradition the locations of these temples remained in the communal memory of the city and are marked today by Sun disks, lotus-form stones or images of Surya, that are set into the walls of houses or installed in shrines or temples. Many of the sites are included in pilgrimage routes of the city. With the use of the Global Positioning System (GPS) we have mapped the positions of the *Adityas* and find that most lie along the sides of a triangle which surrounded the original center of the city. The major text that deals with Varanasi and its spiritual traditions, the Kashi Khanda, gives the myths, stories and rituals associated with each of the former Sun temples and reveal the significance of the Sun for inhabitants and pilgrims. The Sun is understood to be a caring and protective deity, providing relief from life's ordinary problems such as skin disease, infertility, hunger and the problems of old age and death. The Kashi Khanda also includes references to probable observations of naked-eye sunspots, meteor showers, and the total solar eclipse of C.E./A.D. 1054.

1. Introduction

Every morning of the year, the power and significance of the Sun is revealed on the banks of the Ganga (Ganges) at Varanasi (see Figs 1 and 2). Rising through the morning mists the solar disk commands the attention of all on the *ghats*¹, signifying a variety of meanings to the gathered worshippers (see Fig. 3).

¹ **Editor's note:** hereafter, the first instance of a Sanskrit word, such as '*ghats*', will appear in italics; thereafter, other instances of the same word will appear in normal Roman typeface. The Sanskrit words used here may be found in an accompanying '**Glossary**', found after the '**References**'; the standard diacritical marks for such words are displayed only in the Glossary.

Some of those who are present at sunrise may be residents of the city, performing their daily, morning bathing ritual known as *sandhya* (see Fig. 4). Others may be members of the countless parties of pilgrims engaged in their once-in-a-lifetime visits to the holiest city of Hindu India (Singh, 1987). Besides their initial baths in the Ganga, many of the pilgrims will include one or more of the *aditya* shrines on their pilgrimage circuit. The *adityas* are the fourteen forms into which the Sun divided himself when he took residence in the city (Eck, 1983), and today the *aditya* shrines mark the sites of destroyed Sun temples, each symbolizing a different aspect of the Sun.

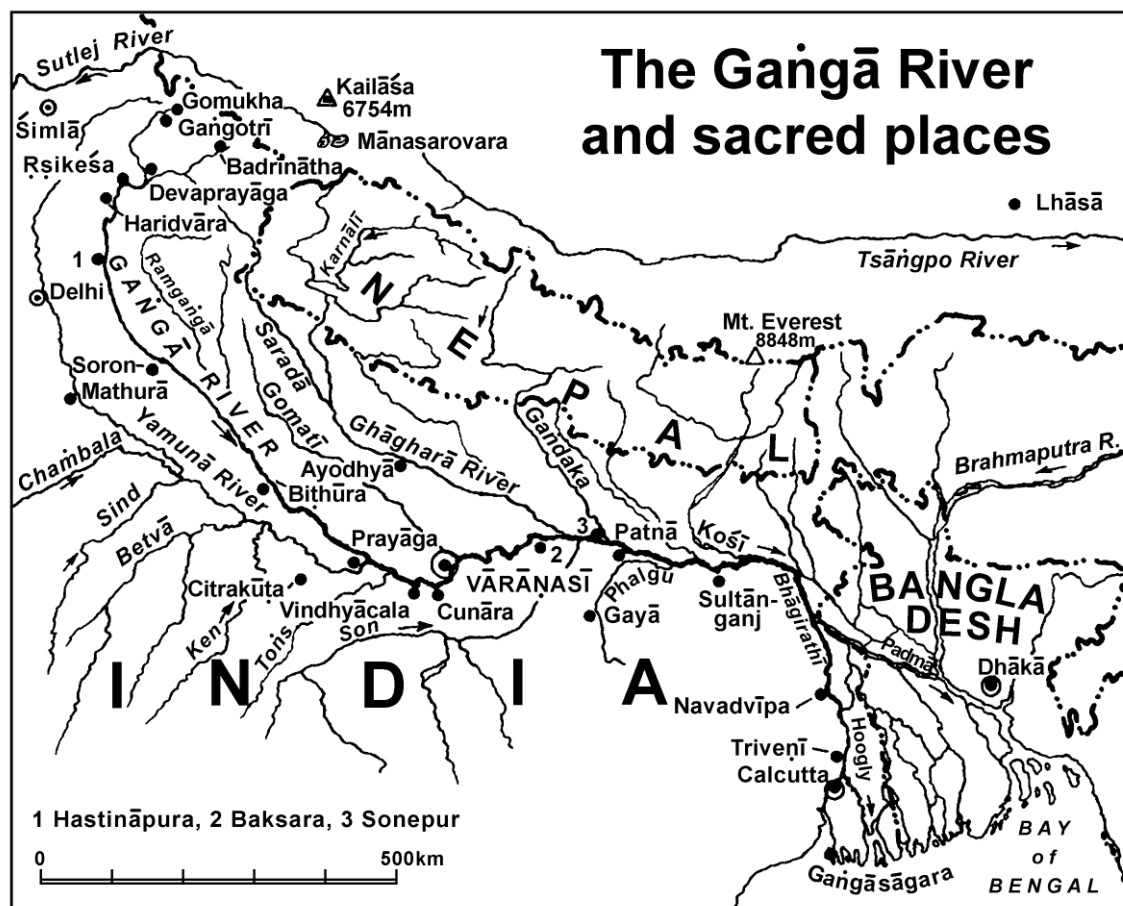


Fig. 1. Northern India: The Ganga river basin, and the sacred centres (© Rana P.B. Singh)

The earliest mention of the *adityas* in the Rig Veda (circa 1200 B.C.) refers to divinities associated with light (Srivastava, 1972). Initially, six were identified; later the preeminent *aditya*, Surya, who is most frequently associated with the Sun, was added. The number seven may have been significant because of correspondence to the Sun, Moon and five naked-eye planets. In addition to symbolizing light, the *adityas* provided some of the earliest expression of infinity in the Vedas by representing the boundless and imperishable quality of sunlight. As one of the *adityas*, Surya had a strong association with time and the divisions of day and year. The *adityas* also acquired a certain moral quality as they could remove evil influences and expiate sin, an association which may have come from the regular and lawful behavior of the Sun in the sky and its manifestation of fundamental cosmic order, *rita* (Srivastava, 1972).

By the time of the *Brahmanas* (900-700 B.C.) the number rose to its canonical value of 12, associated with the twelve months of the solar year. By the time of the Gupta period in the third century A.D. the Sun and the *adityas* acquired generally benign and luminous characteristics. As 'day-maker', the Sun dispelled darkness and functioned as 'rain-giver' and 'corn-maker' (Srivastava, 1972). Although the Sun was understood to have played a role in creating and sustaining the Universe and providing food for all, he

did not escape negative epithets, for as a source of heat, the Sun was also the destroyer of the Universe. At the time of the *pralaya*, the dissolution of the world which occurs at the end of each world cycle, the Sun enlarges and heats up, not too unlike a red giant, and burns the Earth to a cinder. Literally, '*pralaya*' is a process (*pra*) that melts *laya*.

