

Chapter III

Development of Jyotiḥśāstra and Karman in the Literature

The form of Karman and the conception and accordingly the utility of Jyotiḥśāstra carries a variance in the culture. The correlation thereby appears phase wise and can be divided into five broad periods, the Saṁhitā Period, the Brāhmaṇa Period, the Upaniṣad Period, the Smṛti or Vedāṅga Period and the post-Greek or Varāha Period.

A. Saṁhitā Period

In the early Saṁhitā period the foremost aspect of Vedic religion appears in a mythological form. The Ṛgveda is an expression of human conception about the natural powers in the forms of personifications and worship of an aggregate of nature and light deities, invoked in the sacrificial rituals.

The attributes of these deities were essentially the multiple forms of the animated cosmos personalized by the Vedic men in communion with human qualities and actions. Worship of these deities were supposed to sub serve their ideals and purposes regarding the present life and the future one.

While the speculations related to cosmology were getting pantheistic (RV.X.90), the elementary study of Sun and Moon as technical time measuring devices was getting systematized into various divisions of cosmos brought forth by the luminaries, its qualities being studied for ritual utility from Vedic point of view. Ritual actions were already in an organized form with worship in Atharvaveda in the form of domestic and magical rites, more so in the Yajurveda where correct performance of sacrifices was the principal aim, the nature deities of Ṛgveda being loosely connected with the actual ritual. Proper time to conduct the sacrificial rites was the chief requisite for which the actions of heavenly bodies were observed. Since the sacrifices came with specific purposes relative to man as well as cosmos, unraveling the skies for its fulfillment seemed to be a regular practice.

The Correlation exists in the above senses in the Samhitās.

1. Ideology in the Samhitā Period

i. Ideas of Truth and Falsehood

The ideas of truth and falsehood are distinctly expressed through the medium of deities. Truth (Satya) regulated the work in the skies (RV.X.85.1, AV.14.1.1).the deeds of the deity Indra were declared to be true. (RV.II.15.1,VI. 27.1-2). Satya was virtuous and often praised whereas falsehood was erroneous. The Ādityas watched the good and evil in men, they hated falsehood and punished sin. (RV.II.27.4,VII.52.2). Pāpa is the term for evil (RV.X.10.12, IV. 5.5, VII.52.18) or sin and connected with sins for punishment to sinners as well as releasing them from sins is chiefly the deity Varuṇa,¹ the guardian of the moral law prevailing in the nature. An effort to make this moral law a counterpart of the physical order law of ṛta in the universe, the occurs in the Ṛgveda. The term Anṛta as contrary to Ṛta (RV.I.105.5) in the sense of an immoral act is expressed in RV. X. 10.4. Ṛta (order) and Satya (truth) appear together in the late ṚV (IX.113.4, X.190). Anṛta means falsehood (anṛta asatyaḥ) in RV. IV. 5.5 and comes as opposed to Ṛta and Satya in Mai. Saṁ. I.10.11.

Righteousness was believed to lead to the region of eternal light. Savitṛ was prayed to carry the spirit to the world of the righteous (RV.X.17.4).Heaven as the place of eternal light (RV.IX.113.7-9) as the highest (AV.II.4.11.), luminous world (AV. 4.34.2) where the righteous dwell (RV. X. 16.4) is often mentioned.

Inversely falsehood/sin led to the place of lowest (AV.8.2.24) or black darkness (AV.5.30.11) or blind darkness (AV. 5.30.11) termed as Hell or Narakaloka (AV. 12.4.36) where the sinners stayed (Vāj. Saṁ. 30.5.).

ii. Ideals of Human Life

The ideals of human life in this period were believed to be long life, heaven and immortality. While there are prayers for long life² and wishes expressed to the deities to bestow immortality³ active efforts were taken in these contexts to reach the ideals. The place of eternal light (heaven) was believed to be won by good deeds. (RV.I.125.4-6,AV.IV.34.2,5,VI.120.3).Since very early it was deemed a reward and

thereby a place for the valiant men who fought battles and sacrificed their lives (RV. VI.46.12). This place was essentially shared with pitṛs and the gods (RV. X. 14.10). Especially the gods who resided in the heaven and came to earth to receive the offerings made in the sacrifices.

These gods were not originally immortal, they themselves were receivers of immortality obtained by them from other gods.⁴ They were first men and became immortal by their deeds.⁵ Whereas certain deities were postulated as the creators of the world,⁶ they were also considered as originating with various names and forms from a single principle.⁷

iii. Kāla as the Creator

Kāla is made the creator of deities like Prajāpati and also the creator of men (AV. XIX.53, 54). Manu, son of Vivaswant, is designated as the first of men (RV.X. 63.7). Yama, even is the originator of man (RV.X.10) and is made the first of mortals who found out the way to heaven (RV.X.14.2), the idea expressing heaven a reachable place by men through rituals actions.

iv. Order of Ṛta and Dharma

While such cosmological ideology was being formulated, the conversion of Ṛta (cosmic order) into Dharma (order of rituals or sacrifices) was an important development in this period. Ṛta or the “course of things”⁸ systematized as the order in the physical world in the form of the heavenly bodies, as order in the moral world in the form of ‘truth (Satya) and light’ and order in the religious world as ‘rite’. This was perhaps the basis of the correlation of Jyotiṣa and Karma appearing in the later period. To this context the deities were said to be the followers of Ṛta which became an unchangeable law laid down by the gods⁹ and their actions and which was to be followed by men in later RV.(IX.121.1,X.37.5). This was termed as Vrata. Though Vrata, occur with verbs of motion in the RV¹⁰ an effort to establish a relation between cosmic motion and human action is seen in this period. The idea appears to connect practically the physical cosmic order to the moral rules and the ritual practices than prevalent in the culture through the medium of time. Actions against these were Apavrata and were liable to be punished (RV.I.25.1-2). Following the Vedic practices

being a requisite, the non-congnizant was said to be debarred from the Sun (RV.V. 42.9).

The firm belief that the Earth was supported by truth and the sky was supported by the Sun also occurs in this period (RV. X. 85.1). The abstract deity Varuṇa is made the excavator of this path of truth (Satya) and is also said to regulate the actions of the luminaries. This concept of Varuṇa protecting the Sun from falling & making a path for him has a parallel with the Iranian god Ahura¹¹ yet the conception of Varuṇa as the protector of the path of Satya regulated by the luminaries appears to be Vedic. Also statements such as the darkness seizing the Sun could be destroyed by cosmic order and true speech reveal the efforts of the culture to connect the physical and the moral elements. The ideas of Satya thereby pertained to the brightness and the order in nature and an effort to arrange rituals actions on this path of Satya expressed by the order of light forms occur in this period.

2. Jyotiḥśāstra in the Saṁhitā Period

A prime aspect of Jyotiṣa of the Saṁhitā period was to provide visible expressions to the ideology of the Vedic man. Regarding the ideas of light and darkness the physical sun as the natural source of visible light and that the removal of the darkness by his light which caused day and night is recorded in RV (X.37.4), the Moon and his phases were observed, also the epithet of Soma plant as *indu* (bright drop) applied to Moon, with reference to its celestial counterpart on account of its bright and luminous nature provided a source of visible light displaying the quality.

i. Divinations

The divinations recorded in this period also reflect the ideas of auspiciousness and inauspiciousness in terms of light and darkness. The birds of omen mainly black or dark or with frightful appearances such as crow, pigeon and owl were deemed inauspicious.¹² Natural phenomenon as eclipses find reference in early RV (V.40), the cause of the darkness eclipsing the Sun was ascribed to Svarbhānu who was defeated by Indra and Atri, the restorers of the light of the Sun.

End of evil also find an expression in the phenomenon of lightening mythologically expressed as the Vajra of Indra. Though spontaneity in any cosmic event is not a general acceptance, such instances in the sky were in continuous scrutiny of the Vedic man of Ṛgveda. They were termed as *adbhuta* in the very sense of the novelty of these events inclusive of celestial events expounded as the phenomenal works of the deities in this period. These events were essentially portentous and constituted the divination branch of the Saṁhitā Skandha in the later period.

ii. Observance of Cosmic Order

The observance of cosmic order seems to prevail, and along with luminaries as the direct sources of bringing forth this order, the Sun and the Moon also displayed the anatomical qualities of the abstract nature forms and their order. Sun is commonly termed as the eye of the gods,¹³ and both Sun and Moon are the two bright eyes of the abstract Varuṇa¹⁴ or else Sun and Moon are the soul and the mind of the Kālapuruṣa (RV. X.90) or Sūrya is the soul of the universe.

A tendency to connect these visible forms to human life also occurs in the Saṁhitās. Sun was connected with longevity (RV.VIII.48.7). The phenomenon of night enclosed between the Sunset and Sunrise (RV.V.81.4) and such references reflect in later Ṛgveda in the form of a simile to human life, death and immortality. Even day and night are contrasted as death and immortality (RV.X.129).

Existence retained in some unmanifest form after the disappearance of the physical body after death was usually believed in this period. Thereby the cosmic screen exhibited the impressions of virtuous men of the past in the form of stars in the sky.¹⁵ Stars and Moon were supposed to be the dwelling places of man after physical death.

Certain surface markings in the sky depicted the future or after life of man. The highest point of the Sun in the sky denoted the abode of the fathers.¹⁶ Sun also indicated the closing of the sky and was a point to reach by religious men desirous of immortality (RV.IX.113.8). Also the (apparent) motion of the Sun specified the path

of the solar abode seemingly connected with the path of immortality bestowed by Yama. (RV.I.163.2.).

iii. Regions of Brightness

Samhitās record the three regions of the universe (heaven and earth) and the third (aerial) placed in between the two. Pṛthvi, Antarikṣa and Dyaus are mentioned while explaining the deeds of Indra (RV.II.12.1). These are specifically spoken of as the three Dyaus whereas their locations in reference with deities are also mentioned.¹⁷

Jyotiṣa of this period records the three brilliant light forms in the three regions, Sūrya, Soma and Agni, in the celestial, aerial and terrestrial regions respectively. Owing to their physical presence they are less anthropomorphized and are more often the visible operating devices of the abstract anthropomorphic deities.

iv. Sun and Moon

Sūrya or the material Sun is made an instrument used by the gods to measure and establish the world. Varuṇa measures the earth with the aid of Sun also Indrā measures the regions with the Sun.¹⁸ Sūrya representing in the form of fetishes as a wheel the in Vājapeya sacrifice or as a chariot is an early practice which continues in the Samhitās.¹⁹ Either as a measuring instrument or a wheel fetish, in simple terms, due to the constant visibility and the regular motion Sūrya is chiefly a device of time and its divisions.

Whereas Sūrya is a deity as well as a time measure in the Samhitās, Soma as moon is not revered in the form of a deity and appears as a clear measurer of time. The epithet *soma* applied to Moon is a development in the late RV,²⁰ and in the Atharvaveda, *soma* is generally the name of Moon.²¹ The Maitrāyaṇi Samhitā (I.6.9) addresses Moon as *retodhā*, the epithet connecting it with the quality of fertilization.

Amongst the phases of Moon, Paurṇamāsī (Full Moon) was already of prime importance in the period of the Atharvaveda.²² The derivation of the word Amāvāsyā (New Moon) also occurs in the Atharvaveda (VII.79(84)1-4.) where as the eighth lunar day Lafter the Full Moon (Aṣṭakā) was employed for the purpose of offerings to the pitṛs. Though the word Tithi is not mentioned in the Samhitās.

Whereas the observations of the changing phases of the Moon were in the process of development, the connection of Moon with the Nakṣatras was already established in the Saṁhitā period. Soma placed in between the Nakṣatras was an observation of the Ṛgveda (X.85.2), the divisions of Nakṣatras on the track of the Moon and according them with appropriate deities was already complete in this period.²³

v. *Divisions of Time*

Calculations of time and its divisions from the orderly motion of luminaries to arrange ritual actions is an important aspect of Jyotiṣa of this period.

Sun being a natural source of time is a primary time measurer. RV.V.8.1. records Sun as a maker of time. The time periods recorded by means of the Sun in the Saṁhitās are the Ṛtus (seasons), Varṣa (year), Ayana (the winter and the summer solstices) and the Divas (day).

Sun as the cause of seasons (Ṛtus) is known in the Ṛgveda (I.95.3) and the cycle of Ṛtus is already established in the Saṁhitās.²⁴ Seasons are named,²⁵ whereas 3, 5 or 6 seasons are mentioned in the Saṁhitās,²⁶ six seasons are distributed in twelve months.²⁷

Ṛtus constitute the most natural means of formation of an year. Year or Saṁvatsara²⁸ is a solar division of time in the Saṁhitās. The term Varṣa occurs in RV. V. 58.7, AV. 3.27.6 and Varṣā comes as one of the seasons²⁹ indicating the season oriented terminology of Varṣa as year. The year also include an intercalary month.³⁰

The year is divided in two halves depending on the apparent motion of the Sun in the northern and the southern hemisphere occurs in the Taittirīya-Saṁhitā.³¹

Day (Divas) is either from Sunrise to Sunset or from one Sunrise to the next one.³² RV. VI.9.1 records the term *ahaḥ* to express both the dark and the bright parts of the day. Day is divided in 3 sections in RV³³ and in 4 sections in the AV.9.6.46. Day and night together constitute an Ahorātra (RV.X.190.2.) which equaled with 30 Muhūrtas.

While year is solar, months are lunar in Vedic times. Months are addressed as māsa or māsa, counted with the aid of movement of Moon, as the time period between

two full or new moons. Months ending or beginning with full moon were preferred (Tai. Saṁ. 7.5.3).³⁴ On account of the unisolar calendar a thirteenth intercalary month (Adhimāsa) was calculated.³⁵ Long durations for instance Yuga as a division of time also appears in the Saṁhitās.³⁶

3. Karma in the Saṁhitā Period

i. Cosmic Aspect

The cosmic aspect of Karma appears in the Saṁhitās in the form of actions of the nature and light deities. Account of the spontaneous actions of nature also occurs in the form of divinations. The cosmic light forms and their actions in the nature is the chief aspect of the study of Karma in this period. The interpretation of cosmic actions and arranging human actions accordingly on their motions constitute the other aspect of Karma in the Saṁhitā period.

Actions of deities

Ṛgveda is the expression of works of individual as well as collective actions of deities. The physical as well as the moral actions of deities match with the human qualities and actions. The deities are explained as glorified human beings inspired with human motives and passions born like men but immortal.³⁷ The physical aspect of cosmic action is primarily expressed by Sūrya whose principle action is shining for the world, for gods and for men.³⁸ Worship of Sūrya is already older in this period, being recognized as the support of the universe.³⁹ Sūrya is the material Sun shining forth from the lap of dawn (Uṣas), his various anthropomorphized forms deified as Vivasvant, Savitṛ, Mitra and Pūṣan. The actions of these and other deities are associated mostly with human welfare.⁴⁰

More intimate to men is Agni, connected through sacrifices. The worship of fire as Agni is an Indian development.⁴¹ Agni has a threefold origin, terrestrial, aerial and celestial owing to which he is often deemed a messenger between gods and man,⁴² addressed as 'ṛtvij' or purohita he is chiefly connected with transmission of sacrifices to the gods. Similar in form with Agni is the exclusively Vedic deity, Bṛhaspati as a dispeller of darkness and founder of light.⁴³ In the Tai. Saṁ.4.4.10.1 he

is the deity of the Nakṣatra Tiṣya. This tendency to connect the abstract deity to some visible light form in order to express the actions of the deity occurs in case of deities like Varuṇa who is made the moral ruler and the visible Sun is made a reporter to Varuṇa who visualizes human actions.