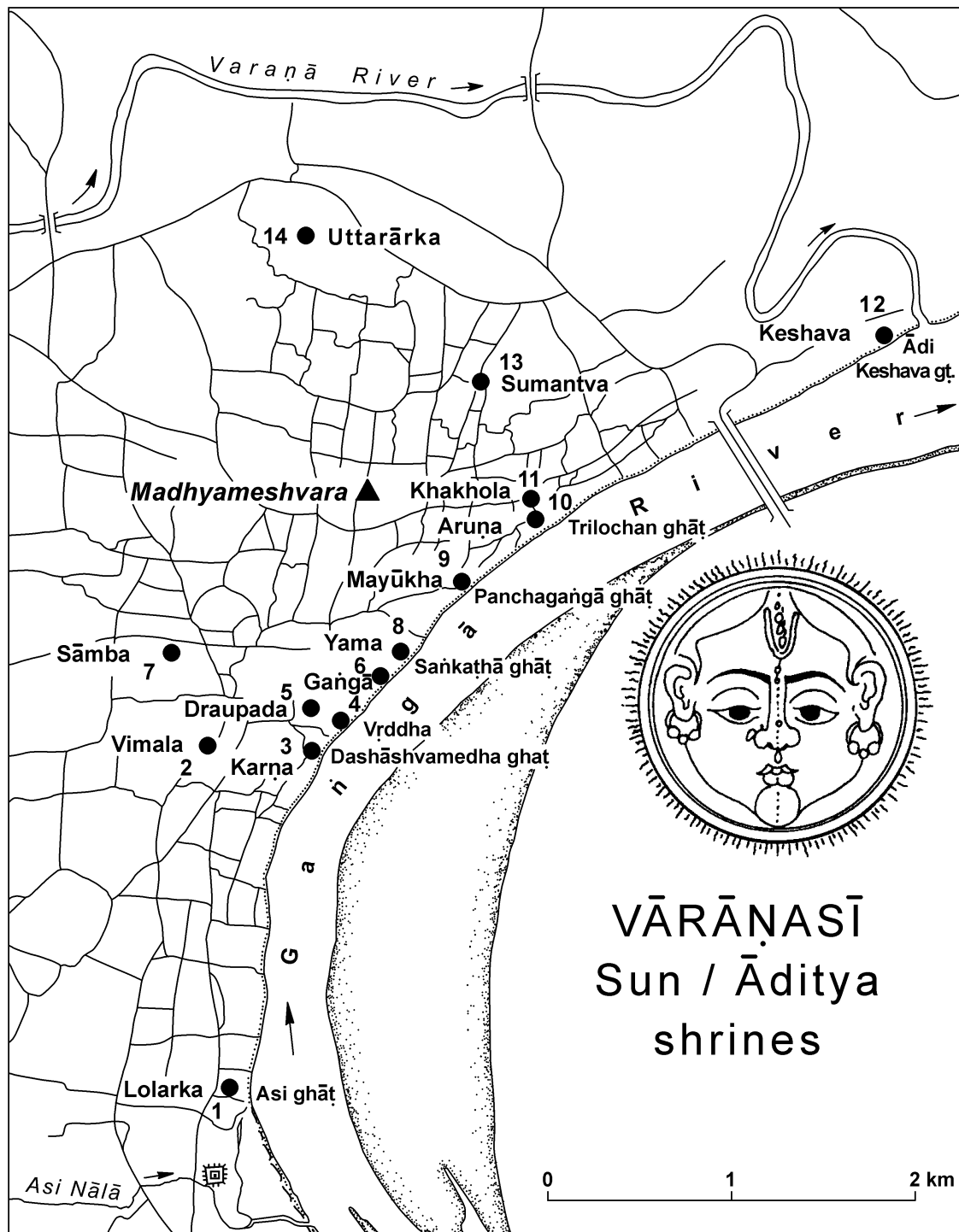


Fig. 2. Varanasi: Sun temples. (© Rana P.B. Singh)

The abstract atmospheric Sun god of the Vedas was thus gradually replaced by a more human deity (Fig. 2a, at Kandwa), and this more personalized Sun, involved in everyday human affairs, characterizes the *adityas* of Varanasi as described in the fourteenth century *Kashi Khanda* (KKh). The KKh is a member of the Hindu literary genre known as *mahatmya*, or praise literature (Eck, 1980). In addition to glorifying the city, it contains descriptions of each of the *aditya* temples, often going into considerable

detail about the mytho-historical events leading to the *aditya*'s establishment. As we shall see, some of those events appear to have involved identifiable astronomical phenomena.



Fig. 2a. Sun Image (Vishnu-form) at Kandwa, near Kardameshvara temple. (© Rana Singh)

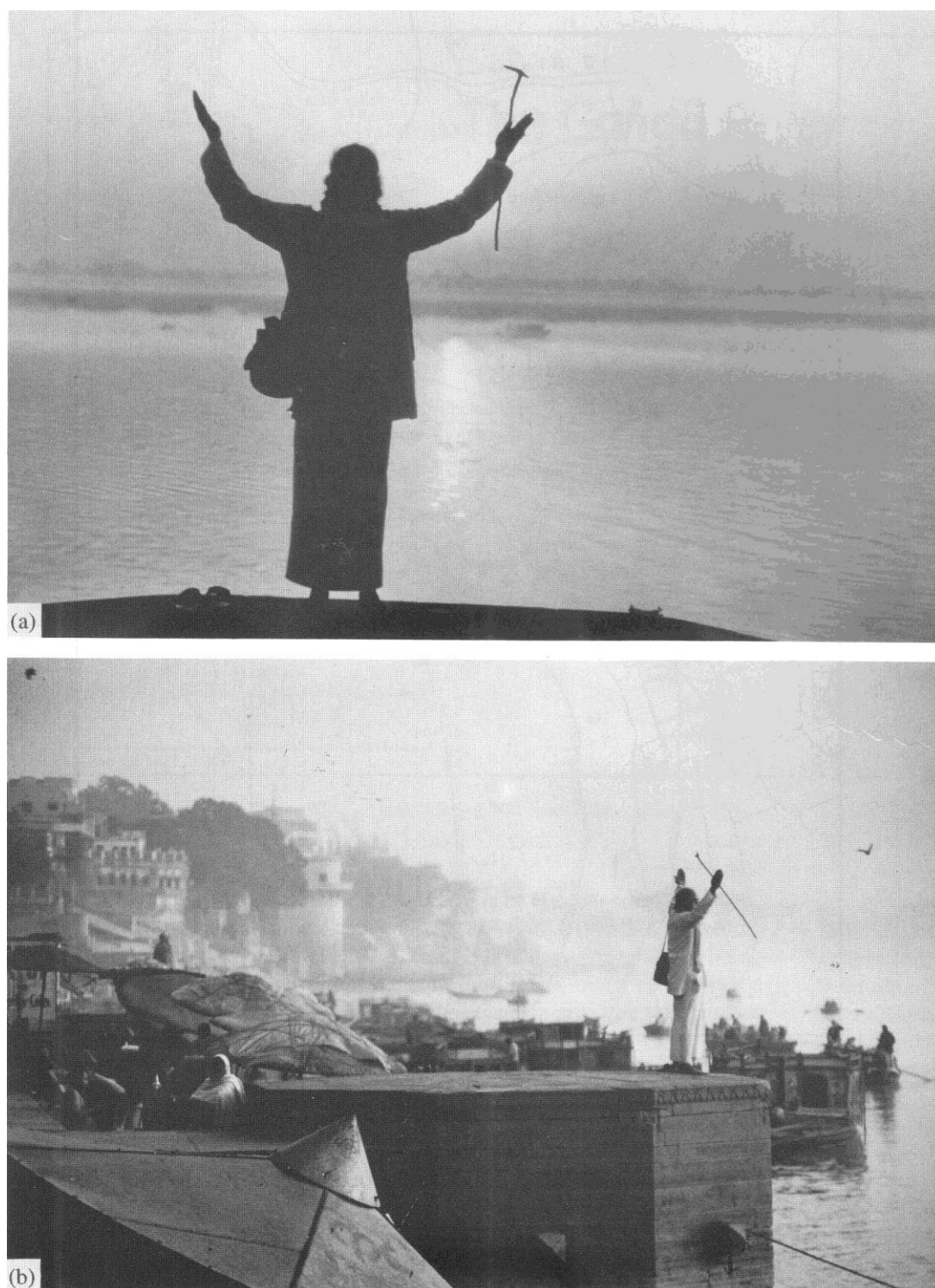


Fig. 3. Dawn on the ghats of Varanasi. (Photographs by J. McKim Malville)

The first sections of the KKh (10.83; 46.45-46) list 12 *adityas* in Varanasi. Later chapters, numbers 65 and 84, give descriptions of two more *adityas* (Sumantvaditya and Karnaditya), bringing the number of temples and shrines up to a surprising fourteen.

Each of the original fourteen *aditya* temples of Varanasi was razed starting in A.D. 1191 during the centuries of Mughal occupation. However, neither the Sun nor the spirit of the people could be vanquished, and, according to local tradition, the locations of the *adityas* remained in the communal memory of the city, remembered by neighbors, priests and pilgrims. Today, the fourteen *adityas* are marked by a variety of small and unpretentious features such as carved Sun disks, lotus-form stones or images of Surya, which are set into walls, installed in small shrines or the precincts of temples.



Fig. 4. Oblation (*argha*) to the rising Sun in the Ganga river; on Makar Samkranti and Chhat.

A pilgrims' guide to Kashi, the *Guru Charitra*, (Gangadhara, 1538), reveals that in the sixteenth century Marathi-speaking pilgrims from the vicinity of Pune were interested in visiting some of the *adityas*; six are specifically mentioned. While the pilgrimage *yatra* to all fourteen is described in current texts and pilgrimage guides, such as Kedar Nath Vyasa (1987) and Kuber Nath Sukul (1977), the popularity of the *aditya yatra* has waned and today some of the sites are quite difficult to locate. Of the 108 sites on the most popular pilgrimage circuit of the city, the five day *Panchakroshi Yatra*, four

sites contain *adityas* [cf. Fig. 2a, Kandwa] or are close to the original *aditya* temples and are thus regularly visited, some probably unknowingly, by pilgrims.

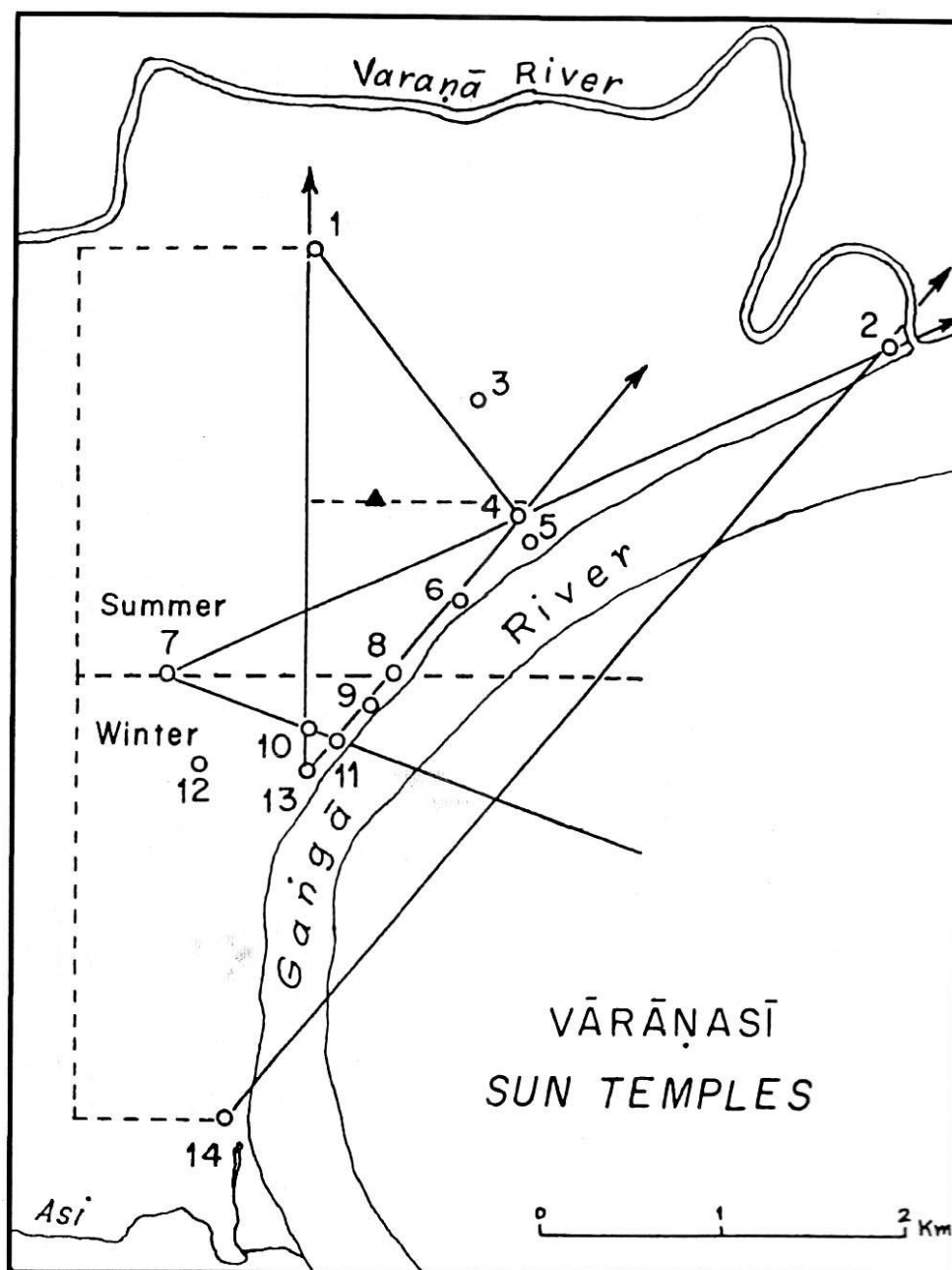


Fig. 5. Varanasi: Map of *Adityas*. [For details see, Fig. 9 on page 450; © Singh 2009: 223].

Of the three names of the city, Kashi, Varanasi and Banaras, Kashi is the oldest, Banaras is the youngest, dating from the Muslim occupation, and Varanasi (also an ancient name) is the official name (Dubey, 1993). The favorite name of Kashi may have originated with the name of a king of the sixth century B.C./BCE dynasty that controlled the area. However, the preferred interpretation of the name involves the Sanskrit word *kash* meaning “to shine, to look brilliant or beautiful.” *Kashi* thus “lights the way” to salvation and is the place where Shiva shines his light (SkP IV.30.5, 26.67). For our purposes it is noteworthy that the Lord Shiva sent Surya as his emissary to Kashi, the ‘City of Light’ where the Sun eventually took up residence (KKh 46). Kashi is an ancient city, founded near the beginning of the first millenium B.C. (Narain, 1957), and is one of the oldest continuously occupied modern cities of the world (Eidt, 1977).

2. Landscape and Cosmos

The approach of this study is to synthesize the authors' respective interests in cultural astronomy and cultural geography. We approach Varanasi as a landscape which can be read in the style of cultural geography (Duncan, 1990; Singh, 1994), but we go beyond the normal approach of the cultural geographer by including the celestial hemisphere which, in Varanasi as elsewhere in India, plays a major role in the symbolic and practical dimensions of life. The enlarged landscape that we consider is a true cosmos in the Greek understanding of the term *kosmos*, meaning order.

We consider the three scales of the Varanasi landscape, i.e. its three worlds: (1) *macro-scale*, the celestial *macrocosm* of Sun, Moon, planets and stars; (2) *meso-scale*, the intermediate world of the *mesocosm*, i.e. the local geography which is dominated by the Ganga River; and (3) *micro-scale*, the human *microcosm* which also includes texts, rituals, temples and shrines.