Karma as cosmic order

The law and order in nature is connected to Mitra and Varuṇa, the physical and moral one respectively. Chiefly connected to the order are Savitṛ and Agni along with Mitra and Varuṇa yet the deities in general are the followers of cosmic order and are termed as gopa Ṛtasya (guardians of Ṛta) or Ṛtāyu (practicers of Ṛta) Varuṇa being Ṛtasya Dhartā, the order displayed by the motion of the luminaries.

ii. Human Actions

Apart from the exploits or valiant deeds of gods, the other aspect of Karma in Saṁhitās deal with actions of human chiefly in the form of sacrifices, also inclusive are prayers to gods, praise and offerings to gods, Śānti Karmas and offerings to pitṛs.

Sacrifices were one of the chief form of ritual works of this period. Saṁhitās record religious actions along with prayers to deities (RV.VIII.36.7, IX.96.11.). Domestic and magical rites form the base of the Atharvaveda. These religious works were performed intentionally for wealth, long life and joys of heaven. Immortality was believed to be achieved by giving rise to progeny (RV. V. 4.10) or making offerings to pitṛs through the Śrāddha rites.

Prayers were believed to lead to the desired fruits (RV.VIII.13.6), thereby prayers to deities for longer life (RV.X.164.4, AV.32.4,20.96), for material prosperity (RV.I.1.3,I.36.4), to drive away evil (Vāj. Saṁ.IX.4), and for immortality (RV.X. 52.5) occur in the Saṁhitās.

Praise and offerings in the form of material gifts to gods also constitute the terminology of Karma in the Saṁhitās.⁴⁴

Vājasaneyi Saṁhitā (VIII.13) mentions Agniṣṭoma as a means for expiation of sin performed by self or ancestors whether knowingly or unknowingly.

Śānti Karma or appeasing rites were also performed to avoid misfortunes or evil effects and for happiness (AV.19.9).

Thus, in the Saṁhitās, Karma occurs in the sense of both cosmic as well as human actions.

4. Correlation in the Saṁhitā Period

i. Divinations and Countermeasures

The interpretation of the spontaneous actions of cosmos for human future and countermeasures for cosmic actions deemed inauspicious constitute one of the aspects of the correlation of Jyotiṣa and Karma in the Saṁhitā period.

Saṁhitā period considers actions of specific birds as indicators of good and evil. References of ominous birds occur in early RV and continue in the Saṁhitās.⁴⁵ Birds are addressed as Bhadravādi, Sumaṅgala and Śakuna.⁴⁶ Cries of birds were considered as a pointer to forthcoming events.⁴⁷ Birds like Kapota (pigeon) and Ulūka (owl) were pondered as messengers of Yama, foretelling death or evil death.⁴⁸ Actions of deities like Sūrya, Agni were designated as a flying eagle (RV.VII.63.5.) or an eagle (RV.VII.15.4.) respectively. Agni is also called a divine bird (RV.I.164.52.) and also a haṁsa (RV.I.65.9.).

Animals like dogs were considered unfavourable as being connected with Yama and his track and indicative of death. (RV.X.14.10-12.). Whereas goat is considered auspicious as related to the deity Pūṣan and one who led the sacrificial horse (RV.I.162.2.3.). Horses were connected with prosperity and auspiciousness due to their connection with sacrifices, also praise is offered to the horse Dadhikrāvan in Ṛgveda.⁴⁹

Utpātas were considered inauspicious being categorized in three types as heavenly, atmospheric and earthly⁵⁰ and included earth quakes, falling of meteors and comets.

Adbhuta was a term generally used in connection with acts of deities⁵¹ and later came to be considered as a synonym for divinations.

Eclipses were rendered inauspicious in the Saṁhitās. RV.V.40. refers to a total eclipse and Atharvaveda 19.9.10 refers Rāhu. In the sense of an inauspicious event as

being contrary to the natural law, the deity Indra and sage Atri are mentioned as the ones who worked on the restoration of the sun according him the natural status.

Svapnas (Dreams) were considered lucky or unlucky and that they were indicative of future was believed in the Saṁhitās. Remedies were employed for unlucky dreams and such as transferring them to deities or praying to deities to ward off their evil effects. RV.V. 82.4.5 refer to a dream whereas RV.VIII. 47.14 refer to a bad dream. Counter measures for inauspicious dreams were often employed in the Saṁhitās.⁵²

Predictions related to weather were also forecasted by measure such as the smoke of dung.⁵³

Certain quarters of the cosmos as understood by the order of the Nakṣatras were also considered portentous, Atharvaveda mentions birth of an individual on certain Nakṣatras unlucky.⁵⁴

ii. Action of Light Forms in Tripartite Divisions

Study of the order of cosmos displayed by the bright bodies and their actions is a general tendency of early Saṁhitās. The physical order of Ṛta is chiefly brought forth by the celestial light forms especially the Sun, manifesting the path of Ṛta through the rays (RV.I.136.2), addressed as the pure face of Ṛta (RV.VI.51.16). This order or path of light (Jyotiṣpati) termed as Ṛta whose manifestation perceived in the path of heavenly bodies can be said as a *forerunner* or a *precursor* of the correlation.

Ṛta as a moral law (RV.VII.89.5, 11) or as right (RV.VIII.98.1) prevalent in early RV seems to give way to the system of Moon with the Nakṣatras mentioned in later period and with the simultaneous Pantheism considering Moon as the mind of the Kālapuruṣa (RV.X.90) systematic efforts for the development of the characteristics of the body of Nakṣatras and Moon placed in them resulting in a flourished scheme of Nakṣatras already exist in the Tai. Saṁ. (IV.4.10.1-3.).

Organizing sacrificial and other ritual actions on the divine ordinance with the sacrificial fire, Agni, is a prominent practice in this period.

The prevalence of Sūrya as the chief visible celestial light form and Agni with a natural basis as the fire element denoted in the sacrifice though with an exclusive

epithet is somewhat familiar to the early Samhitās but the development of Soma as Moon alongwith the Nakṣatras appearing with a set of deities entirely Vedic is a novel growth. Tripartite division of deities is a common trait of the Ṛgveda thereby the progress of the correlation of Jyotiṣa and Karma in the later RV and further in the Samhitās while enhancing the works of Sūrya and Agni in the celestial and terrestrial counter parts in respect with the necessity of the correlation though developed gradually, the modified character of the middle region while promoting the role of Moon is an admixture of the characteristics and actions of the chief aerial deity Indra, celestial Varuṇa and terrestrial Soma.

Indra shares affinity with human qualities or emotions than any other aerial form, also aerial forms in general are abstract and they do not possess light forms themselves but serve as the bringers of light or founders of light,⁵⁵ and are closely associated with light. Varuṇa with his physical character representing night⁵⁶ and his moral nature and the conversion of Soma into Moon, these characteristics and actions carried a suitability to Moon and consequently to the notions of mind.

Sūrya (Sun), Soma (Moon) and Agni (fire) though modified in character, due to their material nature and thereby their visibility to human senses could maintain a connection to their original forms. Also the utility of Sun and Moon as time measurers and the invoking of Agni being accessible to human efforts the triad form an important combination for the correlation.

The correlation of action of deities or the cosmic mechanism brought forth by time or natural time calculated by the motion of the heavenly bodies comes with an intellectual basis. Sun and mostly Moon do not carry much religious consequence. Even Nakṣatras are studied in relation with their characteristics connecting them to earthly counterparts so they are primarily zones carrying specific cosmic qualities. Nakṣatras are attributed with deities and formed a part of the religious system yet they themselves were least worshipped. The above instances point out a purposeful study of the cosmic pattern which is made a part of the religion and worship of the Veda. Above all, the natural connection forms the substratum of the correlation in Samhitās.

iii. Journey of Man

The deities of the Veda are not only natural personifications but they also delegate the thoughts and actions of human life. Human existence as being locomotive after the death of the physical body was a strong belief in this period. Heaven and immortality being the chief ideals after physical death certain deities and phenomenon in nature also specific cosmic regions were made indicative of expressions of this ideology. The cosmic connection of the correlation of Jyotiṣa and Karma comes in this instance.

Gods originally mortals had received immortality through deities like Savitṛ (RV.IV.54.2) a form of Sun or by Soma drink (RV.IX.106.8) or Agni (RV.VI.7.4). These deities were already being transformed as the chief deities for the purpose of utility of the correlation. Actions performed in this life decided the future course or after life in the form of iṣṭāpūrta an effort to make visible the effects of actions performed form a part of the Saṁhitās.

Sacrificial actions being the basis of Saṁhitās deities as Agni were made the messenger between gods and men (RV.VII.11.1). Savitṛ a form of Sun functioned as the protector and drove away diseases. (RV.I.35.9, 11) Savitṛ transferred the soul to the abode of the righteous (RV.X.17.4), Pūṣan showed the way granting an auspicious path (RV.X.59.7.). a consideration as the soul being asked to avoid the dogs of yama and go by the auspicious path (of the fathers) also occurs in RV.X.14.10,12 and AV(18.2.12.). The path on which the deities come to the sacrifices is the path of light which in later literature is made the path on which the righteous men departed for their after life abode.

From such instances it appears that cosmos with its light forms appears to be excavated in the Saṁhitās for an idea regarding human life after death.

Along with which the correlation in the Saṁhitās vary from observations of Divinations and their countermeasures to the observations of the Tripartite divisions and the order of light. Human actions arranged on auspicious times also form a part of the correlation of Jyotiṣa and Karman.

iv. Human Actions on Auspicious Times.

Ritual actions on auspicious times was a formulated practice in the Saṁhitās. The concept of luckiness of days existed in early literature.⁵⁷ The connection of sacrificial post planted on an auspicious day with the prosperity of the sacrifice was already established (RV.III.8.5). A Sāvana day was used in sacrifices particularly the Somayāga (AV.VIII.9.17).

Offerings were made to gods at specific times of day. The Aświns were invoked in the morning, at noon and also during sunset (RV.V.76.3). In the Soma sacrifice Indra and Maruts secured place in the noon Soma pressing whereas Ṛbhus had a place in the evening.

Though the word *tithi* does not occur in the Saṁhitās the waxing and waning of the Moon was important for fixing the times of offerings and the deities were often invoked in the form of prayers and offerings, the connection of the deities as Sinīvālī and Kuhū to the phases of the Moon is a development in the later works.

Time period as Yuga was connected with the kindling of Agni (RV.III.55.18), prayers to Yuga also occur in the Tai. Saṁ.4.33.) Vājasaneyā-Saṁhitā (30.18) mentions offerings in the form of Puruṣa to the Yugas in the Puruṣamedha.

Certain rituals as the Mahāvratā were performed with a belief to strengthen the Sun. (Tai Saṁ. VII. 5.9) Atharvaveda (VI.40.1) refers to the oblations to the seven sages.

Along with such interactions of cosmic time with human actions the Saṁhitās also connect ritual actions with the system of Nakṣatras.

v. Nakṣatra and Karma

The integration of Nakṣatras with the religious system occurs in the Saṁhitās. Kāṭhaka Saṁhitā 8.1 mentions Agnyādhāna on specific Nakṣatras. The Taittirīya Saṁhitā. VII.4.8. mentions the time for undergoing Dīkṣa ceremony as on Full Moon in Phālgunī.

Nakṣatra for individual actions according to their characteristic was a practice⁵⁸ the astrological character of Nakṣatras as to predictions from the Nakṣatra at birth already occur in the Atharvaveda.

B. Brāhmaṇa Period

Brāhmaṇa literature chiefly dealt with the rituals related to sacrifices and their utility in terms of fruits. The importance of nature deities appears to be declined up to this period and the power of the sacrifice over the deities is seen established. Already in the RV sacrifice takes a centre position and was believed to be the navel of the world.⁵⁹ In the Brāhmaṇas, the ritual actions of man were said to control the natural powers.⁶⁰ Thereby human action inclusive of prescribed action appears superior to nature.

The explanatory part of the Brāhmaṇas being informative about myths and legends, the correlation serves as a medium for such an explanation providing a basis for the reasoning of the actions apart from which actions arranged on proper times derived from cosmic light forms remain a primary requisite of this period.

1. Ideology in the Brāhmaṇa Period

Flourished thoughts about sacrifices and the intention behind them formulate the ideology of the Brāhmaṇas. This chiefly aided to bring forth the speculative nature of these works regarding the correlation.

i. About Sacrifices

Sacrifices were believed to be connecting medium for an interaction between men and the gods, sacrificial action on specific times carried man to the world of the gods was a belief prevalent in this period.

This interaction as beyond physical or perceptive level was understood in the Brāhmaṇa period and the diversified notions of Pratyakṣa (perception) and Parokṣa (beyond sensory perception) existing in between the gods and men were explained. Pratyakṣa of human being Parokṣa for the gods and vice versa⁶¹ sensory perception became an insufficient means for appropriate knowledge of the gods which were a subject of study. The physical forms of the gods and their qualities were in consideration in the Ṛgveda yet these visible forms held an underlying reality which was the true form of the gods. Learning of the nature of this invisible truth (Satya)

beyond the visible appearances was in practice in the Brāhmaṇa period. The perceptive cosmic activity conveyed the work of the gods in this sense.

ii. *Satya equated with Actions and Time*

Ṛta as Satya established in the earlier stage, (RV.IX.113.4,X.190.1.), in the Brāhmaṇas takes an additional sense. (Śat. Brā. I.1.1.4,5 with Kauṣ. Brā. II.8). Imitating the deities continues in the Brāhmaṇas, they being true the nature of truth was constantly under consideration, which centralized in this period around the sacrifices.⁶² The forms of gods especially their immortality was a result achieved by means of sacrifices.⁶³ Satya is thus equated with sacrifice or sacrificial action and is to be achieved by accuracy of correctly performed ritual actions.⁶⁴ Varuṇa, often connected with morality in the Saṃhitās, in the Brāhmaṇas comes in connection with mistakes committed in the sacrificial process and punishes for the errors in the sacrifices.⁶⁵

Truth is connected with proper moment in the Brāhmaṇas, the deity Varuṇa is connected with evening, thus speaking truth is specially connected to evening time and inversely avoiding false utterances at this time is advised.⁶⁶ As also the connectivity of application of truth at proper moment. (Kauṣ.Brā.II.8.).The deities being aware of the intentions of the men even prior to the offerings or actual act (Śat. Brā.III.4.2.6,7.) such a thought displays the subtle interaction of this period based on moral norms. Present intentions or will became the deciding factor for after life of a man after death.⁶⁷ The idea of iṣṭāpūrta as imperishable continues in this period and its expressed in Kauṣ.Brā.VII.4. and Jai. Brā. II. 53. Along with which future life can be shaped by a man himself as a fruit of sacrifices or ritual actions conducted in present life unrestrained of divine will came to be a belief of this period. The beginnings of the later connectivity of present life to past actions lie in the above thoughts expressed in the Śat.Brā.VI.2.2.27 and Kauṣ. Brā. XXVI. 3 on which the Jātaka branch of the post Greek period is based.

iii. *Prajāpati as a form of Desire*

Prajāpati the principle deity of the Brāhmaṇas is made the creator of both the gods as well as the asuras.⁶⁸ Thus he possesses two sides to his nature, one of truth

and light and the other side of untruth and darkness.⁶⁹ Prajāpati is equated with sacrifice⁷⁰ which is made a device of worship for the gods for obtainment of their desires.⁷¹ Prajāpati as a representation of desire, the ideology of the Brāhmaṇas connect the abstract form of ‘desire’ to the visible anthropomorphic form of desire represented by Prajāpati. Desire leading to sat or manifested world of activity is already expressed in Nāsadiyasūkta (RV.X.129.) extending in the Brāhmaṇas for an actual representation, also implicating creation from desire. Prajāpati is said to be mortal at first (Śat.Brā10.1.3.1.). He is also the foremost sacrificer (Śat, Brā.6.2.3.1.) he sacrificed himself (Pañ. Brā.VII.2.1.) and also reached the Sun as a reward (Śat.Brā. X.2.2.1.) Prajāpati made visible in the form of a Saṁvatsara and sacrificial actions arranged on his body parts, represents a stage when cosmic actions in an organized way were followed by human, more actively the physical ones as Prajāpati is seemingly dormant as a moral ruler, sacrificial actions a means for removal of sin or accumulation of merit.

iv. Release from Punarmṛtyu

Release from the bonds of Punarmṛtyu (repeated deaths) also is a thought pondered in this period. (Tai. Brā.III.11.8), Immortality by transcending death being the solution for an ultimate future, efforts to avoid the repetitions of death⁷² by the aid of sacrifices was a settled idea. The gods received immortality on proper performance of Agnicayana non-performance of which led to the series of deaths was a belief prevalent in the culture in this period.⁷³ The thought advanced to connect the timed form of Prajāpati to ritual actions to acquire immortality.

2. Jyotiḥśāstra in the Brāhmaṇa Period

i. Divisions of Time

Time being considered as one of the important factor in the correctness of sacrifices, the development of Jyotiḥśāstra occurs in this sense. The Śat. Brā.I.7.3.3 mentions Time as ‘proper time’. Prajāpati, the deity equated with Saṁvatsara in the Brāhmaṇas during creation said to arose out of a golden egg which swam about an year (Śat.Brā.XI.1.61.).

The term Varṣa occurs in Śat Brā. (2.2.3) and in the Brāhmaṇas is calculated of 360 days or 720 days and nights together.⁷⁴

The Brāhmaṇas name months with Nakṣatras. Earlier in Tai.Saṁ. the names of months occur as Madhu, Mādhava and such being twelve distributed amongst six seasons.⁷⁵ A thirteenth month is also referred.⁷⁶

The seasons vary in number in the Brāhmaṇas.⁷⁷ The Tai Brā. (I.1.2.6.) places Vasanta as the first of seasons. An important feature of the Brāhmaṇas in relation with seasons is that they label Vasanta, Grīṣma and Varṣā together as the Ṛtus for the gods.⁷⁸

Ayana as Sun's passage in the Northern and Southern hemisphere for six months each is recognised as being in the gods and fathers.⁷⁹ The Sun stands still is also an observation in the Kauṣ. Brā. 19.3.

Brāhmaṇas record months ending with Full Moon and addressed from Nakṣatras.⁸⁰ The bright half of the month is said to be the time for the gods.⁸¹

Amongst the phases of Moon, the New Moon and the Full Moon receive proper names⁸² which occur as names of deities in the Saṁhitās.⁸³ The term Amāvāsyā finds an explanation in the Śatapatha Brāhmaṇa (I. 6.4.5.) where Moon is expressed as the food of the gods and is also said as entering the water and the herbs whereas the Aitareya Brāhmaṇa (40.5) mentions the Moon entering the Sun on Amāvāsyā. The word *tithi* finds mention in the Brāhmaṇas⁸⁴ in connection with a specific rite associated with a particular tithi. Also the division of day in three parts and five parts are mentioned.⁸⁵ Muhūrta as small divisions of the day occur in the Brāhmaṇas.⁸⁶ A day named Viśuva or Viṣuwat placed in the middle of the sacrificial year is found out in the Brāhmaṇas when the days and nights are of equal length.⁸⁷

Divisions of time thereby occur in the sense of specific time for performance of rituals.

ii. Divinations

The Brāhmaṇas connect Viṣuwat with countermeasures for eclipses.⁸⁸ Darkness continue to be condemned, effort for restoration of light of the Sun is

mentioned in Pañ. Brā.VI.6.8. Purity is associated with ordeals related to fire. (Pañ. Brā.XIV.6.8, Jai.Brā.111.233f, Śāt.Brā.I.9.3.2.)

Dream state was connected with the soul wandering with free will (Śāt.Brā.XIV.7.1.12), the existence of the fathers was dream like (Śāt.Brā.XII.9.2.2).

iii. Luminaries

Sūrya as a celestial body is well recognized in the Brāhmaṇa literature. Sun as the cause of seasons, winds, planets and existence is mentioned in the Aitareya Brāhmaṇa (2.7).the rise and set of Sun as a mere appearance and the explanation behind the process is provided in the Aitareya Brāhmaṇa (111.41)

Moon on the physical side is connected with rain (Ait.Brā.VIII.28.15.), with the tides and especially with the plant life,⁸⁹ whereas mystically as Soma is connected with the fathers.⁹⁰ The crater on the Moon as a dark part on the Moon is observed⁹¹ and the hare shape is recognized with Yama in the Jaiminīya Brāhmaṇa (1.2.8).

iv. Nakṣatras

A fully developed Nakṣatra system appears in the Brāhmaṇas. The Nakṣatras begin with Kṛttikā with an explanation provided for Kṛttikā as the beginning point.⁹² Tai. Brā.2.7.18.3 provides their derivation. They appear with their deities (Tai. Brā. 3.1.4.5) and number of stars.(Tai.Brā.1.5.). The method to mark Nakṣatras was known in this period and were involved with the religious rites. Nakṣatras were divided as puṇya and pāpa (Tai. Brā. I. 5.2, III. 1.2.8). A division of Nakṣatras as Deva Nakṣatras and Yama Nakṣatras also appear (Tai. Brā. 3.1).

v. Deities

Prajāpati

Prajāpati is the prime deity of the Brāhmaṇas. The creator god, Viśwakarma of RV (X.81, 82.) is associated with Prajāpati in the Śāt.Brā.8.2.1.10.and Ait Brā. 4.22. Prajāpati also sucks in the metaphysical nature of Varuṇa and is made the king of the gods, Varuṇa is equated with Prajāpati as he possessed the form (rūpa) of Prajāpati.⁹³ The association of the heavenly light forms Āditya, Cāndramas and also Agni with Prajāpati often occurs in the Brāhmaṇas.⁹⁴ More importantly he is the cosmic form of desire made physical to connect with ritual actions.

Prajāpati is also given a physical basis with the aid of the Nakṣatras. Nakṣatras associated with the body parts of Prajāpati appear in the Tai. Brā.⁹⁵

Prajāpati is also made representation of Time and its divisions in the Brāhmaṇas. Saṁvatsara (year) is identified with Prajāpati (Śat.Brā.1.6.3.), Amāvāsyā, Paurṇamāsī and the joining points of day and nights also the beginnings of the seasons are made the joints of Prajāpati (Saṁvatsara).⁹⁶

Agni

Agni is equally important in the Brāhmaṇas as representation of the sacrificial fire. Atharvaveda (1.1.8.) mentions Agni as ruling the sacrifice. In addition the Śatapatha Brāhmaṇa X.4.3.9 identifies Agni altar with rituals or holy works as well as knowledge (Vidyā). In the Ṛgveda (VII.93.7, IV.10.7,12.4) he is invoked to pardon sins, addressed as 'Jātaveda', (RV.6.15.13) explain him as the knower of all generations, in the Brāhmaṇas, he frees oneself from the guilt of one's parents. (Tai. Brā.3.7.12.3-4). Tai Brā.2.4.1.6 projects Agni as the path which leads to the gods through which one may reach heaven. In the rituals the Southern Agni represents the region of the fathers, it also carries a cosmic significance of the position of the Sun at the winter solstice about to die indicating an end of a specific activity.(Śat. Brā. IV. 6.6.1.)

Apart from the above chief deities specifically connected with ritual actions mention of Bṛhaspati appear in the Tai Brā.3.1.1.5. in connection with the Nakṣatra Tīṣya which in later literature appears as the Planet Jupiter though in the Brāhmaṇas its specification as a Planet is obscure.

3. Karma in the Brāhmaṇa Period

i. As Sacrifice

Nature of Karma in the Brāhmaṇas is chiefly in the form of sacrifices.⁹⁷ Sacrifice is termed as the greatest of Karmas.⁹⁸ There are prayers for happiness, prosperity and good fortune.⁹⁹ A man was believed to shape up his future¹⁰⁰ with the aid of ritual works especially sacrifices. Ritual actions for long life and joys of the

heaven continued in the Brāhmaṇas. Sacred works also made attainable immortality.¹⁰¹

The fate of man after death depended on his deeds. A sort of ordeal by means of judging his good and evil deed decided the future cosmos of man (Śat. Brā. XI.2.7.33.). the act of Agnihotra was said to save from an evil-fate. (Jai. Brā.1.42-44.). The performance of Agnihotra served as a boat to heaven (Śat.Brā.II.3.3.15.).

Whereas in the Saṁhitās sacrifices served as a means of an expression of devotion for the deities, the offerings made to appear them or to win their favours for desire fulfillment, in the Brāhmaṇas the sacrificial altar takes a central position the sacrificial act a magical technique for the production of the desired results.

Yet cosmic actions continue as a fundamental concept in the sacrifice, though deities have become subordinate in this period. The symbolic significance between act of sacrifice and natural event continued and often sacrifices copied the several aspects of nature.

ii. As Order

Karma also occurs as order in the Brāhmaṇas. The order in the sacrifice is in communion with the order or action in nature, the commencement and the renewal of sacrifices with aid of Prajāpati equated with Saṁvatsara. The correctness and superiority in the performance of sacrifice were equally rendered important for which knowledge of sacrifice was essential to fulfill the aim of sacrifices.(Tai.Brā.II.1.1.1.)

Removal of sin was also one of the intentions behind sacrifices. Śat. Brā.II. 5.2.25 proclaims the performance of Yajña for counteracting sins. Ritual error is also considered a type of sin during rectification. Thus, removal of sin was by ritual practices as any evil act borne punishment (Śat.Brā.XII.9.1.1).

Karma in the form of Śānti rites to appease the angry deities (Ait.Brā.3.2.) also occur in the Brāhmaṇas.

iii. As Vidyā

Karma is sacrifice and appears distinguished from Vidyā (knowledge) in Śat. Brā.X.4.3.4-10. The term knowledge pertains to the exactness in sacrifices which appears as Satya or the prior Ṛta and also as Tapas.

4. Correlation in the Brāhmaṇa Period

i. Practice of Rituals

The practice of rituals is an obligation in the Brāhmaṇas. It carries the sense of Vrata.¹⁰² Vrata necessitated natural and moral order which equated with the correct order of sacrifices in the Brāhmaṇas. The correlation chiefly comes in sense of connection of proper time and sacrifices. Present sacrificial or ritual actions resulted in future rewards extending to after life was also an aspect of the correlation. Long life was considered necessary for performance of rituals, the more the offerings made in present life, longer would be the stay in next world (Śat.Brā.X.1.5.4)

Brāhmaṇas explain the connection of the rite with the heavenly body or else the time and its reward. The insertion of Pravargya rite after a Soma sacrifice, which unites the gods with a new body for the sacrificer,¹⁰³ or Darśapūrṇamāseṣṭi performed by the gods to compel the Asuras to give up the half month of the waning Moon¹⁰⁴ are instances of the explanatory nature of Brāhmaṇas in connection with the correlation. Ritual actions performed for rectifying the parvans of Prajāpati is also a chief illustration. Sacrifices mainly depended on the phases of Moon¹⁰⁵, the Adhimāsa¹⁰⁶ is connected with Śunāsīrīya sacrifice.¹⁰⁷ Deities are affiliated to years¹⁰⁸ and are associated with the Cāturmāsya. Certain seasons were deemed proper for Agnyādhāna. Śukra finds mention in connection with Agniṣṭoma.¹⁰⁹ Occasionally a deity finds mention in connection with a certain offering in a rite made at a certain time. (Śat. Brā.1.7.3.3.). Vasanta already declared as the first of the seasons (Tai. Brā.1.1.2.6.) is appropriated for the consecration of the sacred fires for a specific caste.(Śat.Brā.II.1.3.1-5.).

ii. Nakṣatra and Ritual Actions

Nakṣatra in the Brāhmaṇas are of ritualistic significance. Several rites and sacrifices were performed on particular Nakṣatra, Yoga or specific time.¹¹⁰ Nakṣatra were chiefly connected with rites as Agnyādhāna (Śat.Brā.II.1.2.),¹¹¹ with negations on certain Nakṣatra (Tai.Brā.1.1.2.8.).¹¹² Nakṣatras were connected with actions for fulfillment of certain desires.¹¹³ Certain individual acts were prescribed on specific Nakṣatras.¹¹⁴ Also birth on a specific Nakṣatra for instance Mūla was considered

favourable (Tai.Brā.3.1.2.).¹¹⁵Tai. Brā III.1.refers to a Nakṣatreṣṭi concerned with offerings to Nakṣatras and their deities.¹¹⁶

iii. Mythological Connection of Nakṣatras and Actions

The mythological character of the Brāhmaṇas associate Nakṣatras with actions performed on them in the past. Thereby Punarvasu is the Nakṣatra on which gods performed sacrifice for re-establishment (Tai. Brā.1.1.2), or Jyeṣṭhā on which the demon Jyeṣṭha was killed (Tai. Brā. 1.5.2). Also the Nakṣatras Rohiṇī and Mṛga are referred with Prajāpati depicting a star picture.¹¹⁷ A myth of Soma carried by an eagle (Ait. Brā.3.25) is also detailed in the Brāhmaṇas

iv. Prajāpati equated with Yajña

The construction of the form of Prajāpati as a representation of the cosmos and arrangement of sacrificial actions on various time divisions displayed as the body parts of the cosmic Prajāpati is the prime aspect of the correlation in the Brāhmaṇas, Prajāpati equates with cosmic time and order brought forth by the heavenly light bodies and through the medium of sacrifice he has a centralized form of the desires and immortality.¹¹⁸

On the ordered 'timed form' of Prajāpati comes the order of sacrifices. Prajāpati is identified with Saṁvatsara (year).¹¹⁹ Sacrificial actions are arranged on the parvans of Prajāpati, Agnihotra on the two joints of Ahorātra, Paurṇimāsesti and Darśeṣṭi on Paurṇamāsi and Amāvāsyā and Cāturmāsyaajña on the Ṛtusandhis (Śat. Brā.1.6.3). Actions are also arranged on the joints of the five divisions of the day.¹²⁰ Sacrificial actions on the divisions of time are said to rearrange or rectify the parvans of Prājāpati, working on the idea of the exhaustion of Prājāpati on creation and his renewal by sacrifices. The renewal or reconstruction of Prājāpati is brought about in a ritual form in the shape of a fire altar equating Prājāpati with the sacrifice.

v. Yajña and the relation of Time

Sacrifices being arranged on the order of times, the Brāhmaṇas establish a relation between ordered sacrificial activity and the motion of time. The importance of action is already established in the Brāhmaṇas in the form of ritual actions where they show an inevitable connection with specific time. The effect of sacrifices

performed in present are obtained at some distant point of future. Śat. Brā.X. 4.4.9 mentions the effect to be obtained in next life after separation from the present body. This indicates that ritual action worked on its own simultaneously time becomes a witness to connect the present act with the future result. Also present ritual work with passage of time results in future making of man on the quality of his action¹²¹ which is made prime, time being a secondary function.

vi. Sacrifices and the course of Nature

Sacrifices were considered all in all, being equated to a magical technique to produce results also they were regarded as the one's able to change the course of nature. For instance, the fire sacrifice in the morning was connected with the rising of Sun (Śat. Brā.II.3.1.5.). The fathers, by their hymns, gave rise to the dawn is an early idea being pursued later. The Aitareya Brāhmaṇa¹²² mentions Ekaviṃśāha performed on the Viṣuvat the day in the mid of the sacrificial session. (Tāṇḍya Brāhmaṇa 13.4.16.) by the aid of which the gods raised Āditya to the heaven. Divākirtya sāma sung on the Viṣuvat was also said to remove the darkness caused by Svarbhānu (Tāṇḍya Brā. hmana).¹²³ The performance of Agnihotra prior to Sunrise and after Sunset retained the good deeds in the next world and helped avoidance of rebirth. (Śat. Brā. II.3.3.8-12). Sacrifices were believed to change the course of natural events on their performance though the knowledge about days and nights (Ahorātra) was supposed to make a person sinless.¹²⁴

vii. Divinations and Actions

Śānti rites for certain happenings occur in the Brāhmaṇas. Dreams were delivered to Trita Āptya (Śat. Brā.1.2.32,3.). The use of Apāmārga plant to wipe away bad dreams is also suggested in Śat. Brā. XIII.8.4.4. Countermeasures for dreams also find mention in the Samvidhāna Brāhmaṇa 1.8.7-8.