In addition to the daily activities on the ghats, there is the changing ritual landscape of Varanasi which is regulated with precision by the festival calendar. Throughout India, the Hindu calendar is primarily a lunar device with only occasional solar markers (Singh, 1993). For example, the "birthday of the sun" in which over 50,000 pilgrims converge upon the ruined Sun temple at Konarak in the state of Orissa, is scheduled on the morning of the seven day old Moon after *Makara Samkranti*, the day when the Sun enters the constellation of Makara (Capricorn; Malville 1989). In Varanasi there are 563 scheduled festivals each year (Singh, 1993), of which only three are established exclusively by the Sun. One of the greatest of the bathing festivals is the solar-lunar event of the first new Moon after *Makara Samkranti*. This festival of *Mauni Amavasya* is a celebration of rebirth in its many forms, coinciding with the rebirth of the Sun, Moon and year. At the morning of the new Moon the ghats contain up to 100,000 bathers, many of whom have walked for hours from their villages to reach the Ganga at sunrise. The three kilometers of the curving west bank of the river is converted into a vast temple of the Sun. Each bather makes an auspicious viewing of the solar deity (*darshana*); gifts of water are offered up to the Sun (*surya argha*; see Fig. 4; Malville, 1985); mantras of gratitude to the Sun are chanted; and oil lamps are circled before his orb in the sky (*arati*).

3. Hypothesis and Method

Our initial hypothesis in this study was that the spatial pattern of the original Sun temples could be revealed by a careful mapping of the *adityas* as they presently exist. Because of the difficulty of establishing accurate locations within this dense and complex city, we have turned to the Global Positioning System (GPS) to obtain accurate measurements of the latitude and longitude of each of the *adityas*. We also anticipated that a reading of the KKh combined with our GPS measurements would reveal some of the original meanings of the *adityas* and the corresponding role of the Sun in inspiring traditions of ritual and pilgrimage in the city.

During February-March, 1994, we obtained GPS measurements of the locations of the fourteen *adityas* that are described in the KKh. Two Garmin® GPS 75 receivers were used differentially: one receiver was fixed on the roof of the Hotel Ganges View of Asi Ghat and the second was carried into the field as a mobile receiver. Measurements were based upon the WGS 84 (World Geodetic System 1984) datum. The base station was operated over a period of six weeks producing more than 14,000 measurements of latitude and longitude, giving a precision of approximately 1/100 arc second. In the field, measurements were recorded every 10 sec for a minimum of 10 min at each site. For those *adityas* that were located deep within the narrow streets of the city we made our GPS measurements on the roofs of nearby buildings.

4. Results: The Aditya Triangle

The locations of the *adityas* are given in Table 1 and shown in Fig. 5. Line drawings of the icons at the *adityas* are shown in Fig. 6.

Table 1. The GPS locations of the *adityas*

No.	<i>Aditya</i>	Lat. -25°17'	Long. -83°00'
1a	Uttarka	3'04.4"	0'41.2"
1b	Bakaria Kunda	3'03.8"	0'38.7"
2	Keshavaditya	2'44.7"	2'34.8"
3	Sumantvaditya	2'37.3"	1'12.2"
4	Khakholkhaditya	2'12.8"	1'21.4"
5	Arunaditya	2'09.7"	1'24.0"
6	Mayukaditya	1'53.1"	1'02.8"
7	Sambaditya	1'43.9"	0'10.5"
8	Yamaditya	1'43.7"	0'58.4"
9	Gangaditya	1'34.9"	0'48.1"
10	Draupaditya	1'38.1"	0'37.0"
11	Vriddhaditya	1'34.2"	0'43.1"
12	Vimladitya	1'25.1"	0'16.8"
13	Karnaditya	1'24.1"	0'36.7"
14	Lolarka	0'29.1"	0'21.4"
--	Madhyameshvara	2'16.1"	0'51.0"

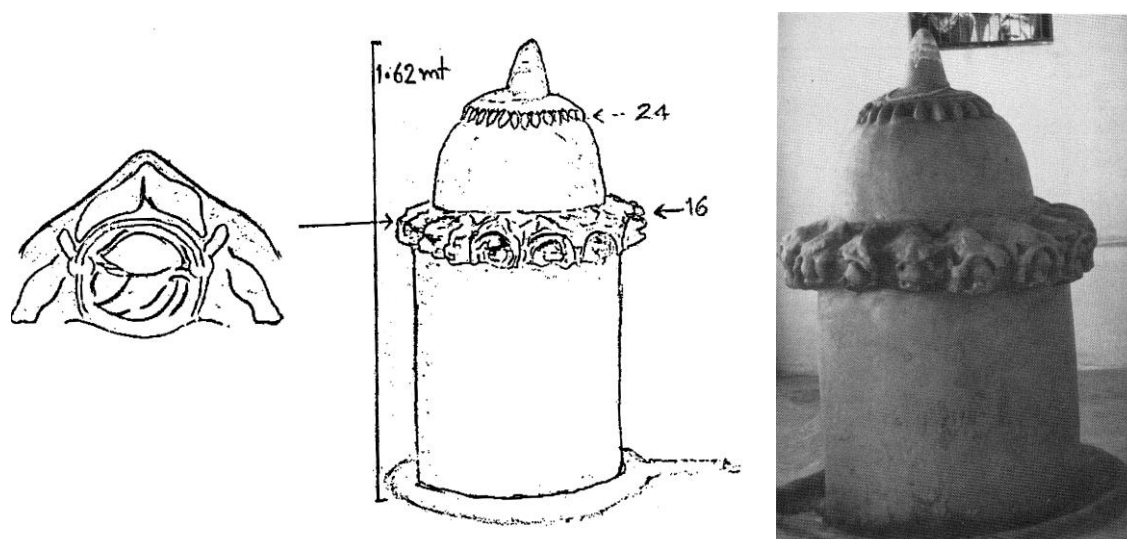


Fig. 6. The Uttararka Sun (pillar and lotus buds), Bakaria Kund. (by & © Rana P.B. Singh)

In Fig. 5 note that 10 out of the 14 *adityas* lie approximately along the sides of the triangle formed by Uttararka (1), Karnaditya (13) and Khakholkhaditya (4). The longest side is established by the north-south line connecting Karnaditya with the 'northern Sun', Uttararka. The two opposite sides of the triangle (Uttararka-Khakholkhaditya and Khakholkhaditya- Karnaditya) have lengths of 2001 m and 1997 m, respectively, equal to within 0.2%, approximately the precision of our GPS data.

In Varanasi the northward flowing Ganga dominates the symbolic landscape, as the river has turned toward the place of its birth in the Himalayas and away from the southern place of death. One side of the *aditya* triangle is tangent to the major section of the ghats, extending from Dashashvamedha to Panchaganga ghats. A line of regression fitted to the six *adityas* that comprise that side of the triangle has an azimuth of 45.9°

with a standard deviation of $+1.8^\circ$. Two major *adityas* not lying on the triangle are connected by a line which is also parallel to the ghats. The line connecting Lolarkaditya (14) and Keshavaditya (2) has an azimuth of 45.5° , notably close to parallelism with the Ganga side of the *aditya* triangle. The KKh identifies Lolarka Kunda and Kashavaditya as the two eyes of the earth goddess, Kashi.

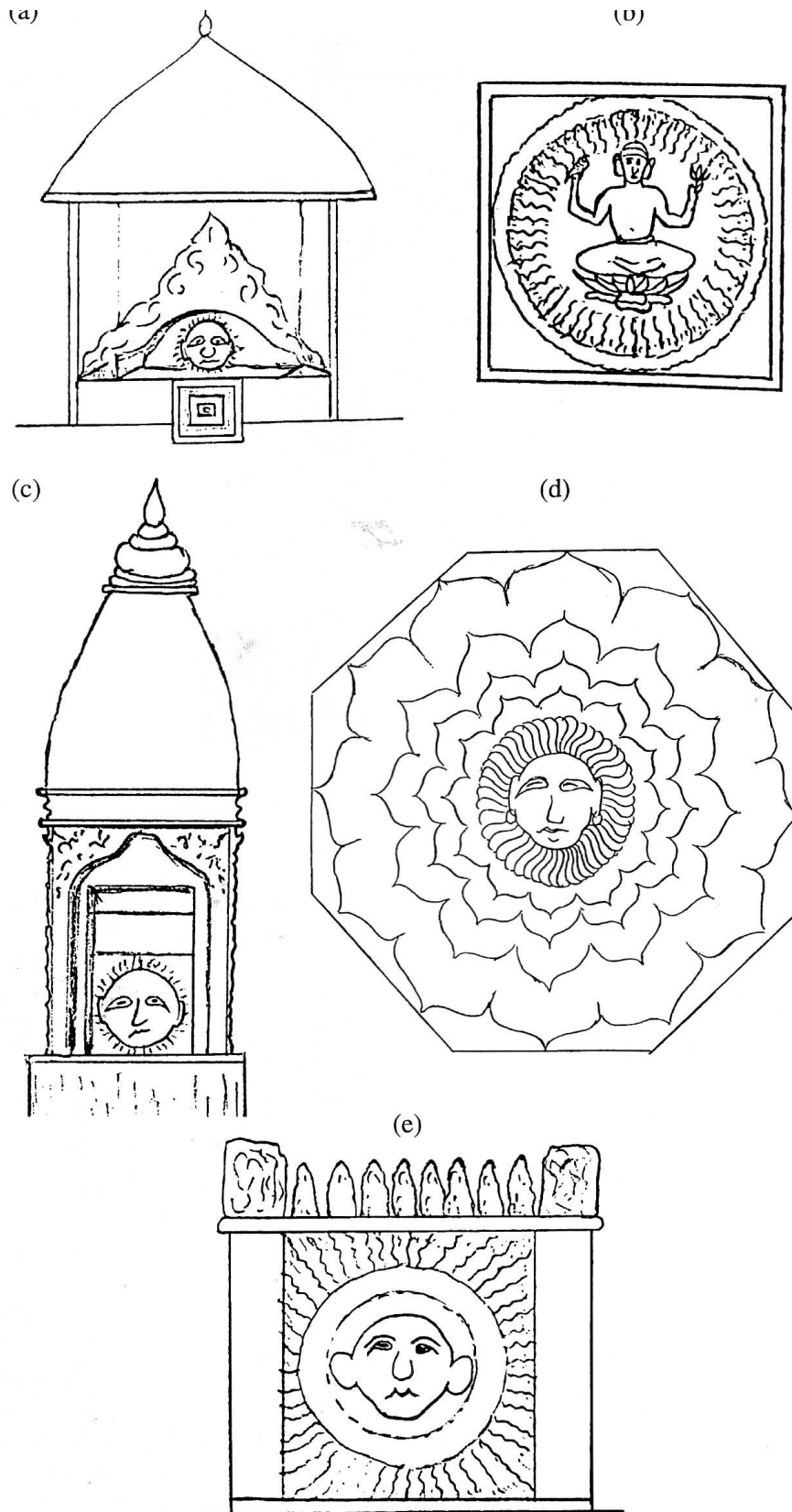


Fig. 7. Drawings of the *Adityas*: (a) Khakholaditya; (b) Arunaditya, (c) Mayukhaditya, (d) Sambaditya, (e) Draupadaditya. (sketches by & © Rana P.B. Singh)

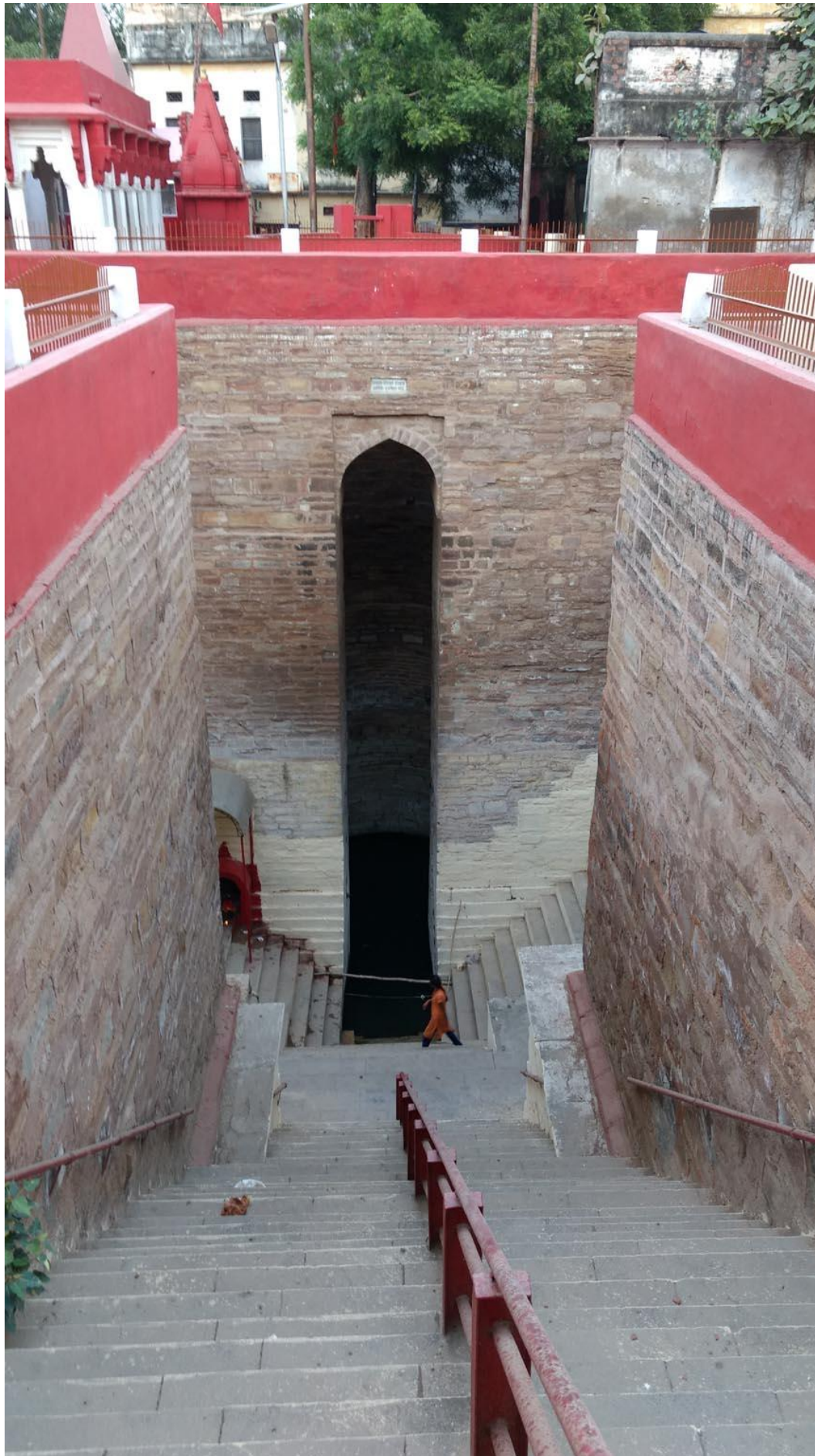


Fig. 8. Lolarka Kunda, Bhadaini. (Photo by Rana P.B. Singh).