C. Upaniṣad Period

The speculations of the Upaniṣads aim at a more consistent approach between man and cosmos. In the Brāhmaṇas, sacrifices were the vehicles to create and renew the cosmos with the reconstruction of Prajāpati whereas in the Upaniṣads sacrifices

though still considered for ritual actions yet were not all in all. Also Prajāpati developed into the cosmic principle, Brahman. The nature of Karma, prior ritual turned to moral. Future of man came to be considered as an outcome of his moral deeds for which the individual soul (Jīva) faced rebirth. Transcending the seed of Karma and achieving the unity of Brahman and Ātman constitute the prime subjects of the Upaniṣads.

1. Ideology in the Upaniṣad Period

i. Tendency to Abstraction

The Upaniṣads show a tendency to abstraction, the search for Satya in this period led to the abstract principle Brahman.¹²⁵ Satya is equated with righteousness (dharma)¹²⁶ which secures the highest place in the Upaniṣads. Earlier the cosmic order, Ṛta receded in the back ground with Satya taking its place. In RV. (X.90.16.) sacrifice becomes the foremost of Dharma and with an advancement in this terminology in the Brāhmaṇas, Satya pertains to ritual accuracy or correctness in the sacrifices. Till the Upaniṣads were Satya became uniform with Dharma, Dharma was already believed as the support and was established in this sense in the culture.

ii. Brahman the Highest Truth

The unified principle for Satya or Dharma is Brahman. The highest truth in this period pertains to Brahman as an absolute principle,¹²⁷ in which the expressions for the prayers to lead to the way to truth, light and immortality centralized.¹²⁸

Brahman is also the original principle from which the bhūtas spring up thereby they come into being, sustain and come to an end.¹²⁹ Though the bhūtas appear in various names and forms Brahman, the principle behind them is expressed as to be in a concealed or disguised form, as a Satya, the reality hidden behind the reality of names and forms and as the real cause behind the reality.¹³⁰ Brahman entering the material world of names and forms and existing as an individual entity, the Jivātman, appearing as in contrast to Brahman or aptly the supreme Ātman¹³¹ is one of the basic conception in the formulation of the ideology of the Upaniṣads. Brahman as the foremost principle comprehended in the universe¹³² as the object to be known and

individual Ātman as the innermost self of man believed as the subject or the knower, their synonymity¹³³ creating an eligibility of knowing one if the nature of other is known in this period.

iii. Material Brahman

Also through the means of material Brahman, the knower Ātman was made understood, the nature of the real Brahman or Ātman as that which simultaneously and non-differently exists in the universe as well as the individual. In an individual, the Ātman exists as the innermost one being veiled from its universal counterpart due to the form of man analyzed to be made up of five kośas (Tai.Up. 2.1-6) is also a thought. Ultimately through the idea of the unity of the Brahman and the Ātman the philosophy of the Upaniṣads reached to a point of stabilization of the principle element with its counterpart.

iv. Rebirth (Punarjanma)

The other face of the Upaniṣads exhibit the idea of rebirth (Punarjanma). The disconnected Ātman along with its form separated from the ultimate principle goes through the rounds of repeated births and deaths by the force of his actions. This link of actions to the phenomenon of Punarjanma is chiefly connected to the notion of accumulated merit or demerit the present birth being a fruit effect or result of actions of some distant past life.¹³⁴ Good and evil birth is thereby made the fruit of good and evil actions (Maitrāyaṇī Upaniṣad III.1). Act being consequential for the performer (Śvetā. Up. V.7.) actions in present life design or else regulate the future existences of man was a belief.¹³⁵

The concept held dual perspectives to view the present birth, one being surfaced as a sort of a fruit of past actions simultaneously the other as a vehicle to future existences on the basis of present deeds. The Upaniṣads pioneered the later struggle between fate and free will on the above basis.

v. Freedom from Actions

Ripening of Karma (Karmavipāka) of an individual manifested as present birth also connected the terms Puṇya and Pāpa with previous actions¹³⁶ Desire as the one leading to activity inclusive of birth and death desirelessness became a ultimate

device to overcome rebirth (Muṇḍ. Up.III.ii.1). Being free from actions (rather than to remain in the cycle of existence through good and evil actions) made one immortal and united one with the Supreme principle. Therefore achievement of Brahman was the ultimate way of thought recognized in the Upaniṣads.¹³⁷

2. Jyotiḥśāstra in the Upaniṣad Period

i. *Nakṣatras*

Nakṣatravidyā as a branch of study is already established in the period of the Upaniṣads.¹³⁸ The classification of Nakṣatra as Puṇya (auspicious) and Pāpa (inauspicious), also male and female exists in the Upaniṣads.¹³⁹ *Aparāvidyā* The identify of Jyotiṣa as one amongst the *aparāvidyās* is an important development of this period.¹⁴⁰ Upaniṣads aimed for higher knowledge and as the Vedic study advanced for the understanding of the nature of Ātman¹⁴¹ supreme as well as individual, the probe for its immutable form (Parābrahman) was the foremost as one leading to emancipation and thereby a topic of persuasion.

ii. *Symbolic and Phenomenal Brahman*

Brahman as all pervasive¹⁴² and being veiled by reality (empirical) is made apprehensible through various symbols. Brahman is addressed as the Sun of the universe.¹⁴³ The fire element is one of the innumerable aspects through which Brahman is made understandable¹⁴⁴

Apart from being merely symbolic the conception extends to project Brahman in a phenomenal form expressed as the one under whose control the luminaries as well as the Time divisions as seasons, years and such stood apart.¹⁴⁵ Amongst the material and the immaterial forms of Brahman, its essence is made known in the physical nature as the Sun and in the human body the eye with respect to its material form whereas in case of its immaterial form its essence is expressed as the Puruṣa in the Sun and the eye this being an illustration in the Bṛ. Up. which blends symbolism with reality.¹⁴⁶

In an effort to explain the unity of the Brahman and the Ātman, the identification of the bodily warmth of the man as the Ātman as also Brahman as the

light in the cosmos is actively expressed. (Bṛ.Up.IV.3.1,Chān.Up.3.13.8.)
Muṇḍ.Up.3.1.5.)

The cosmogonism of the Upaniṣads make mind in the human and the Moon (amongst the gods) the supports through which the sacrificer reaches heaven. (Bṛ. Up.III.1.6.) whereas the Sun is an expression of the luminosity of the mind (Bṛ.Up.I.5.12.) the Moon has a vital role as the luminous organ of the vital force which extends infinitely.¹⁴⁷ The study of the cosmic form in terms of Prajāpati structured as of fifteen digits and a sixteen constant one through which he permeates the entire living world (Bṛ. Up. I.5.14) is perhaps an extension beyond symbolism. Also the connection of Moon with the pitṛs is an accepted dogma in the Upaniṣads (Kauṣ.Up. 1.2, 2.8.). Certain other astronomical conception as the eclipse of the Moon and later his becoming free from the jaws of Rāhu is a simile to the state of the Jivātman prior and later to acquiring true knowledge.

iii. Dream State

A probe on dreams in the Upaniṣads make dream state a state of the Ātman (Bṛ. Up.IV.3.4,5.13.). The Ait. Up.I.3.12. considers the waking state as a dream. The Chān. Up.VIII.7-12, explains the dream state as a condition in which the existence is in a self created world it also contrasts the dreamless sleep where the self enters fullest light. Bṛ. Up.(II.1.18.) explains dream state as a kind of perception. It is a subject of Jyotiṣa on account of its quality for perception and is connected as a resultant of past actions.

iv. Nature of Kāla

Kāla continues in the Upaniṣads as ‘time in general’¹⁴⁸ and also as ‘proper time’¹⁴⁹ for performance of auspicious actions as in Saṁhitās and Brāhmaṇas.

Kāla as ‘appointed time’ in relation with death of a person occurs in the Upaniṣads.¹⁵⁰ Prior to the Upaniṣads, Kāla comes in connection either with a deity or with a rite¹⁵¹ whereas in the Upaniṣads it is associated with human being. Kāla is equated with finish or end (Chān. Up.II.13.1.).

Already Kāla is the first principle or the creator of beings in the Atharvaveda,¹⁵²the idea extends in the Upaniṣads expressing Kāla as the source or

cause of creation. The Śvetāśvatara Upaniṣad¹⁵³ mention Kāla amongst one of the factors responsible for the creation and sustenance of beings.

As an efficient cause

Kāla is projected as an efficient cause for a certain happening or event. With the agency of Kāla is projected the transformation of the seed, the cause of origin of Virāj into an year or Prajāpati.¹⁵⁴

v. Divisions of Time

The subject-matter of Upaniṣads project Kāla as an efficient cause of beings. In an effort to establish the principle existing behind the entire universe certain projections as the origin of Kāla itself by one who is intelligent and omniscient as well¹⁵⁵ appear which tend to extend the conception of god or Omkāra¹⁵⁶ beyond the three times. As a unit of measurement, Kāla exists in the Upaniṣads as minute divisions and also in the form of long time periods. The winking of the eye, a product of the supreme being who is brilliant as an illustration of the minute divisions of Time expressed as Nimeṣa occur prior in the Vājasaneyā-Saṁhitā and is a repetition in the Upaniṣads.¹⁵⁷ The term Pakṣa also occur in the Chāndogya-Upaniṣad IV. 15.5 and Bṛhadāraṇyaka-Upaniṣad III. 1.5.

The combining of the concept of finite Brahman and the idea of recurrent creation and destruction of the universe operated by long time periods as Kalpa, Yuga, Mahāyuga seemingly lies in the Upaniṣads which later formulated in a theory in the Purāṇas and the later Philosophy of the literature.¹⁵⁸

As of Kāla without parts the formless nature of time is made more nearer or almost equivalent to the ultimate Brahman. Time as a formation of parts as past, present and future is inferior to Brahman. (Śvetāśvatara Upaniṣad VI.5.6.) The rise and merging of Sun in Kāla (with parts) is known priorly (Atharvaveda 19.54.1) and in the Upaniṣads the idea advances to place the impartite time as prior to the rising of the Sun.¹⁵⁹ Bṛhadāraṇyaka Upaniṣad III. 8.9 explain Kāla as derived from Brahman, the formed part of Kāla rotate below Brahman (Bṛ. Up.IV.4.16.). The qualitative world is an attribute of time with parts and Brahman is declared as the lord of all that

has been and will be (Bṛ. Up.IV.4.15). Such ideas extend the conception of Kāla in connection with Brahman.

3. Karma in the Upaniṣad Period

i. *Ṛta and Sacrifices*

The earlier concept of Karma as Ṛta prevalent in the Ṛgveda continue in the Upaniṣads. Karma in the sense of Ṛta is referred to in the Kathopaniṣad 1.3.1. and Maitrī Upaniṣad 2.6.6.

Sacrifices exist in the Upaniṣads. The reward of sacrificial performance was securing a place in the world of the fathers (Bṛ. Up.I.5.16.). Sacrificial offerings amongst other rituals were considered as a *sukṛta*, a meritorious act which made achievable the Brahmaloka.¹⁶⁰ Sacrificial fire is still supposed to put an end to evil action.¹⁶¹ Such connections of ritual actions with morality is one of the remarkable feature of the Upaniṣads.

Yet apart from sacrifices being valued¹⁶² in this phase a confined utility of sacrifices as rotation in the cycle of rebirths is expressed.¹⁶³ With such an allocation, sacrifices are only a bridge to Brahman.¹⁶⁴

ii. *Karma as Cosmic Activity*

The process of conversion of initially undifferentiated universe into a differentiated one into names and forms resulting from Brahman as the cause of creation as well as destruction is the nature of the cosmic activity in the Upaniṣads.¹⁶⁵

Also such references as the structure of the universe evolved from the Ātman, by the process of unfolding (Sat) (Tai.Up.II.6,7.) or Ātman attributed the creation of elements (Tai.Up.II.1.) also occur. Bṛ.Up.(II.1.20.) explain the process of creation comparing fire and sparks springing forth from it to the Ātman and thereby the emerging forth of cosmic activity.

The cosmic activity as connected with Brahman and Ātman the interaction of man with cosmos became cosmogonist where ritual actions turned into allegoric acts explaining acts as Aśwamedha gained through the realization of parts of the sacrifice and the universe.¹⁶⁶

The material or 'external' form of sacrifice was substituted by 'internal' sacrifice for instance the ritual of Agnihotra to such extent is converted into Prāṇāgnihotram. (Br.Up.I.5.23, Chān.Up.5.19.24).

iii. Moral Aspect of Karman

The chief nature of Karma in Upaniṣads is moral. They transform ritual Karma into ethically retributive Karma. Whereas the concept of *sukṛta* and *duṣkṛta* existed in the Samhitās, which later was mainly confined to the correctness or errors in the sacrifices in the Brāhmaṇas, Karma in the Upaniṣads explain the becoming of man according to his deeds, distinguishing between good and sinful acts. Man possessed will (Chān.Up.III.2.13.), his behaviour either good or bad transformed him accordingly,¹⁶⁷ depending upon his desires and actions.

Karma as a retributive force became the cause of happiness and suffering. Earlier this idea is expressed in the Tai. Brā.III.11.1. showing the fate of actions while Śvetāṣvatara Upaniṣad V.7 extends the importance of conduct explaining the consequence of actions acquired by the doer in accordance with their nature.

iv. Karma as Daiva

Karma being causal in nature, every action is connected by a causal link to some previous action. Simultaneously, the nature of present action determinative of the future discourse the concept of Karma provide a consequential chain to the established order of things.

The retributive force of Karman connects transmigration to the theory. With *puṇya* and *pāpa* appearing in a clearly ethical sense in the Upaniṣads and rebirth as a consequence of willful acts performed in some remote past, manifesting in the form of sufferings and happiness thereby reflecting an inequality¹⁶⁸ in present birth amongst human forms constitute the angle of Daiva in the Upaniṣads. Daiva carries the sense of divine will whereby the fruits to be received are from the gods and occur with the passage of Time. These factors carried a relevancy with the rebirths of the soul.

v. Karma as Vidyā

Apart from actions resulting from desire and will of man, the inclination of Upaniṣadic thought to project Karma as Vidya (Knowledge) is generally prevalent.

Also the nature of Brahman Ātman in the sense of non-action as being contradictory to action, Karma as Knowledge is a means to understand the Ultimate Principle. In this sense Br. Up. distinguish Karma as ritual actions and Vidyā as well.¹⁶⁹ In a somewhat similar sense, the *Kena Upaniṣad* IV. 8. expresses Brahman as resting upon austerities, self control and Karma (as work or action).

The concept of relative ethics in the sense of knowledge of good and evil and action arranged accordingly for the achievement of release is one way of thought in this period whereas embodied life and present birth amongst the cycle of rebirths itself being considered evil, bringing an end to embodiment and to achieve deliverance, form another way of thought in the sense of absolute ethics. The knower of Brahman, being free from good and evil,¹⁷⁰ or the world of Brahman being without evil.¹⁷¹ chastity in thoughts and deeds appears to be the prime requisite of this period.

Desire being the seed behind the above traits, also it being considered as a fetter and not action (proper) itself, the knowledge, that rebirth results from desires and ignorance being acquired, transcending the human seed with the aid of desirelessness and acquiring of true knowledge is a suggested solution.¹⁷²

4. Correlation in the Upaniṣad Period

i. As expressions of Brahman or Supreme Ātman

Ātman understood as the only reality, the Upaniṣads convey that by understanding Ātman through hearing, reflecting and meditating upon all is known.¹⁷³ This being the sole idea of the knowledge of the Ātman all empirical studies which were than known came to be declared insufficient for the complete knowledge of the reality with the belief that man remained in darkness through empirical knowledge which carried a realm of ignorance (avidyā).¹⁷⁴

Supreme Ātman is declared as within all (Br.Up.III.4.1.), Its counterpart the Jivātman being bound yet is a distinct entity, since a separated part of the supreme whole. It is unknowable as being imperceptible to normal senses as also is unknowable since itself being the knower. Rather Ātman (self) plays the role of the

subject or the knowing one and cosmic Brahman in the sense of visible expressions of the Supreme Ātman is made the object of the study.

Ātman or Brahman itself as a supreme principle is unknowable yet its expressions in the manifested world are made the source of information for the knowledge of the Ultimate. Since a vision of an object gives the knowledge of the object as well as one who visualizes the object similarly the expressions in the sensual world are made a means to understand that which is the cause behind the manifestation. It is in this sense that the correlation occurs in the Upaniṣads providing knowledge about Ātman through the activity of the perceptive light forms and their order. Such an activity as being present inside one as well as in the outer world and being controlled by one's own immortal self¹⁷⁵ appears as an indication through the correlation, such an expression becoming a necessity being one of the fundamentals of the Upaniṣads.

Brahman, as a cosmic principle regulating the entire activity of the material world and Ātman as the psychical principle embodied in a being is also an expression. In this sense, the Sun is expressed as the eye of the all pervading entity,¹⁷⁶ its apprehension through symbols expressing the cosmic form whereas the dream state as one of the states of the Ātman is the expression of the psychical form.

ii. Worship of Symbolic Forms

In a similar sense, along with other objects as symbolical of Ātman, Sun is worshipped as Ātman, though only as an expression of the imperceptible principle existing within and outside the body. Worship in this sense occurs in the Upaniṣads with Sun as the symbol of the element within, as the first born, representing the phenomenal form of the Original Creative Principle which is declared as the Sun of the universe.¹⁷⁷

Worship in such a form produced results as deliverance from sin. Kauṣītakī Upaniṣad (2.7) mentions the worship of Sun at its rising, mid-day and setting positions to such an effect. Certain rituals connected with Nakṣatras and favourable days also occur (Bṛ. Up. VI. 3.1).

The concept of auspicious times for, religious rites to be performed for fulfillment of desires continue in the Upaniṣads. Kāla is a representation of Brahman in the Upaniṣads thereby is an object of worship. Sinīvālī is believed to implant embryo and is revered.¹⁷⁸

iii. Activity of Brahman through the Agency of Kāla

Time is an expression of Brahman and is said to operate in the world of names, forms and activity thereby 'Time' serves as an agency from which the beings flow, grow and disappear.¹⁷⁹ Time is said to cause change in the universe counted through the digits of Prajāpati (as Time) thereby has an extension beyond the symbolic form.

According to Time a visible as well as an invisible form in relation with the timed and timeless parts of Brahman, with Sun as its bifurcating medium is mentioned in the Upaniṣads. Thereby Kāla appears as a principle operating beyond perception of which Kāla (physical) viewed by Sun through year and its other parts as its manifested form is only a section of Kāla projected from its hidden part prior to the Sun which indicate the subtle activity of Brahman is an advancement in the Upaniṣads in an effort to explain the all pervading Original Principle and its perception and activity by means of Kāla.

Sun as the source of the relation between Time and Brahman, also displays the connection between the Supreme Ātman and the individual one. Puruṣa in a hidden form dwelling in the material Sun through the rays of the Sun is connected to the Puruṣa in the eye.¹⁸⁰ Such a functioning is also a reflection in the doctrine of Pañcāgnividyā¹⁸¹ and also the functioning of the Cosmic and the Psychic Principle in the Kauṣītakī Upaniṣad ii.12,13.

iv. Cosmic Stations of the Jivātman

The Upaniṣads express the ethical substratum (karmāśraya)¹⁸² composed of the impressions of actions of past, lives being the cause of the repeated births, the Jivātman travels through the various courses of life constituting destinies. The cosmic objects serve as markers to these destinies.

In the repeated rising and setting of the Sun and the Moon, the appearance and disappearance of the Embodied Soul was inferred. The ultimate end of journey of man in the Upaniṣads, which was the abode of Brahman was declared to be beyond actions goods or evil and also beyond the contrast of day and night.¹⁸³

Most of the Upaniṣads mention the ascend and descend of the Jīva on the paths opening according to the variety of actions performed by the individual.¹⁸⁴ The two sections of the year (Prajāpati) were utilized for performing two different sorts of actions promising two different destinies in the future.¹⁸⁵ The statements of the Upaniṣads expressing the transformations of man according to the conduct¹⁸⁶ were distinctly made visible inclusive of the afterlife of man in the concept of the two paths.¹⁸⁷

Moon appears as a resort to all the Souls on the way of transmigration its waxing and waning connected with the arrival and departure of the Souls¹⁸⁸

On account of the deeds and the knowledge, the Soul either takes rebirth in various *lokas* or being free from the circuit of transmigration on account of knowledge ultimately reaches the world of Brahman.

v. Remains of Work and Divinations

Actions of man remain in a seed form, fructifying in future in form of rebirths came to be a notion, strengthened in this period. Though, the insistence on outer cosmic sources as means to indicate future is lessened in the Upaniṣads. Prior to which, traits of such instances occur in the Āraṇyaka literature, though in the Upaniṣads the mechanism of dreams is excavated to this effect, as a source of reliance on future and chiefly to decipher the past works of man which became a regularized concept in the later period.

Chāndogya Upaniṣad connects the success of a rite performed with some desire to a certain dream.¹⁸⁹ Whereas Br. Up. relate the objects in dreams as the impressions of the past experiences¹⁹⁰ thereby dream state is a kind of perception expressed as the activity of the intellect visualized in the light of the self, the substratum being in the human itself. Present birth believed as an outcome of previous actions, became an indicatory mark of desires of past and the probable future in this

period which formed the base of the later developed *horā* branch as also the concept of *daiva* synthesized in the Purāṇa literature. Though the present name and form is believed a representation of the Immortal Principle.¹⁹¹

D. Vedāṅga Period

Later to the Upaniṣads, Jyotiṣa appears in the post Vedic literature which is inclusive of the Vedāṅgas and the Dharmaśāstra texts. Jyotiṣa comprised as one of the six Vedāṅgas (limbs of the Veda) is a development of this period. Practically utilized for proper sacrificial and other rituals employed from the Veda is the chief identity of Jyotiṣa expressed in this period.

Karma in this period occurs chiefly in the systems expressing the man cosmos connectivity and also in the Heterodox works. The subject matter of this period being principally concerned with the teachings of the Veda, the correlation of Jyotiṣa and Karma coalesce the aspects dealt with earlier working on the exclusive authority of the Veda.

1. Ideology in the Vedāṅga Period

i. Idea of Saṃsāra

Rebirth or cycle of births and deaths which is one of the chief topics of the Upaniṣads is frequently addressed as Saṃsāra in the Dharmaśāstra. Whereas the Upaniṣads attempts to reach the endpoint of rebirth through knowledge and emancipation using of the term Saṃsāra, though not very often occurs in an adverse sense as an aftermath for an individual who fails to attain liberation¹⁹² which is a principle topic there. They also place the activities of mind at the root of Saṃsāra¹⁹³ which worked against Release. Whereas in the Smṛti literature, whose foremost object pertains to the duties (Dharma) to be performed by different Varṇas and Āśramas actions come in a sense of obligation rather than of the nature of scrutiny as in the Upaniṣads. Here the word Saṃsāra carries the sense of *gati* or *yonī*¹⁹⁴ and appears in an established way with an adaptability on part of the culture as a consequence to be faced its acceptance with a positive faith. Rebirth is yet believed an outcome of sin leading to birth in various forms and regions.¹⁹⁵

ii. Nature of Satya

Satya is eulogized even deified as Brahman, is believed as an ancient form of Dharma and appears in numerous aspects in this period.¹⁹⁶

iii. Sacrifices as Prakṛti and Vikṛti

Sacrifices come in the form of Prakṛtis as well as Vikṛtis, the basic model of Darśapūrṇamāsa sacrifice a model for similar type of iṣṭis in this period. Also the knowledge of *parvan* remain important in this period.¹⁹⁷ The Polestar Dhruva is believed as an emblem of constancy the thought displays an utility in most of the Sūtras.¹⁹⁸

2. Jyotiḥśāstra in the Vedāṅga Period

i. As a Vedāṅga

According to the extant texts of Jyotiḥśāstra, this period constitutes the second period of the development of Jyotiḥśāstra following the Veda period and is termed as the Vedāṅga period.¹⁹⁹

ii. Early Form of Jātaka

The earlier Saṁhitās of Garga, Parāśara and others come under this period.²⁰⁰ The Siddhāntas, exclusively based on the Gaṇita branch of Jyotiḥśāstra start appearing at the ending boundary of this period.

The Kalpasūtras and rest of the literature on Dharmasāstra constitute the texts on Jyotiṣa in this period. Rāśis (zodiac signs), and Vāra (weekdays) were not yet introduced to the scheme of Jyotiḥśāstra, months being addressed as Caitra and the rest, this period²⁰¹ bifurcates from the later one though with a manual intervention compared to the self existent absolute authority of the Vedic scriptures is reliant on the Vedic passages²⁰² and thereby indigenous whereas the later period shows the admixture of foreign elements.

iii. Vedāṅga Jyotiṣa: Treatise on Astronomy

The Vedāṅga Jyotiṣa which is the earliest extant text on Jyotiṣa happens to be of this period. It deals with the positions of the Sun and the Moon with reference to the Nakṣatras, without any reference to Rāsi divisions or Planets (Grahas), relates the

solar and the lunar months. It also deals with the Adhimāsa, Tithikṣaya and such topics essential for the purpose of rituals. The year began with Udagayana in Vedāṅga Jyotiṣa whereas with Vasanta in the other texts of the similar period. The terms as Mūhurta, Kṣana occur in the other Vedāṅgas.²⁰³

iv. Divisions of Time from Truṭi to Yuga

The Arthaśāstra refers to several divisions of time from Truṭi to Yuga and equals an Ahorātra to thirty Muhūrtas without referring hours.²⁰⁴

The concept of four Yugas appear in the Epics and the Manusmṛti.²⁰⁵ Yājñavalkya mentions a Grahayajña, also the concept of Devaloka and the path of the Pitṛs²⁰⁶ occur in this period.

The Nakṣatra system fixed as 27 in number is an acceptance in this period with the disappearance of Abhijit expressed in a myth in the Vanaparva (230. 2-11).

3. Karma in the Vedāṅga period

i. In the Systems

Karma in this period chiefly lies in the Philosophical Systems. It is in this period where Karma became one of the prime topics of enquiry of the subject raised by the Upaniṣads as a prominent factor to keep the Individual Ātman in the cycle of rebirth. This period is important in the evolution of Karma for if the Upaniṣads established Karma as a cosmic law of causation, subjective to ethical retribution, it is this period which enhanced its deterministic nature, bringing forth forcefully the angle of *daiva* as an 'effect' placing man at an inescapable receiving end, equally made Karma a law of personal responsibility and self-effort. On account of the comprehensive study in this period, Karma emerged as a doctrine, its operation studied from two interconnected perspectives, universal and individual.

Amongst the systems, the Vedānta and the Sāṅkhya dealt with the cosmic aspect of Karman, the Vedānta system believed the embodiment of the Jīva basically non-different from Supreme Ātman whereas the Sāṅkhya project dual entities the Prakṛti and the Puruṣa behind the origination of the world though they commonly propound the origination of Karma due to ignorance. Karma is deemed a *Nimitta*

(efficient cause) for the origination of a new body and life.²⁰⁷ The concept of *apūrva* was also formulated which decided the formation of future of the Soul, the time lapse between the act and the result joined by the potency created by the act serving as a connecting link.²⁰⁸ The birth, life and the happiness and the sufferings the Jīva undergoes came to be understood as the result of past actions of an individual.²⁰⁹

ii. In the Smṛtis

The Smṛtis varigate Karma in various types, Pañcamahāyajñas²¹⁰ are activities distinct from moral acts whereas also from sacrifices which are considered as a Dharma or a religious duty. The Nitya and Naimittika ones were essential to destroy the previous sins.²¹¹ Gītā prescribed actions, yajña, tapa and dāna were declared as purificatory ones.²¹² Karma of two kinds, Pravṛtti, concerned with happiness in present world and heaven and Nivṛtti concerned with salvation existed in this period.²¹³ The teachings of the Upaniṣads were reconciled in this period and liberation from the worldly existence by means of various modes of Karma were adopted.