The shrine of Madhyameshvara lies inside the triangle close to the perpendicular bisector of its longest side. Madhyameshvara lies only 45 meters away from the midpoint of the 2.5 km north-south side of the triangle. We consider the location of Madhyameshvara close to the center of the *aditya* triangle to be noteworthy. Before the Muslim occupation, Madhyameshvara was one of the oldest and greatest temples of Varanasi. The Shiva temple of Madhyameshvara, the ‘Lord of the Center’ was the original center of the city (*madhya*, central), and to circumambulate it was to encircle the whole cosmos (Eck, 1983). Since today’s ‘center’ of Varanasi at Vishvanatha temple and the great well of Jnanavapi is a relatively recent development, our discovery of Madhyameshvara at the center of the triangle is gratifying. The original center would thereby have been symbolically surrounded and protected by the light of the *adityas*.

5. Adityas in Text and in Icon

We use the descriptions of the *adityas* in the KKh to reveal the textual richness of Sun worship in Varanasi. The Sun was recognized as the ultimate source of life, food, light and warmth. Each of the *adityas* is understood to be a somewhat different form of the Sun, and this assemblage discloses the many levels of meaning that the Sun possesses (Table 2). We discuss those *adityas* that possess notable astronomical or geographic aspects.

Table 2. Summary of the attributes of the *Adityas*

No.	<i>Aditya</i>	Provides Relief from	Associations
1	Uttararka	poverty	UV radiation
2	Keshavaditya	sin	
3	Sumantvaditya	leprosy	
4	Khakholkhaditya	sin	sunspots (1077-79) meteor showers (1060-80) light particles
5	Arunaditya	sorrow	
6	Mayukaditya	poverty	solar eclipse (1054)
7	Sambaditya	leprosy	skin disease
8	Yamaditya	fear of death	
9	Gangaditya		water-sun duality
10	Draupaditya	hunger	
11	Vridhdaditya	suffering of old age	
12	Vimladitya	leprosy	
13	Karnaditya		
14	Lolarka	infertility	

The northernmost *aditya*, Uttararka (1) is on the eastern edge of the Bakaria Kunda, just south of the Grand Trunk Road. Because of the uncertainty about the original location of the *aditya*, we give two positions in Table 1 corresponding to the present icon of the *aditya* and to the center of Bakaria Kunda. Little remains of the grandeur of the original *kunda* and its complex of temples, all of which were demolished and some of which were transformed into Muslim buildings. According to the KKh the name of Bakrari is derived from a goat (*Bakrari* is also one of the names of Krishna) who never lost interest in worshipping the Sun. Eventually by imitating the devotions to the Sun practiced by a Brahmin girl the goat obtained the power of the Sun (KKh 47:56).

Uttaraka protects Kashi on its northern side from the “Sun’s strongest rays.” The ‘strong’ radiation attributed to the northern Sun is probably the intense solar radiation experienced by pilgrims in the Himalayas (KKh 47:2). Uttaraka also protects one from poverty (KKh 47:60). The icon of Uttaraka, which is now protected in a locked, modern

enclosure, consists of a 1.62 meter tall pillar or lingam-like form (Fig. 6) with 16 lotus buds on its side and 24 petals near its top.

Lying 2 km to the southeast of Uttaraka at the apex of the *aditya* triangle, Khakholkhaditya (4) (also known as Vinitaditya) is associated with a fascinating and complex story in the KKh. According to the story two daughters of Daksha, Kadru and Vinita became involved in a friendly competition as to who could better describe the face of Surya, i.e. the visible disk of the Sun. Kadru, who was the mother of the *nagas* sent her snakes up to the Sun to produce black spots on its visible surface and thereby cause her sister to err (KKh 50, 17). Her sister, however, was the mother of the birds, including Garuda, who devour snakes and was fully capable of combating the snakes. The story contains a play on words involving *kha*, Sun or sky. Fearing that she might lose the contest and also effected by the heat of the disturbed Sun, Vinita stuttered “*khakholkha*.” Her stuttering disturbed the snakes and caused them to leave the Sun, falling in flames (KKh 50, 39).

Kha may also be associated with a mantra that had been developed to clear the Sun of its sunspots. The presence of coiled, dark snakes on the Sun is almost certainly a reference to sunspots that were large enough to be visible to the human eye. It is not difficult to imagine the consternation of worshippers when they detected large spots on the Sun at dawn, dimmed by mists rising from the river. Between A.D. 1077 and 1275, the greatest recorded outbreak of sunspots visible to the unaided eye was reported in China, Korea and Russia, the so-called ‘Medieval Maximum’ (Stevenson and Clark, 1978; Malville, 1988). Five series of outbreaks of naked-eye sunspots were reported in the years 1077-1079. There had been no reported naked-eye spots for over a century prior to that time, the last one having been detected on one day in 974. During the three years of 1077-1079 spots were seen on the Sun for a total of 54 days. The last outbreak in 1079 was observable for nine days and occurred close to vernal equinox. No more spots were reported for 25 years until 1104.

Falling, fiery snakes are certainly suggestive of meteor showers. Chinese records of meteor sightings extending over 1900 years indicate two major enhancements between A. D. 1060-1080 and 1440-1480 (Zhong et al., 1988). It seems likely that the great meteor showers of the latter part of the 11th century, occurring by pure coincidence with the disappearance of sunspots, were the sources of the reference to the fiery snakes. Asher and Clube (1993) associate these meteor showers with the dissipation of the cometary body that is associated with the Taurid meteor stream which produces meteors in July-August and October-November. The temple of Khakholkhaditya was probably constructed soon after the appearance of the naked eye sunspots and meteor showers, vis. the decade of 1080.

The reference to *kha* also involves *Marici*, who is the Vedic symbol for a particle of light. *Marici* is the essence of light, the particle into which the energy of light is concentrated, and the basic source of the luminosity of the Sun (Stutley and Stutley, 1977). This reference to particles of light is a rather beguiling anticipation of the photons in modern physics. While *Marici* is the Hindu symbol for the Sun and its rays of light, *Marici* is the Buddhist goddess who rides or drives seven pigs. All ‘particles’ of light are condensed into “*Marici* of seven rays.” An offering to the Sun that may have been designed to cleanse its surface of spots involves the burning of particles of black pepper, called *marici*, in a sacrificial fire, accompanied by the mantra: *Om khakholkhaya svaha*, which may be translated as “offering to the sky-form body of the sun.”

References to a ‘leprous’ Sun may also have emerged from this period of high sunspot activity (Malville, 1988). During the next three centuries of the Medieval Maximum of sunspot activity sunspots were observed with increasing frequency beginning in 1118; during the remaining part of the 12th century spots were observed on more than 124 days. Spots continued to be common until 1275 when they disappeared for

some 75 years. The next outbreak started in 1356 and continued through 1402 (Stevenson and Clark, 1978).

There are two icons of Khakholkhaditya. Contained in a small enclosure is an unusual, irregular mass which is approximately 10 cm across and painted red. It is covered by a symbolic crown and beneath it is a miniature *kunda* (Fig. 7a). Inside the adjacent temple there is a 50 cm diameter stone disk containing a face of the Sun surrounded by 24 petals, flanked by two images of Narashima.

Close to Khakholkhaditya, Arunaditya (5) is associated with Aruna (*aruna*, red, ruddy), the charioteer of Surya who rises ahead of the Sun at dawn in the eastern sky. Aruna was a son of Vinita and the eldest brother of Garuda. The icon consists of an image of Surya in a disk 20 cm in diameter surrounded by rays (Fig. 7b). Adjacent to the Sun disk are images of Ganesh, Hanuman, Rama, Laksmana and Sita.

Further south, along the Ganga side of the triangle, Mayukhaditya (6), the “sun of rays,” was probably inspired by a total solar eclipse of the 11th century. As described in the KKh, a wealthy devotee of Shiva came to worship Lord Shiva at Kashi. The Sun was so impressed by his devotions that he came to Kashi, also to worship Shiva and Paravti, leaving only his rays in the sky. This narrative appears to describe a total solar eclipse at which time the solar corona remains visible in the sky after the Sun has disappeared from view.