The Epics believed Karma as a causative force, the past actions surface in the present life was a belief thus *daiva* takes a prominent position in this period.²¹⁴ Equally the importance of human effort is expressed in the Yājñavalkya Smṛti.²¹⁵

iii. In the Heterodox Sects

In the Heterodox Sects, the Jainas believed Karma as material whereas the Buddhist presented it in the form of a *bīja*. According to the Jainas, the material form of Karman, *Pudgala* operate through body, mind and speech. Intent is not a precondition for incurring sins. The soul of the form of illumination and perfect knowledge inheres the capacity to attract matter which leads to the formation of a *Karmaṇa Śarīra* which leads to rebirth in various forms. With such an explanation of the operation of Karma, the freedom from the bonds of Karma is said to be by means of *Samvara*.²¹⁶ The Buddhist believed Karma as primarily mental the three aspects of Karma kāya, vācī and manokamma²¹⁷ are primarily considered the outcome of will orientation. Karma is said to be the cause of inequality in human, the diversity arising on account of the variety of *trṣṇā*, thereby a sense of personal responsibility is made

an aspect of Karma. Transference of Karma is also a topic treated by the Buddhist schools.

The flow or the motion of Karma is also one of the aspects of Karma in the Heterodox sects, the *gati* (motion) accorded as per the conduct of the individual.²¹⁸

The consequence of present actions are resultant in the future births as moral actions of the present are not connected to the caste of a person,²¹⁹ Jāti believed as an outcome of past actions. Rather the overall destiny of a human is believed a merit and demerit of his past. Rebirth is declared as dependent on *niyati* and not on one's (present) deeds.²²⁰

In the post-Vedic, the latent impressions of the past Karmas are believed an important factor in the formation of future.

4. Correlation in the Vedāṅga Period

i. Auspicious Times and Actions

In this period actions were performed on auspicious times derived from the positions of Sun and Moon in various Nakṣatras. Auspicious Nakṣatras and Seasons were important in the Sūtras which followed the Brāhmaṇas for sacrifices and other ritual works. Tithis were rarely mentioned, Rāśis and Weekdays find no mention in the Sūtras and Smṛtis.

The Sūtras deal with appropriate periods for setting up of the sacred fires²²¹ derived from Seasons and also from Moon in conjunction with specific Nakṣatras. The precise time for offering Agnihotra,²²² the position of the New and Full Moon for Darśapūrṇamāseṣṭhi,²²³ the seasonal sacrifices connected with the Seasons in the year,²²⁴ continue in this period. The Agniṣṭoma²²⁵ concerned with specific times of the day and the Pravargya rite,²²⁶ a Sun spell also continue in the Sūtras, as also the Aśwamedha²²⁷ performed for a specific period.

Nakṣatras were generally in use for all sorts of purposes Agricultural activities were suggested on various Nakṣatras.²²⁸ ĀpDS.²²⁹ connects Puṣya Nakṣatra with prosperity. Ātharvaṇa-Jyotiṣa mentions acts to be or not to be done on nine groups of Nakṣatras.²³⁰ Nakṣatra scheme is also present in Vaikhānasasmārtasūtra. Nakṣatras

and their deities were specifically important²³¹ and Moon in certain Nakṣatra was connected with actions.²³² The Gṛhya and Dharmasūtras mention auspicious times for domestic rites. Nakṣatras were related to Saṁskāras.²³³ New and Full Moon offerings find mention.²³⁴ Occasional offerings to Nakṣatras also occur in the literature of this period.²³⁵

ii. *Divinations and Countermeasures*

Omens provided with Śāntis (ritual countermeasures) occur commonly in the Sūtra literature. Birds as owl²³⁶ and pigeon²³⁷ as birds of omen continue in this period. Birds apart from visitors to the dwellings of gods also fly to the world of the pitṛs is recorded.²³⁸ Countermeasures were employed for ant heaps²³⁹ and for diseases, for dreams and for utpātas as well.²⁴⁰

Planets gave the foreknowledge of rainfall and the sprouting of seeds,²⁴¹ Rāhu and Ketu were portentous with a tendency for destruction.²⁴² Astral omens concerned with rainfall and diseases were pursued and the characteristics of individual by Moon posited in Nakṣatras for a probable future were studied.²⁴³ The position of planets was established in relation with the Nakṣatras at the time of the Mahābhārata war. Planets were revered in this period they being first mentioned in the Baudhāyana Dharmasūtra.²⁴⁴

iii. *Rebirth and Karmavipāka*

Apart from the performance of ritual actions on auspicious on part of the correlation times, flourished the concept of *daiva* explained in the philosophical literature of this period. The idea of rebirth as a consequence of the past actions put forth by the Upaniṣads develops in this period as to the reading and rectifying of the future from the manifested birth of the individual with the aid of the correlation

Daiva is the manifested actions of previous birth.²⁴⁵ The development of this concept is also evident in the Rāmāyaṇa and Mahābhārata.²⁴⁶ That it fructifies with the agency of time (Kāla) and that the creatures go through the cycle of existence in accordance with their Karma as a part of the law of nature is also expressed.²⁴⁷ Karma as born of the guṇas of Prakṛti and that the Varṇas are created on the basis of the guṇas (inherent qualities) and Karmas (actions/deeds) is also an expression.²⁴⁸

Amongst the Jyotiṣa texts of this period, the Ātharvaṇa Jyotiṣa express the acts to be done on Nakṣatras and the characteristic of the individual born on specific nakṣatras. Also the Jātaka texts existing in their earliest form in this period are concerned with the past actions of man.

iv. Actions and Gati

The subject of the motion of the Jīva after death connected to the actions in present life is traced by the Upaniṣads and accordingly is pursued by the Smṛti literature. Nirukta states on the *gati* of Jīva²⁴⁹ Manusmṛti accords hell as a punishment for sinners and the later rebirth accordingly.²⁵⁰ The Gītā²⁵¹ follows the Upaniṣads on the topic of paths, related to the Śukla and the Kṛṣṇagati, the Mahābhārata and the Yājñavalkya Smṛti refers to them.²⁵² Vision of this motion by means of motion of the cosmic light bodies constitute the correlation.

E. Varāha Period

This period begins from the Christian Era overlapping the Smṛti period, extends precisely from the 3rd C. A.D. and covers the Medieval period.

With regard to Jyotiṣa, this period markedly distinguishes from the prior ones due to the additions of foreign elements, especially the Greek, to the native structure of Jyotiḥśāstra. A clear-cut branching of Jyotiḥśāstra in its three branches, the Siddhānta, Saṁhitā and Horā is evident in this period, the Siddhāntas based on the Gaṇita part of Jyotiṣa and the Jātaka based Horā texts being the chief texts of this period.

Karma appears chiefly in the Purāṇa literature, in the commentaries to the Philosophical texts and in the Dharmasāstras. Karma as a theory is already established in this period, most of its prior aspects retained and reformed.

Jyotiḥśāstra being highly influenced by Greek Astronomy and Astrology which is completely devoid of the concept of Karman the correlation of Jyotiṣa and the doctrine of Karma of this period concentrated in its Horā branch to combine Horoscopy with the actions of past lives. Present birth considered as a Karmavipāka,

rectificatory actions for birth on certain Nakṣatras and Muhūrtas in the form of Samskāras is the chief form of correlation.

Text on all the three branches of Jyotiḥśāstra are composed by Varāha, they being extant and popular till date. His Saṁhitā and Horā texts deal with characteristics of cosmos and human as also with the past actions of man thereby coined as Varāha period.

1. Ideology in the Varāha Period

i. Regarding Rebirth

The belief of rebirth on account of sins continue in this period.²⁵³ Kāla and Karma as also Svabhāva came to be held responsible for creation of a new life.²⁵⁴ The belief that the fruits of actions whether good or evil were to be undergone became prevalent.²⁵⁵

In case of Śakunas the element of faith became equally important while performing rectificatory rites as also Śakunas came to be viewed more rationally.²⁵⁶

ii. Regarding Karma

Karma surfaced from ignorance (avidyā)²⁵⁷ resulting in existence in various states was a belief as also Vrata as a means to secure various lokas was believed. Karma is equated with god.²⁵⁸ Also the causation of nature and time is an acceptance.²⁵⁹

2. Jyotiḥśāstra in the Varāha Period

i. Rāśis, Weekdays and Planets

Rāśis, Weekdays and Planets mark their existence in this period.²⁶⁰ Rāśis and especially Planets occur with astrological significance related to the Jātaka branch, the Planets though mentioned earlier in the Vedavedāṅga period hardly convey any Astrology.

ii. Growth of Siddhāntas

The Samhitās of Garga, Parāśara and a few of the ancient Siddhāntas existed prior to this period yet a clear development related to a distinct branching of Jyotiḥśāstra is evident specifically in this period.

The Gaṇita branch of Jyotiḥśāstra shows a steady growth in this period beginning from the initial five Siddhāntas to the most distinguished Siddhāntas of Aryabhaṭṭa (476 AD), Brahmagupta upto Bhāskarācārya (1124 A.D.) later to which Jyotiḥśāstra wholly centered around Astrology out of which it had originally sprung.²⁶¹

iii. Decline of Samhitā Branch

The importance of Samhitā Skandha gradually declined after Sripati (960 AD) though its Muhūrta branch became popular after 1300 A.D. with the introduction of Tājika branch of Arabic influence which is prevalent till date.

iv. Horā Branch Integrated with Greek Astrology

The Horā branch integrated with Greek terminology of Horoscopy appear in this period though the views of the Yavanas are frequently contrasted. The conception of the Houses of Greek Astrology, appear as bhāvas in the Indian Counterpart in the sense of *being* or *becoming* or the innate disposition²⁶² of an individual and his future in accordance with that. Also expressive in terms of past actions of man is Horāśāstra providing a vision of the actions of past lives of an individual thereby throwing a focus on the journey of the Jīvātman.

Opinions differ as to placing either Vedāṅga Jyotiḥśāstra or Varāha at the midpoint of the developmental history of Jyotiḥśāstra though both can be termed as milestones of the journey of Jyotiḥśāstra. The text of the Vedāṅga Jyotiḥśāstra being the first of the extant texts on Jyotiḥśāstra display the practical utility of the subject as also exhibits its indigenous structure. While Varāha's texts exist on all the three branches of Jyotiḥśāstra along with commentaries of Utpala, they give an access to the predecessors of the subject also on one hand reveal the pure Indian nature of Jyotiḥśāstra whereas on the other presents its admixture with the Greek elements.

In terms of the correlation, the Vedāṅga Jyotiṣa is a proof of the times when the future of an individual was to be achieved by performing ritual actions on specific times guarantying one such a future and promoting self effort. Whereas the texts of Varāha show a bifurcated development displaying Jyotiṣa as a window to the past actions of men and thereby the vision of future tendencies and actions connected with auspicious times for rectifications and saṁskāra rites.

3. Karma in the Varāha period

i. Cause of all Activity

Karma is believed the cause of all activity in this period.²⁶³

ii. As human actions

In concern with human, Karma is the cause of happiness and unhappiness.²⁶⁴ Birth, length of life and death is due to past actions is expressed in this period.²⁶⁵ Evil actions are the cause of diseases, the root of all unhappiness is believed to be Karmas in this period.²⁶⁶ Birth of various classes is due to deeds as also heaven and hell though heaven is believed as a temporary abode.²⁶⁷ Mokṣa along with Karma is also a topic of elaborate discussion.²⁶⁸

4. Correlation in the Varāha period

i. Divinations

Divinations form a part of the correlation of this period. The meaning of Śakuna as forewarning of the impending events conveyed by prognostications from birds and other means is a common practice. Such prognosticators as the falling of lizards, movements of body parts, dreams, sign while on journey or invasions, sorts of Utpātas are interpreted in the literature of this period.²⁶⁹ The causes of earthquakes are studied.²⁷⁰ Also Śakunas are viewed as a means of knowledge of actions of past life.²⁷¹

ii. Characteristics of an Individual

Reading of the characteristics of an individual from the Rāśi at birth and his future by means of Horoscopes is a common trait of the correlation of this period.

Nakṣatras and their characteristics are also a topic of study to understand the characteristics of an individual as also for the performance of ritual actions. The study of *parvans* is also of significance.²⁷²

iii. Relative Time Planes

Seemingly as a representation of the activity of the qualityful Brahman the relative calculations of time find mention. The time calculations related to human, pitṛs as also divine are expressed. Conversions of Manvantaras into Kalpa equivalent to a day of Brahma occur.²⁷³ Time is defined with the theories of Yuga also the idea of Timelessness of the universe simultaneously exist.²⁷⁴ The two forms of time, subtle as well as great find mention of which the latter is measured by the motion of the Planets in this period.²⁷⁵ Various aspects of Planets connected with Astrology were studied and held an applicatory value, inclusive of their forms and characteristics correlating with the individual.²⁷⁶

iv. Daiva and Puruṣakāra

Karma bears two forms in this period thereby the co-relation with Jyotiṣa occurs in two ways. Daiva and Puruṣakāra are equally powerful in deciding the life span of an individual. Karma is the prime cause of origin and existence of living beings and diseases in this period.²⁷⁷ The factor of Daiva is dealt with the Jyotiṣa texts as the vision of the past actions.

As of Puruṣakāra, Sun worship remains prominent in this period.²⁷⁸ Rituals related to Sun and Śāntihomas were fixed on the *parvans*.²⁷⁹ Actions on the lords of Tithis, Nakṣatras and Months were arranged for Saṁskara rites.²⁸⁰ Rectificatory actions were arranged on specific times to avoid the evil influence of Planets,²⁸¹ Śānti rites for various sorts of Śakunas as Utpāta and Nimitta also occur. The Viṣṇudharmottara record predictions related to eclipses.²⁸² Actions related to Saṁskāras and Śānti rites prominently occur in this period.

Concluding Remarks

Samhitā Period

Observation of nature for inferring human future is a common practice in the Samhitā period. Light and nature deities constitute the chief cosmic forms in this period especially the early RV, whose qualities and actions are an amalgamation of human nature and actions. Certain cosmic actions are deemed inauspicious pertaining to which countermeasures are employed. However, the study of cosmic characteristics and cosmic order brought forth by the heavenly bodies and arranging ritual actions on cosmic time is the primary aspect of the correlation of Jyotiṣa and Karma of the Samhitā period.

The idea of survival of human existence after physical death exists and actions in present life decide the future discourse or after life is believed in the Samhitās pertaining to which cosmic divisions as heaven as well as hell appear in the literature. Exploration of the cosmic screen to this effect also occurs as a part of the correlation in the later RV.

Ideal future pertained to the path of light. Darkness being a condemned idea calculation of time on the motion of Sun and Moon and arrangement of sacrificial actions for the obtainment of such a future leading to the path of light necessitated the fusion of Jyotiṣa and Karma in the Samhitās in accordance with which a systematic and organized worship of nature is formulated and continues till the end of the Samhitā period.

Brāhmaṇa Period

The study of natural characteristics and actions continue in the Brāhmaṇas. Human actions are performed for material joys also belief in the existence of heaven as a place for rewards of sacrificial works where as hell as darkness where the evil doers are punished sustain in this period.

Ritual actions performed in present were deemed essential for creation of future of man. Long life, heaven and immortality continued to be desired by man for which actions based on the order of heavenly bodies were arranged. Proper time derived by the actions of luminaries is associated with rituals though there is not

much Astronomy in the Brāhmaṇas Nakṣatras are connected to deities which play a subordinate role in the Brāhmaṇas compared to the Samhitās.