The only total eclipse in the vicinity of Varanasi during the two centuries prior to A.D. 1194 took place on 10 May 1054 in which approximately 98% of the Sun’s disc was covered in Varanasi. Total coverage of the Sun by the Moon occurred some 20 km to the south. On the center line, 75 km to the south, the total eclipse lasted nearly 3 mins. The eclipse occurred at the ascending node of the Moon, i.e. when the Moon was moving from south to north and was thus associated with the demon Rahu.

Considering the special relationship between the Sun and Varanasi, it is likely that an eclipse stopping just short of totality would have been viewed as an auspicious victory of Surya over Rahu. The moment when Rahu began to release the Sun from his jaws may have been viewed as a demonstration of the power of the Sun over his adversaries. As was the case with Khakholkhaditya, we suggest the temple of Mayukhaditya was inspired by the astronomical event and constructed soon thereafter. The icon of Mayukhaditya is contained in the Mangla Gauri temple and consists of a small disk set in a pillar containing the Sun’s face surrounded by rays (Fig. 7c).

To the east and slightly to the south of Mayukhaditya is Sambaditya, which is associated with Samba, the son of Krishna (Fig. 7d). Considered by many (himself included) to be very beautiful, he had a certain conceit which led him to neglect showing proper respect for the sage Narada. Narada arranged for Samba to visit his father at a time when he was with his wives; because he disturbed his father, Krishna cursed him to develop leprosy (KKh 48.10). Samba was advised by Krishna that he could be cured if he came to Kashi and installed an image of Surya (KKh 48.40) which he did at the Surya Kunda in the western part of Varanasi (KKh 48.46).

Worshipping the Sun at Sambaditya relieves one of all forms of skin disease (KKh 48.48). The Linga Parana (LP 44. 48) describes the *kunda* and its beauty. Sherring (1868:127) believed that there were 12 wells dedicated to Surya at the site. Similar to Barkaria Kunda, the Surya Kunda reflects only dimly the original splendor of the site. Near the western end of the *kunda*, two carved disks that contain lotus-form images lean against a tree (Eck, 1983: 181). A short distance away the shrine of Sambaditya contains a large recumbent flat stone with four layers of lotus petals surrounding an image of the Sun (Fig. 7d).

Two *adityas* are identified with major figures in the Mahabharata. Draupadi, the courageous wife of the five Pandava brothers, shared their difficult life of exile during which time they often had difficulty finding food. Upon reaching Kashi, Draupadi performed special rituals and meditation to the Sun, and in return Surya gave her a

magical pot and ladle which would provide unlimited cooked food with all the varieties that one could desire. But the ladle had its limits: whenever Draupadi began to eat, the food stopped coming. As a consequence she always waited to eat until the last guest arrived (KKh 49.9-12). Draupadaditya (10) is thus associated with food and hunger, and Surya has promised that anyone who worships at Draupadaditya will never go hungry (KKh 49.19; Fig. 7e).

More than any of the *adityas*, Karnaditya (13) symbolizes the generosity of the Sun, who is recognized as providing unlimited energy to the Earth and asking nothing in return. Kama, another major figure of the Mahabharata, was the son of Surya and Kunti. He was distinguished by an extraordinary generosity, always giving away whatever was asked of him (KKh 85.45). Karnaditya is important for it defines the southern apex of the *Aditya* triangle. Today, the image of Surya in his chariot is contained in the building known as Rama Mandira, some 50 m west of Dashashvamedha Ghat.

The deep Lolarka Kunda (14) is one of the most ancient sacred spots in Varanasi. The *kunda* is cardinally aligned, measuring at the surface 34.4 m north-south and 21.2 m east-west. Steep stairs lead downward almost 20 m to dark water at the bottom (Fig. 7). Eck (1983) argues that it may have been an important site for very early pre-Brahminical folk traditions. The *kunda* is the location of the *mela* (fair) of Lolarka Shashthi ('6th day') where couples come to bathe together in order to conceive a son. The meaning of the Sun as the source of human fertility is dramatically demonstrated at this festival.

6. Summary and Concluding Remarks

The organization of the *aditya* shrines into an isosceles triangle indicates that there was some planning involved in the placement of the original temples. Who was responsible, we do not know, but astronomy clearly provided much of the inspiration. Besides the Sun itself, other astronomical phenomena apparently produced *aditya* traditions. We propose that the temple of Mayukhaditya was constructed soon after the total eclipse of A.D. 1054, and Khakolkhaditya was constructed following the outbreak of naked eye sunspots in 1077-79 and the meteor showers of the latter half of the 11th century.

The *aditya* triangle is an example of the cosmic geometry found in many of India's cities which synthesizes the total landscape, combining *microcosm*, *mesocosm* and *macrocosm* (Malville and Gujural, 1995). One side of the triangle is parallel to macrocosmic north while another is parallel to the mesocosmic Ganga. The triangle surrounds and protects with light the shrine of Madhyameshvara, the ancient center of the city, the axis of the cosmos. Pilgrims may once have walked through the *aditya* triangle, circumambulating the center and moved along the cosmic axes. The line connecting the two eyes of the Earth goddess, Lolarkaditya and Keshavaditya (KKh 7.66), is parallel to the Ganga side of the *aditya* triangle; the parallelism of these two lines provides further evidence of planning.

This evidence for intentionality in the placement of the Sun temples is of considerable interest in this city which developed largely without the influence of imperial authority. The *aditya* triangle may reveal an ancient landscape of pre-Brahminical traditions, and Sun temples may have been placed on sites that were significant and sacred in the ancient city. The planning of the temples may also have resulted from the efforts of wealthy patrons. In any case the *aditya* triangle suggests a gradual interweaving of the macrocosm into the traditions and daily life of the city.

In the millennia of Kashi's life there has been ample time for symbols embedded in the landscape to be revealed, elaborated and marked. By 'embedded' symbols we refer to those symbols that are so fused with objects or events that they appear inseparable and primordial (Levy, 1990). By contrast, a 'marked' symbol is one that is 'flagged' and set

apart from the ordinary world such that attention is drawn to it. As a hierophany that “manifests the sacred” (Eliade, 1963) the marked symbol becomes a powerful metaphor for something other than itself. Millennia ago, the Ganga River was transformed from an embedded symbol in the topography of northern India into one of the preeminent marked symbols of Hinduism. Likewise the Sun at Varanasi has become a marked symbol, both on the ghats during *sandhya* and in the city at the *aditya* temples. As more pilgrims visited the city, its landscape and geometrical organization acquired greater symbolic complexity and meaning, more hierophanies were discovered, and others were (often inadvertently) created. To a certain extent, the transformation of the city was a process of discovery; the sacred place, according to Eliade, is never intentionally chosen, but “... in some way or another reveals itself...” (Eliade, 1963).

The KKh provides us with insights into the many meanings that the Sun has acquired for the inhabitants and pilgrims of Varanasi. The Sun in the sky has inspired the tradition of a benign and caring deity who is close to the personal needs and concerns of ordinary people. This deity, who is seen every morning and greeted with such fervor from the ghats, is recognized and ritually acknowledged as the source of life on the Earth.

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8. Glossary

aditya—one of the forms of the sun.

arati—the circling of the oil lamps before the image of the deity.

argha—the respectful offering of water, rice, or flowers to a guest upon their arrival in one's home; *surya argha*, offering of water to the sun at dawn.

aruna—Ruddy, as the color of dawn; Aruna, the charioteer of the sun.

ashvamedha—Vedic horse sacrifice; Dashashvamedha\ ten horse sacrifices; one of the ghats.

Asi—a stream at the southern edge of Varanasi; southernmost *ghat*.