Sacrificial act being principle, the central role of Agni as a connecting medium between man and nature continues. Worship is yet natural as stars are still believed as the temples in which gods reside (Tai.Brā.I.2.5.11, Śat.Brā.XIV.3.2.). The chief form of worship is of the single creator god Prajāpati in whom all deities are unified since RV.X.121. Time is equated with Prajāpati and actions are arranged on his joints which are cosmic points created by the motion of Sun and Moon. Equally important is the beginning of the Nakṣatra System marked in the Kṛttikās observed as never swerving from the East. Viṣuva as the middle of the sacrificial sattrā and Sun being in the zone of the gods and the fathers indicate that sacrificial actions arranged on the cosmic order served an intellectual basis to the explanatory and mythological character of the Brāhmaṇas.

Ṛta, the order of heavenly light bodies has come as Satya in the Brāhmaṇas which is equated with the sacrifices. The moral nature of Varuṇa celebrated by Prajāpati in this period also reflects in sacrificial actions as morality yet coincides with ritual works. The effort to provide a physical natural basis to time and desire in the form of Prajāpati is also an important development as well as a practice. These instances and such statements as the knowledge of time makes one sinless, or leads one to heaven displays that the following of cosmic actions through rituals was an intentional business, carried on to subserve a definite purpose related to human for which the correlation worked.

Upaniṣad Period

In an effort to expose the nature of the cosmos and man's place in it, the correlation in the Upaniṣads chiefly worked to make understand the nature of the abstract principle Ātman behind the visible workings of the universe. Ātman being of the nature of light, visible light forms served as symbols to the understanding of the nature of the supreme principle in this period.

Being an unchangeable principle expressed by the term Satya as eternal, the correlation proceeds to explain the original principle by the theory of name, form and

action. The visible activity a representation of the immortal principle being covered by the reality of names and forms is also a vision of the ordered activity of Brahman by means of 'time' displayed by the order of the cosmic light forms work on which is a way to Brahman.

The projection of a sphere beyond time is also a subject matter of the Upaniṣads, the correlation extends to explain the qualityless Brahman, its light form visualized in a dream.

The Upaniṣads with the concept of rebirth and transmigration led the correlation of Jyotiṣa and Karman to the theory of *Karmavipāka* as to the vision of the past actions. As also the realization of Brahman for the unity of the Brahman Ātman connected the correlation of *perception* to the activity to *knowledge*.

Vedāṅga Period

Jyotiṣa was a subject of considerable respect (Gautama Dharmasutra XI. 12-13, 15-16) in the Vedāṅga period whereas Karma was emerging as a doctrine of human ethics and the duties concerned with it. The correlation of Jyotiṣa and Karman of this period is relevant with deriving times for rituals and with the vision of past actions of man and his probable future. More so post-Upaniṣads it is connected with the evaluation of human actions, physical as well as moral on the cosmic background. A focus on the present birth of man as a manifested link to his past actions and thereby his future is evident, for which the teachings of the culture in the form of Dharma to be followed inclusive of work on time for certain rectificatory and essential actions constitute the chief form of the correlation of this period.

Varāha Period

Natural cosmic action connected to the past actions of man is evident in the Varāha-period. Genethliology connected to the daiva aspect of Karma is a regular practice as also Karma and Punarjanma linked by means of horoscopy are the most salient features of the Varāha period.

End Notes

1. Fetters of Varuṇa which bind the sinners (RV. I. 24.15, VI. 74.4), release from sin (RV. II.28.5, V. 85.7.8). According to Keith, “the conception of sin as punished by Varuṇa is an Aryan one and not a conception borrowed from a semitic race”. The Religion and Philosophy of Veda and Upaniṣads, p.246.
2. जीवेम शरदः शतम्। RV. X. 18. , VII.66.16. AV. XIX.67.
3. To Agni RV. I.31.7.
4. Savitr (RV. IV. 54.2.), Agni (RV. VI. 7.4.).
5. Ṛbhus RV. IV 35.3., RV. III. 60.3., RV I.110.4.
6. Agni (RV. I. 96.2), Apām Napāt (II. 35.2) , Uṣas (RV. VII.78.3).
7. Prajāpati (Tai. Saṁ. III. 3.7.1), Brahmanaspati (RV. X. 72.2), RV. I. 164.46.
8. Vedic Mythology, p. 11.
9. RV. V. 63.7.
10. H/o Dh.Vol. V. 1, p. 2.
11. Ahura keeps the Earth from falling and provides a pathway for the Sun. Religion and Philosophy of Veda, p. 83.
12. Crow as a dark bird (RV. X. 16.6), pigeon (RV. X. 165.2), owl (ulūka) (RV. X. 165.2).
13. Mitra and Varuṇa (I. 115.1), Agni (I. 115.1).
14. RV. I. 102.2; X.68.10, 19.3; VII.41.9; I. 72.10).
15. Tai, Saṁ. V. 4.1.3.
16. RV. IX. 113.9.
17. तिस्रो द्यावः सवितुर्द्या उपस्थां एका यमस्य भुवने विराघाट्॥ RV. I. 35.6.
18. RV. V. 85.5.
19. RV. I. 175.4, IV. 28.2.
20. The wedding hymn of Soma and Sūryā (RV. X. 85.).
21. AV VII. 81.3-4.
22. पौर्णमासी प्रथमा यज्ञियासीदह्नां रात्रीणामतिशक्वेषु। AV. VII.80.4.
23. Tai. Saṁ. IV. 4.10; Mai. Saṁ. II. 13.20.
24. RV. I. 164.2, I.4.9.3, X.90.6; AV. VI 6.55.2; Tai Saṁ.1.6.2.3.

25. RV. X. 161.4; X. 90.6; VII. 103.3,9; II. 12.11; X. 161.4.
26. RV. I. 164.15.; AV. VI. 55.2.
27. Tai. Sañ. IV. 4.11.1; Vāj Sañ. 13.25.
28. RV. I. 110.4, I. 140.2, I. 161.13, I.164.44.
29. Vāj. Sañ. 10.12, AV.VI.55.2, Tai. Sañ.1.6.2.3.
30. AV. V. 6.4.
31. तस्मादादित्यः षण्मासो दक्षिणेति षडुत्तरेण। Tai. Sañ. 6.5.3
32. H/o Dh. V. 1. p, 675.
33. उता यातं सङ्गवे प्रातरहो मध्यन्दिन उदिता सूर्यस्य। RV. V. 76.3.
34. Also Tai. Sañ. VII. 4.8.
35. Sañsarpa as Arñhaspati (Tai. Sañ. I. 4.14.1, VI. 5.3.4).
36. RV. III. 55.18., I. 158.6., X. 72.2., I. 103.4.
37. Vedic Mythology, p. 2.
38. RV. VII. 63.1, I. 50.5.
39. RV. I. 164.14; Tai.Sañ. 3.1.11.
40. Savitr as stimulator (RV. V. 81.5), Pūṣan as protector (Paśupā) preserver of cattle (RV. VI. 58.2) Viṣnu promotes conception (RV. X. 184.1) protects embryos (RV. VII. 36.9).
41. Vedic Mythology, p. 99.
42. As a path leading to the gods Tai. Sañ. 5.8.5.
43. RV. II. 24.3, IV. 50.4, X. 68.4-9.
44. Agni (RV. I. 59.5, I.68.2), Indra (RV. VIII. 61.11).
45. RV. II. 42-43, X. 165; AV VI. 27-29, VII. 64.
46. The term Śakuna initially the name of a bird in the later literature is applied to the divination branch of Jyotiḥśāstra.
47. RV. II.42.1, 43.183.
48. यदुलूको वदति मोघमेतद्यत्कपोतः पदमग्नौ कृणोति। यस्य दूतः प्रहित एष एतत्तस्मै यमाय नमोस्तु मृत्यवे ॥
RV. X. 165.2.4
49. RV. IV. 39.3.
50. उत्पाताः पार्थिवान्तरिक्षाः शं नो दिविचरा ग्रहाः। AV. 19.9.7.

51. Acts of Varuṇa in अतो विश्वान्यद्भूता चिकित्वाँ अभि पश्यति। कृतानि या च कर्त्वा। RV. I. 25.11.
52. Prayers to Varuṇa (RV. II. 28.10), to Savitr̥ (RV. V. 82. 4-5), delivered to Trita Āptya (RV. VIII.47.15).
53. Atharvaveda, p. 81.
54. Jyesthagnī in AV. VI. 110.2.
55. Indra as winner of light (RV. III. 34.8, VIII. 78.4); Also Trita Āptya RV. V. 9.5.; Maruts RV. I. 86.10.
56. Tai. Saṁ. 6.4.8.3, 2.1.7.4.
57. सुदिनत्वे अह्नां RV. VII. 88.1.
58. RV. X. 82.13.
59. यज्ञ भुवनस्य नाभिः। RV. I. 164.35.
60. Birth of Sun due to sacrifice. RV. I. 83.5.
61. Pañ. Brā. XXII. 10.3.
62. Ait. Brā. I. 6.7; Śat. Brā. III.4.2.8.; Kauṣ. Brā. II.8.; Mai. Saṁ. I. 9.3.
63. Tai. Saṁ. 2.4.1; AV. XIII.1.7; Śat. Brā. XI. 2.3.6, Pañ. Brā. XXIV. 19.2.
64. Ait. Brā. VII. 10.
65. Tai.Brā. I. 6.5.4; Pañ. Brā. XV. 2.4.; Śat. Bra. XII. 7.2.17, IV. 5.1.6, I. 3.1. 14-16.
66. Tai. Brā I. 7.2.6; I. 5.3.3.
67. अथ खलु ऋतुमयोऽयं पुरुषः स यावत्क्रतुरस्माल्लोकैत्येवं ऋतुर्धमुं लोकं प्रेत्याभिसम्भवति। Śat. Brā. X. 6.3.1.
68. Creator of gods (Śat. Brā. 11.1.6.14, Tai. Brā. 8.1.3.4) creator of asuras (Tai. Brā. 2.2.2.3).
69. Śat. Brā. V. 6.5.1, Śat. Brā. I. 1.1.1.
70. Kauṣ. Brā. XIII.1.
71. Kauṣ. Brā. XXVIII. 1.
72. Concept of Punarmṛtyu Śat. Brā. XI.4.3.20., XII. 9.3.11, 12.
73. Śat. Brā. X.4.4.
74. Śat. Brā. IX. 1.1.43, Ait.Brā. VII. 7.
75. IV. 4.11.1.

76. As an unfavourable period. Ait.Brā. III. 1.; of thirty five (Śat. Brā. IX. 1.1.43) or thirty six days (Śat. Brā. X. 5.4.5).
77. Śat. Brā. II. 13.16 (six Ṛtus), three and six Ṛtus (Śat. Brā. XII. 8.2.33, five Ṛtus (Ait. Brā. I. 1.).
78. वसन्तौ ग्रीष्मो वर्षाः। ते देवा ऋतवः। Śat. Brā. II. 1.3.1.
79. स यत्रोदगावर्तते देवेषु तर्हि भवति।---- यत्र दक्षिणावर्तते पितृषु तर्हि भवति। Śat. Brā. II. 3.2.3.
80. H/o Dh. V. 1 p. 659.
81. Śat. Brā. II. 1.3.1-5., the word pakṣa occurs in the Brāhmaṇas Tai. Brā. II. 2.3.1., Tāṇḍya Brāhmaṇa V. 19.14.
82. Amāvāsyā broken in Sinīvālī and Kuhū and Paurṇamāsī in Anumati and Rākā. Ait. Brā. 32.10. Gāpatha Brāhmaṇa. 6.10.
83. Sinīvālī (RV. II. 32.6-7, Vāj. Saṁ. 34.10, AV. VII. 46.1-2).
Kuhū (AV. VII. 47.1.).
Anumati (RV. X. 59.6, X. 167.3).
Rākā (RV. II.32.7, V. 42.12).
These four as recipients of caru in Tai. Saṁ. 1.8.8.1. and Śat. Brā. IX. 5.1.38.
84. Ait. Brā. 32.9.
85. Five parts of a day. Śat. Brā. II. 3.2.9.
86. Śat. Brā. X. 4.2.18, XII. 3.2.5.
Names of fifteen Muhūrtas of the day in Tai. Brā. III. 10.1. 1-3.
87. एकविंशमेतदहरूपयन्ति विषुवन्तं मध्ये संवत्सरस्य। Ait. Brā. IV. 18. Also Tai. Brā. 1.2.3.
88. Performance of Saptadoṣa Stoma three days prior to Viṣuvat to hit Svarbhānu. Śān. Brā. (24.3) Also Tāṇḍya Brāhmaṇa IV. 6.3-13; IV. 7.1.).
89. Ait Brā. VII. 11.
90. Śat. Brā. 2.6.1.4., Kauṣ. Brā. 1.2, Śat. Brā. 2.4.2.2.
91. Śat. Brā. 1.2.5.8.; Vāj Saṁ. 1.28.
92. तस्मात्कृत्तिकास्वादधीत। एता ह वै प्राच्यै दिशो न च्यवन्ते सर्वाणि ह वा अन्यानि नक्षत्राणि प्राच्यै दिशश्च्यवन्ते Śat. Brā. II. 1.2.2-3.
93. Jai. Brā. 3.152.
94. Śat. Brā. VI. 1.2.15, Kauṣ. Brā. VI. 1, Tai. Brā. II. 3.6.1.

95. Tai. Brā. I. 5.2-7.; Swāti as the heart does not match with the present sky. Bhāratīya Jyotiṣaśāstra p. 60.
96. प्रजापतेर्ह वै प्रजाः ससृजानस्य पर्वाणि विसखंसुः। स वै संबत्सर एव प्रजापतिस्तस्यैतानि पर्वाण्यहोरत्रयोः सन्धी पौर्णमासी चामावस्या चतुर्मुखानि। Śat. Brā. I. 6.3.35.
97. यज्ञो वै कर्म। Śat. Brā. I. 1.2.1
98. यज्ञो वै श्रेष्ठतमं कर्म। Śat. Brā. I. 7.1.5, Tai. Brā. III.2.1.4.
99. तच्छंयोरवृणीमहे। गातुं यज्ञाय। गातुं यज्ञपतये । दैवीः स्वस्तिरस्तु नः। स्वतिर्मानुषेभ्यः। ऊर्ध्वं जिगातु भेषजम्। शं नो अस्तु द्विपदे शं चतुष्पदे। Tai. Brā. III.5.11
100. Śat. Brā. VI. 2.2.27.
101. Śat. Brā. X. 4.3.
102. तस्य व्रतमुद्यन्तमेवेनं नेक्षेतास्तं यन्तं चेति। Śāñ. Brā. VI. 6.
103. Ait. Brā. I. 22.14, Kauṣ Brā VIII. 3-7.
104. Śat. Brā. I. 7.2.22; Tai. Brā. I.5.6.3,4.
105. Tāṇḍya Brā. 14.12.9, Śat. Brā. 11.2.7.3, Go. Brā.5.23, Tai. Brā. 1.6.8.3
106. Tai. Sam. I. 14.4.; Kauṣ. Brā. 19.2.
107. Kauṣ. Brā. V. 8.
108. अग्निर्वाव संबत्सरः। आदित्यः परिवत्सरः। Tai. Brā. I. 4.10.1.
109. Śat. Brā. 4.2.1.1, 1.2.1.3, 5.1.4.2.
110. Tai. Brā. 1.1.4.8, 1.7.10.1, 1.5.10.7, 1.5.2.7, Śat. Brā. 2.1.2.18, 10.4.4.2.
111. Śat. Brā. 2.1.2.
112. Bhāratīya Jyotiṣaśāstra p. 38,39.
113. Sacrifice under Abhijeet to make the king unconquerable Tai. Brā. 1.5.2. Oblations offered to deity Bṛhaspati and the Nakṣatra Tīṣya with a desire to overshadow Brahma Bhāratīya Jyotiṣaśāstra p. 54.
114. मैत्रेण कृषन्ते। Tai. Brā. I. 8.4. Also Tai. Brā. 1.5.2.; 1.1.2., 1.8.4.
115. This can be termed as an early evidence the origin of Jātaka Bhāratīya Jyotiṣaśāstra p. 101.
116. Tai. Brā. III.1.
117. Ait. Brā. 13.9 and Tai. Brā. 1.1.10. Also Ait. Brā. 3.33 for an Astronomical Significance.