Bakri (Bakaria)—A name of Krishna

brahmin—The priestly class.

Brahmanas—Priestly compositions appended to each one of the four Veda, 900-700 B.C.E.

Daksha—The father of Sati, the first wife of Shiva; the father insulted his son-in-law by failing to invite him to a great sacrifice; Sati immolated herself and Shiva destroyed the sacrifice.

darshana—The auspicious viewing of a deity.

Ganga—The sacred river of North India.

ghat—The banks of a river or coast.

Gupta—Major dynasty of northern India, A.D. 320-455.

Garuda—The ‘devourer,’ enemy of serpents, the sun bird upon whom Vishnu rides.

Jnanavapi—‘The Well of Knowledge’, adjacent to the Vishavnatha Temple at the center of today’s Varanasi.

kha—The sun; a cavity such as space; the sky.

Kashi—The shining, luminous city; the city of light.

Kashi Khanda—A section of the Skanda Parana.

Keshava—A name of Krishna.

Krishna—A god and advisor in the Mahabharata.

kunda—A pool or well, often used for bathing,

linga—The emblem of Shiva.

Madhyameshvara—The center of ancient Kashi, the Lord of the Center.

Mahabharata—Together with the Ramayana, one of the great epics of Hinduism, 300 B.C.- A.D. 300.

mahatmya—Praise literature.

makara samkranti—The occasion or date of the entry of the sun into the constellation of Makaram.

Makaram—Capricorn.

mandala—The diagram consisting of a square and circle that is a map of the cosmos.

mantra—A sacred formula or prayer.

Marichi—Vedic symbol for a particle of light.

Marichi—Buddhist goddess with seven pigs.

mela—A festival.

naga—The ancient serpent dieties of India.

Panchaganga—ghat.

Panchakroshi—The circular pilgrimage route around Kashi, taking five days, and covering five *krshas* (ten miles).

Pandavas—The five brothers of the *Mahabharata*.

Parvati—Wife of Shiva.

Prajapati—The lord of the creatures, an epithet of primeval creators; the constellation of Orion, associated in the sky with his daughter *Rohini* (Aldebaran).

pralaya—The destruction of the earth and cosmos after each *kalpa*, the day of Brahma.

puja—The act of worship.

Puranas—A collection of post-Vedic stories.

Rahu—The ‘seizer;’ the demon who was decapitated by Vishnu when discovered drinking amrita, the elixir of life, after the churning of the cosmic ocean; the ascending node of the sun; one of the two dark planets which are responsible for solar and lunar eclipses.

Rig Veda—The collection of hymns, originating from before the 12th Century B.C.

rita—Fundamental law of the universe; represented by the *adityas* and manifested by the visible sun.

Samba—Son of Krishna

sandhya—Morning ritual; ‘juncture,’ the time between night and sunrise.

Shiva—The ‘auspicious’ god of ascetics, both creator and destroyer.

Surya—Sun god.

tirtha—A ford of a river; crossing place between worlds; pilgrimage site.

Varanasi—Kashi, Banaras; the city between the Varana and Asi rivers.

Veda—The sacred literature of Hinduism,

uttara—Upper, superior; northern direction,

yatra—Pilgrimage

~~~~~ **Appendix: Addition** ~~~~~

**NOTE: For further details and elaborated form see:**

<https://banaras.academia.edu/RanaPBSINGH/Papers>

Singh, Rana P.B. 2009. Sun Images: Ordering, Cultural Astronomy and Worship; in, his: *Banaras: Making of India’s Heritage City*. Planet Earth & Cultural Understanding Series, Pub. 3. Cambridge Scholars Publishing, Newcastle upon Tyne U.K. ISBN: 1-4438-1321-4. 1 Oct. 2009, 29 x 21cm, xvi + 409pp., 60 tables, 123 figures. <pp. 200-227 > [our ref. Pdf. 328.09]

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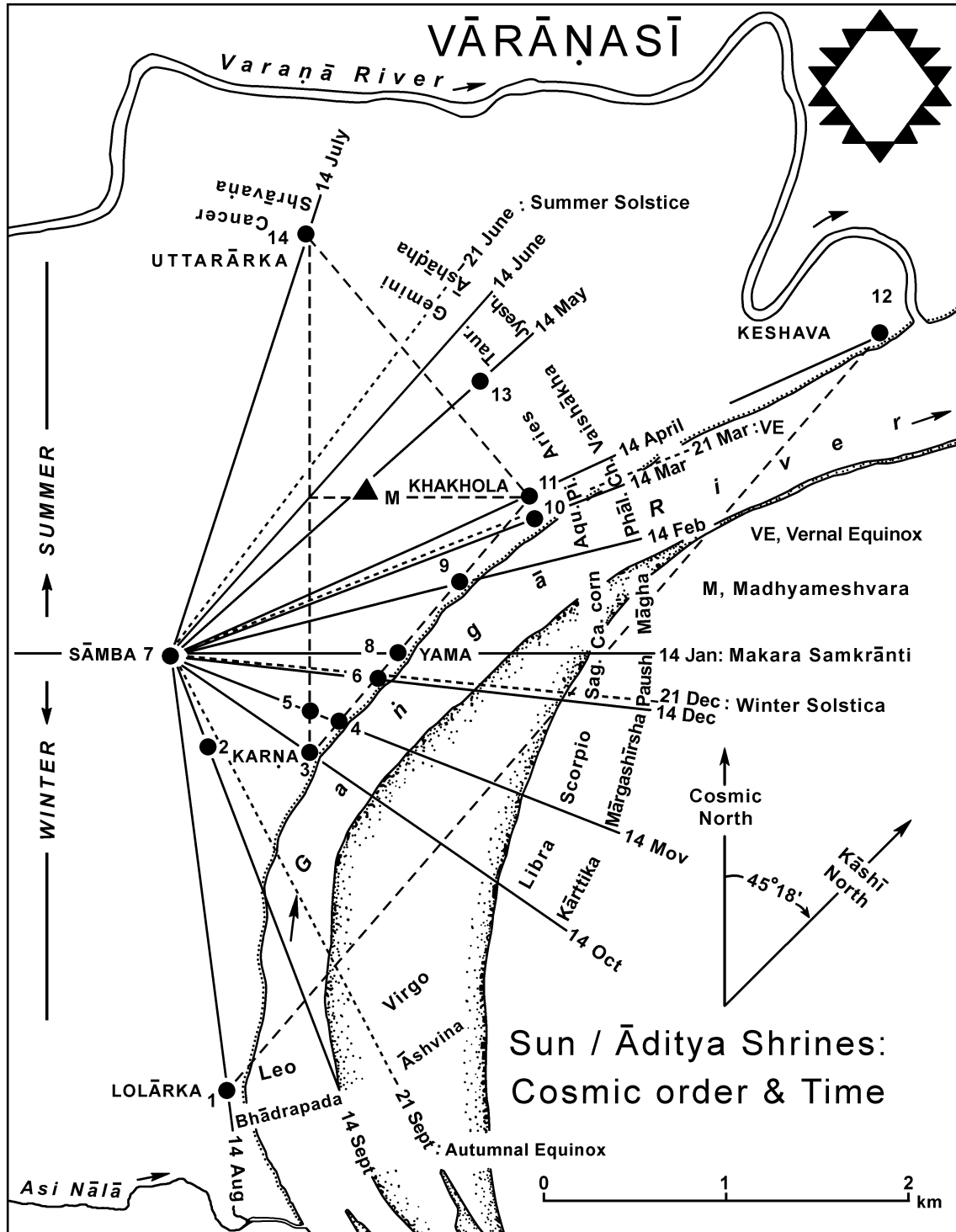


Fig. 9. Sun/ Aditya Shrines: Cosmic Order & Time (after and © Singh, Rana 2009: 224).