118. प्रजापतिर्वै यज्ञस्तस्मिन्सर्वे कामाः सर्वममृतत्वम्। Kauṣ. Brā. XIII.1
119. प्रजापतिः संवत्सरो महान्कः। Tai. Brā. 3.10.1 संवत्सर एव प्रजापतिः। Śat. Brā. 1.6.3.
120. Śat. Brā. 1.6.3. Bhāratīya Jyotiṣaśāstra p. 49.
121. Man born in a world made by himself. Kauṣ. Brā.26.3., Śat. Brā. VI.2.2.27.
122. एकविंशमेतदहरुपयन्ति विषुवन्तं मध्ये संवत्सरस्य। Ait. Brā. IV. 18.; Ekaviṃśa equated with Āditya in Ait. Brā 18.18., Also Viṣuva equated with Puruṣa. Ait. Brā. 18.22.
123. Tāṇḍya Brāhmaṇa IV. 6.3-13; IV. 7.1.
124. Dikshit asserts the connection of Jyotiḥśāstra and Vedānta in this statement. Bhāratīya Jyotiṣaśāstra p. 69.
125. Satya as Brahma. Bṛ. Up. V. 5.1.
126. Bṛ. Up. I. 4.14.
127. सर्वं खल्विदं ब्रह्म। Chān Up. III. 14.1.
128. असतो मा सद्गमय, तमसो मा ज्योतिर्गमय, मृत्योर्मा मृतं गमयेति। Bṛ. Up. I. 3.28.
129. Tai. Up. III.1.
130. Bṛ. Up. I. 6.3, II. 1.20.
131. अनेन जीवेन आत्मना अनुप्रविश्य। Chān Up. VI. 3.2.
132. Śat. Brā. 10.6.3.; Chān Up. III. 14.1.
133. अहं ब्रह्मास्मि। Bṛ. Up. I. 4.10.
134. Kauṣ Up. I. 2.
135. Bṛ. Up. IV. 4.5-7.
136. Bṛ. Up. III. 2.13, IV. 3.15.
137. Kaṭha Up. II.3.14-15.
138. Chān. Up. VII. 1.2., VII.7.1.
139. Bṛ. Up. VI. 3.1.
140. Muṇḍ. Up. I. 1.5.
141. Bṛ. Up. IV. 4.22. declare Veda studies in the form of sacrifices and such as a pre-conditional phase for the knowledge of Brahma.
142. Chān. Up. VII.24.1
143. Chān. Up. III. 11.5.
144. Ait. Up. III.2.

145. Br. Up. III. 8.9.
146. Br. Up. II. 3.
147. ज्योतिरूपमसौ चन्द्रः। Br. Up. I. 5.13.
148. Śvetā. Up. VI. 5. Expresses the First Principle as beyond three times.
149. Br. Up. I. 2.4.
150. नैनं पुरा कालात्प्राणो जहाति। Br. Up. II. 1.10.
नैनं पुरा कालान्मृत्युरागच्छति। Br. Up. II. 1.12.
नो एव स्वयं नास्य प्रजा पुरा कालात्संमोहमेति। Kauṣ. Up. IV. 12.
नो एव स्वयं नास्य प्रजा पुरा कालात्प्रमीयते। Kauṣ. Up. IV. 13.
151. Śat. Brā. I. 7.3.3.
152. AV. XIX. 53.10. as First Principle AV. XIX. 53 & 54.
153. कालः स्वभावो नियतिर्यद्दृच्छा भूतानि योनिः पुरुष इति चिन्त्यम् Śvetā. Up. I. 2.
154. Br. Up. I. 2.4.
155. येनावृतं नित्यमिदं हि सर्वं ज्ञः कालकारो गुणी सर्वविद्याः। Śvetā. Up. VI. 2.
156. भूतं भवद्भविष्यमिति सर्वमोङ्कार एव। यच्चान्यत्रिकालातीतं तदप्योङ्कार एव। Māṇḍūkya Upaniṣad.
157. सर्वे निमेषा जज्ञिरे विद्युतः पुरुषादपि। Vāj. Saṁ. 32.2 and Mahānārayaṇa Upaniṣad I. 8.
158. Time divisions in terms of day of Brahma, Viṣṇu Purāṇa VI. 3.11-12.; Gītā IV. 8. as the recreation of the Supreme Form in every Yuga.
159. Mai.Up. VI. 14-15.
160. Muṇḍ. Up. 1.2.6.
161. Chānd. Up. IV. 12.2; 13.2.
162. Kaṭha Upaniṣad I. 1.17, Íśa Upaniṣad 11.
163. Br. Up. VI. 2.16; Praśna Up. I. 9; Chāndogya Upaniṣad V. 10.3.; Muṇḍ. Up.1.2.10.
164. Kaṭha Up. 3.2. takes it in a positive sense as a way to Brahman, Demerits of sacrifices Chān Up. I. 10-12, IV. 1-3.
165. Br. Up. I. 4.7.; Chān Up. III. 14.1, I. 9.1.
166. Br. Up. I. 1.1.
167. Br. Up. IV. 4.5.
168. Birth in various forms as Devas, Pitṛs, Gandharvas, the disparity as a consequence of Karma. Chān. Up. 4.15.5.

169. Bṛ. Up. I. 5.16.
170. Kauṣ. Up. 1.4; Muṇḍ. Up. III. 1.5.
171. Chān Up. VIII. 4.1.
172. Kaṭha Up. I.2.5., II. 3.14-15; Bṛ. Up. IV. 4.7; Muṇḍ. Up. III. 1.6. and III. 2.1,2.
173. Bṛ. Up. II. 4.5.
174. Chān. Up. 7.1.2.
175. Bṛ. Up. III. 7. 3-23.
176. Chān. Up. V. 11.
177. Chān. Up. III. 1-11, III. 19.1.
178. Bṛ. Up. VI. 4.21.
179. Maitri Upaniṣad VI. 14,15.
180. Bṛ. Up. V. 5.2.
181. Chān. Up. V. 4. and Bṛ. Up. VI. 2.
182. Duessen, The Philosophy of the Upanishads, p. 265.
183. Kauṣ Up. i. 4.
184. Bṛ. Up. I. 5.16.; Chān Up. 2.23.
185. Praśnopaniṣad I. 9-11.
186. Kauṣ. Up. III. 8.; Bṛ. Up. III. 2.13.
187. Chān Up. V. 10.2; Bṛ. Up. VI. 2.15,16.; Kauṣ Up. I. 3.
188. Kauṣ. Up. II.8. चन्द्रमसमेव ते सर्वे गच्छन्ति। or एतद्वै स्वर्गस्य लोकस्य द्वारं यच्चन्द्रमाः। Kauṣ. Up. I.2.
189. Chān. Up. V. 2.8.
190. Śāṅkarācārya on Bṛ. Up. II. 1.18.
191. Bṛ. Up. I. 6.
192. Kaṭha Upaniṣad III. 7; Śvetā. Up. VI. 16.
193. Muktikā Upaniṣad II. 37.
194. Manusmṛti XII. 52, 54, 70.
195. Manusmṛti XII. 54-59, Yāj. Smṛ III. 131., 206-215.
196. Śāntiparva. 162. 4,5,7-9.; Manusmṛti V. 106.
197. Gobhilagrhyasūtra I. 5.13.

198. ĀpGS.i.7.22.; HGS i. 7.22.14.
199. Jyotiṣa as one of the Vedāṅgas exists in the Smṛtis, Itihāsa and perhaps the older of the Purāṇas if any existing in this period. The period extends from 800 B.C. to 300 A.D. H/o Dh. Vol. V. 1., p. 484. Dikṣit marks the Vedāṅga period from 1500-500 prior to the Śaka Era. Bhāratīya Jyotiṣaśāstra p. 139-140.
200. H/o Dh. V.1., p. 579.
201. Bifurcated from the next one on the criteria of Rāsis and Weekdays Bhāratīya Jyotiṣaśāstra, p. 139.
202. Mīm. Sū. I. 3. 3-4.
203. Nīrukta 31.14.
204. Arthaśāstra II. 20.
205. Manusmṛti I. 65-67,69-70.
206. Bhāratīya Jyotiṣaśāstra, p. 103, 107.
207. Śāṅkarabhāṣya on Brahmasūtra 3.1.2,8.
208. Śābāra Bhāṣya 4.3.27.
209. Yogasūtra II. 13.
210. Manusmṛti III. 68-69, Viṣṇusmṛti 58. 18-25.
211. Tantravārttika I.3.29.
212. Gītā 3.8., 18. 5-7.
213. Manusmṛti XII. 88-89.
214. दैवम् एव परम मन्ये, पौरुषं तु निरर्थकम्। Rāmāyaṇa I. 57.21.; Mahābhārata 2.52.18, Also Diṣṭa (appointed way) Mbh. 2. 51.25, 2.52.14.
215. एवम् पुरुषकारेण विना दैव न सिध्यति। Yāj. Smṛ. I. 247.
216. Saṁvara is the stoppage of new Karma by means of austerities thereby is expressed as a cause of liberation (Sarvadarśana-Saṁgraha 15.23.). Also by means of Nirjarā or destruction of accumulated Karmas through austerities. Uttarādhyāyanasūtra 29.12.16.
217. Majjhimanikāya 20.60.
218. On retributive rebirths, Majjhimanikāya 135; gati in various lokas Uttarādhyāyanasūtra 3. 3-4.

219. Majjhimanikāya 149.150.
220. Makkhali Gosāla in Dīgha II. 19.20.
221. ĀpŚS. v.3.2-20
222. ĀpŚS. vi.1.2.
223. ĀpŚS. i-iii.
224. ĀpŚS. viii; vi. 4.7-9.
225. ĀpŚS. xiv. 8-12.
226. ĀpŚS. iv. 6,7.,xi 2.5.
227. ĀpŚS. xx.;
228. Jyeṣṭhā (Pāraskarasūtra 2.16), Also ĀśGS 3.5; ĀśGS.- 2.1.1.
229. II. 8.18-20.
230. Dikshit includes Ātharvaṇa-Jyotiṣa in this period. It has week days but no zodiac signs, also carries the roots of the further developed Jātaka branch. Bhāratīya Jyotiṣaśāstra p. 99.
231. नक्षत्रदेवता एता एताभियज्ञकर्माणि। यजमनस्य शास्त्रज्ञैर्नाम नक्षत्रजं स्मृतम्॥ JV (RV) verse 28.
232. Yāj. Smṛ. I. 180.
233. ĀśGS I. 17.1, 4.1.; Manusmṛti II. 30, 36; Yāj. Smṛ. I.14.
234. ĀśGS i.10.5., ĀpGS.vii.17.
235. ŚGS. i. 25.5, PGS. iii. 2.3.
236. HGS i.17.3
237. ĀśGS III. 7.7.
238. BDS ii. 8.14.9,10.
239. ŚGS V.11.10.
240. ŚGS V. 6; KāŚS. 25.11.20.
241. Arthaśāstra II. 24.
242. राहुकेतू यथाकाशे उदितौ जगतः क्षये। Karṇaparva 87.92.
243. Śārdulakarṇāvadana 61,62.
244. Yāj. Smṛ. I. 306. BDS ii. 5.9.9.
245. Yāj. Smṛ. I. 349.
246. Rāmāyaṇa 2.19.16,19,20,22., Mahābhārata 13.6.47.

247. Mahābhārata 12.217,32,33,45,53., Gītā 18.61.
248. Gītā 3.5, 4.13, 18.41.
249. Bhāratīya Jyotiṣaśāstra, p. 34.
250. Manusmṛti XII. 54-69.
251. Gītā VIII. 26.
252. Śāntiparva 26. 8-10; Yāj. Smṛ. III.197.
253. Brahma Purāṇa 217. 37-110.
254. Bhāgawata Purāṇa II. 5.34.
255. Padma Purāṇa II. 81.48., 94.118, 94.13,15.
256. Utpala on Bṛhat Samhitā 45.4, Also Veṅṛisamhāra II. 15.
257. Bhāgawata Purāṇa III. 32.38.
258. Ādipurāṇa IV. 37.
259. Bṛhat-Samhitā (I.7.) on the line of Śvetā. Up. VI. 1.
260. Weekdays were derived by Indians from the Chaldeans or the Greeks, between 100 BC to 100 AD. History of Dharmaśāstra, V. 1, p. 679,681.
261. The History of Indian Literature, p. 263.
262. Apte 403; also as spread /stretch, as cosmic man spread similarly bhāva of individual.
263. Vāyupurāṇa 31.42.
264. Padma Purāṇa II. 94.2-3.
265. Brahmavaivarta Purāṇa II. 24.17.; Mārkaṇḍeya Purāṇa X. 64.
266. Skanda Purāṇa III. 2.5. 15-16.; Mārkaṇḍeya Purāṇa 92.15.; Caraka Samhitā IV. 1.116.
267. Padma Purāṇa II. 94.14., Viṣṇu Purāṇa VI. 5.50-52.
268. Viṣṇu Purāṇa VI. 7.73, Kurma Purāṇa I. 31.30; Brahmavaivarta Purāṇa IV. 1.4-6.
269. Vasantarāja Śakuna Chap. 17, verses 1-22., Bṛhadyogayātra XIII. 110; Mārkaṇḍeya Purāṇa 40. 1-33. Caraka Samhitā Chap. 12.
270. Brahma Purāṇa 21. 23-24.
271. Adbhutasāgara I. 6., Vasantarāja Śakuna 20.7., Nimitta of Bhadrabāhu Chap. XIV., Bṛhadyogayātra 23.1.

272. Viṣṇu Purāṇa III. 11. 118-119 define parvans, also Br. Saṁ. ii. 113 on astrological portents of parvans.
273. Viṣṇupurāṇa VI. 3. 11-12.
274. H/o Dh. V. 1. p. 693, 695; Time reckonings in the Nārada Saṁhitā III. 1-2; Also commentary of Śaṅkarācārya on Vedāntasūtra II. 1.36.
275. Viṣṇudharmottara Puraṇa I. 72.7.
276. Sārāvali X. 116., Br. Jā. II. 5-7, 8-11, 12, 14.
277. Caraka Saṁhitā I. 25. 1-15, III. 3.29.; IV. 1.116.
278. Brahma Purāṇa 29.61.
279. Viṣṇudharmottara Purāṇa 71.86.
280. Br. Saṁ. Chap. 98., Nārada Purāṇa I. 56.133-135., Bṛhadhyogayātra III. 1., Ratnamāla II. 7-9., XIII. 2.
281. Ratnamāla X. 15.
282. I. 85.56.
